

# 2016 OSAKA GAS GROUP ANNUAL REPORT

**Osaka Gas Group** Annual Report 2016

## Management Principle

### Who We Strive To Be

# Osaka Gas Group powers continuous advancement in consumer life and business

### Our Commitments

Osaka Gas Group works to create four types of value Osaka Gas Group is committed to creating value primarily for customers, as well as for society, shareholders, and employees.



Service First

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## **Aiming for Further Progress**

The Osaka Gas Group has been ensuring a stable supply of city gas to the Kansai region for more than 110 years since it was founded. In addition to developing gas appliances and equipment, we have also been bolstering our maintenance and other services, and meeting the diversifying needs of customers. Osaka Gas has also been actively investing and growing not only its business in the gas sector, but also its electric power business, international energy business, and non-energy business. All of the structures it has cultivated form the foundations for the growth of the Osaka Gas Group's businesses. The environment is changing due to reforms in electricity and gas systems, but we are expanding our businesses by building on our firm business foundations, and striving to achieve even greater progress in the future.

### Electricity and Gas System Reforms

An act revising the Electricity Business Act and the Gas Business Act was enacted by the Diet in June 2015. the schedule for reforming the electric power and gas systems was defined therein. The liberalization of the retail electricity and gas markets has been proceeding gradually thus far, but with these legal reforms, electricity retailing became fully deregulated April 2016, and the gas market will follow suit in April 2017. This will make it possible for all customers to freely choose their own electric power and gas service providers.



The Osaka Gas Group Today What We Have Built

## **Relationships with Customers Built Over 110 Years**

Having started by supplying gas, we strive to meet our customers' diversifying needs by developing gas appliances and equipment and offering maintenance and other new services. Osaka Gas service chain partners, which are closely connected to their communities, and Osaka Gas sales personnel spend a lot of time working closely with customers. By offering options that best suit their customers' needs, they have built strong relationships with those customers and developed a robust sales infrastructure.

By continuing our work in the stable procurement of LNG, the maintenance and repair of gas production facilities and distribution networks, and disaster countermeasures, we are ensuring a stable and safe gas supply. In addition, we have been working on developing our electric power business, for example, through ownership of our own power sources.



# Evolving into a Next Generation Energy Marketer

As we respond to changes in the business environment related to the liberalization of the retail electricity and gas markets we are promoting the expanded use of natural gas through the dissemination of decentralized energy systems, such as ENE-FARM. We are also expanding our electricity retail business by using the relationships that we have cultivated with customers thus far.

We are broadening our service offerings so that

Offering "Sumikata Services" (Home Services)

### Residential

Leveraging our strength in having close ties to our communities, we are tendering new services that offer optimal residential approaches tailored to our customers' lifestyles, providing a form of residential support. In addition to developing our standard lineup of services, such as the sales and maintenance of gas appliances, we are expanding various services like plumbing and air conditioning repairs, and are offering a wide variety of services for the home.  $\rightarrow$  For more details, see p. 28

Offering services that enable the safe, reliable and efficient use of energy

Developing and supplying the latest gas appliances and equipment

Electricity supply



we can better respond to the various problems experienced by our customers, which we learn about in the context of our customer relationships, and are offering not only energy, but additional value-added services. By evolving into a nextgeneration energy marketer that contributes to the success of our customers' lives and businesses, we hope to continue to be our customers' number one choice for energy.

Becoming a next-generation energy marketer

### Expanding ICT Solutions

### **Commercial and Industrial**

We are striving to be a one-stop shop for solving problems involving energy, including sales of gas equipment and offering solutions to help save energy and improve quality. By expanding our ICT services, we can meet the very specific needs of customers in a more tailored way. → For more details, see p. 30



### The Osaka Gas Group Today What We Have Built

## Participating in International Energy Business to Procure Highly Economical, Flexible LNG and to Grow Revenues

The Osaka Gas Group has had stakes in overseas projects since 1990 and has actively developed its overseas energy business by putting its accumulated knowledge to use. By steadity developing each of the businesses in which we participate, we have high expectations for the procurement and profit contribution of LNG, which has highly economical and flexible characteristics, and for the expansion of our energy business service area. → For more details, see p. 33

### International Upstream Business

We have stakes in gas field development projects largely in Australia and North America. In 2016, we began operations at the Gorgon LNG Project, and we are planning to sequentially commence operations at other projects moving forward. By engaging in trade using our own Group carriers to transport the LNG we have procured ourselves, we can expect to achieve even greater outcomes.



### International Downstream Business

In North America, Europe, Southeast Asia and other regions, we are engaged in the power generation business, gas distribution business, industrial gas retail sales business, and the energy services business, among others. In the future, we expect to expand our business engagement using the technologies and know-how we have cultivated domestically.

### Retail gas sales, energy services



Singapore

ergy services Sales c rticipation since 2013 industr Particip



s to Gas distribution ustomers business on since 2013 Participation since 2015



Expansion of the energy business areas Stable contribution to profits

The Future of the Osaka Gas Group

Aiming for Further Progress

### Striving to Further Expand our International Energy Business

In addition to steadity implementing the existing upstream projects in which we are already taking part, we are continuing to carefully examine our investments while exploring the acquisition of new interests. In our downstream business, we are exploring opportunities to participate in businesses in which we can expect to apply our company's know-how to improve the value of the business, particularly in areas where investment profitability and risk are readily identifiable. Through these efforts, we are promoting the procurement of highly economical and flexible LNG gas and are striving to expand our international energy business.



## Life & Business Solutions (Non-Energy Business) Yields Stable Profits

Trends in segment profits from life & business solutions (non-energy business) (billion yen)

Using the technology and know-how accumulated from our energy business, we are developing non-energy business in a variety of sectors both domestically and abroad. Our operations in life & business solutions (non-energy business) are not easily impacted by fluctuations in crude oil prices, and are contributing to a consistent level of annual profits particularly in the material solutions business, information solutions business, and real estate business, thus helping to stabilize the Group's overall profits.  $\Rightarrow$  For more details, see p. 37



## The Future of the Osaka Gas Group

Aiming for Further Progress

### Striving to Create of the Next Core Businesses through Expansion

In our material solutions business and information solutions business, we are engaging in new product development that builds on our core technologies and know-how, and are pursuing acquisitions of domestic and overseas companies that can demonstrate synergies in terms of our technologies and business areas. In the real estate business, we are pursuing the acquisition of profitable lease assets.

These moves demonstrate that we are striving to create of the next core businesses by improving the value of our businesses and expanding our businesses into growth markets.



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## Message from Top Management

Hiroshi Ozaki Chairman Takehiro Honjo President

## Commitment

Expanding our energy business through growth opportunities in the full deregulation of the retail electricity and gas markets.

Evolving into a comprehensive energy company serving the wide-ranging needs of customers and society.

Maximizing stakeholder value.

We are delighted to extend our warmest greetings to all stakeholders as we issue this Annual Report 2016.

Today, with the slowdown in the Chinese economy and falling crude oil prices, the status of the global economic and social situation is marked by a lack of clarity and uncertainty. This continues to make it difficult to predict how the business environment will develop going forward. In addition, the liberalization of the retail electricity and gas markets has created major changes in the business environment. The Osaka Gas Group views these changes as opportunities for growth, on which we hope to capitalize to drive our businesses forward and achieve sustained growth.

With the onset of the full liberalization of the retail electricity market, the Osaka Gas Group entered the retail electricity business, particularly in the residential sector. Accepting orders since January this year, we successfully commenced services in April. In a year from the electricity market liberalization, the gas market will likewise be fully deregulated in April 2017, which will open up new competition for residential and other small customers in this market. We will strive to remain the number one choice of customers for energy by offering reliable supply of gas and electricity and a wide range of gas appliances and equipment along with various services that contribute to our customers' comfortable living and business success.

Meanwhile, we will continue promoting the wider use of decentralized energy systems and developing highly efficient new power sources in our domestic energy business, expanding upstream and downstream businesses in our international energy business and pursuing business expansion in growth markets in our life & business solutions (non-energy business). We seek to achieve greater competitiveness by offering optimal solutions to our customers and striving to develop innovative technologies.

The fiscal year ending March 2017 is the final year of the "Catalyze Our Dreams" medium-term business plan, which covers the three fiscal years from April 2014 to March 2017. It is also the year in which we will formulate our next medium-term business plan. As we continue implementing the initiatives planned in "Catalyze Our Dreams," we will formulate our next medium-term business plan, which will chart a course toward future growth, based on lower crude oil prices and on the deregulated retail electricity and gas markets.

The Osaka Gas Group is committed to creating value primarily for customers, as well as for society, shareholders and employees, while powering consumers' life and business advancement.

Thank you for your continued support and encouragement.

July 2016



Hiroshi Ozaki Chairman

冬花武宏

Takehiro Honjo President

## Interview with the President

"Viewing change as opportunity, we are resolutely challenging ourselves to embrace new fields and achieve further growth."

> Takehiro Honjo President

Interview with the President

| $\lambda$ |
|-----------|
|-----------|

- O1 What are the highlights from your performance for the fiscal year ended March 31, 2016?
- O2 What is your strategy for handling the full liberalization of the retail gas market?
- Q3 Now that Osaka Gas has entered the retail electricity business, what are the business conditions and future prospects for this business?
- Q4 What impacts did the decline in crude oil prices have on the fiscal year ended March 31, 2016?
- O5 Where will future investments be directed and what is the significance of investing in the
- international upstream business?
- Q6 Why were the ROA/ROE targets in the FY2017 Plan lower than in the "Catalyze Our Dreams" medium-term business plan?
- Q7 The fiscal year ending March 31, 2017 is the final year of the "Catalyze Our Dreams" medium-term business plan. What kind of progress has been made on this plan thus far?

O8 What is the Osaka Gas Group's policy on alliances with other companies?

Q9 Please give us your thoughts on returning profits to shareholders and provide details of capital policies for the future.

# What are the highlights from your performance for the fiscal year ended March 31, 2016?

Results for the fiscal year ended March 31, 2016 reflected impacts of the decline in crude oil prices.

We recorded ordinary income of ¥134.9 billion, up 24.8% from the previous year due to the increase in profits in the gas business resulting from the decrease in raw materials expenditures associated with the decline in LNG prices. Current net income attributable to owners of the parent increased 9.9% to ¥84.3 billion as impairment losses recorded in the upstream business were offset by increased profits in the gas business.

On the other hand, consolidated gas sales volume was down 2.9% from the previous year, reflecting a decrease in residential demand due to higher winter temperatures than the previous year and a decrease in industrial demand caused by a downturn in operations at customers' facilities.

Figures such as current net income attributable to owners of the parent, ROA, and ROE were higher than in the previous year, but we recognize that such results cannot be taken for granted in future years.

### Performance (Consolidated)

|   | 2015.3  | 2016.3  | Change | Percentage<br>change |
|---|---------|---------|--------|----------------------|
| Sales (billion yen)   | 1,528.1 | 1,322.0 | -206.1 | -13.5%               |
| Operating income (billion yen)  | 105.0   | 146.6   | +41.6  | +39.6%               |
| Ordinary income (billion yen)   | 108.1   | 134.9   | +26.8  | +24.8%               |
| Current net income attributable to owners of the parent (billion yen) | 76.7    | 84.3    | +7.6   | +9.9%                |
| Time-lag gain/loss* (billion yen)                                     | 12.3    | 81.7    | +69.3  | —                    |
| ROA   | 4.3%    | 4.6%    | +0.2   | —                    |
| ROE   | 9.1%    | 9.4%    | +0.3   |                      |

\* The Fuel Cost Adjustment System in the gas business may cause a gain or loss in profit due to the time lag between a change in LNG prices and its reflection in gas rates.

| 4  | 5MJ/m³                                | 2015.3  | 2016.3  | Change | Percentage<br>change |
|--|---------------------------------------|---------|---------|--------|----------------------|
|  | No. of customers (thousand)           | 7,196   | 7,252   | +56    | +0.8%                |
| ğ  | No. of new constructions (thousand)   | 107     | 109     | +3     | +2.5%                |
| date   | Sales volume per household (m³/month) | 30.9    | 29.3    | -1.7   | -5.3%                |
| Non-consolidated                                 | Residential                           | 2,186   | 2,083   | -103   | -4.7%                |
| g  | Commercial/public/healthcare          | 1,465   | 1,410   | -56    | -3.8%                |
| -uo  | Industrial                            | 4,133   | 4,059   | -74    | -1.8%                |
| Ž  | Commercial and industrial total       | 5,599   | 5,469   | -130   | -2.3%                |
|  | To other gas providers                | 474     | 469     | -5     | -1.0%                |
|  | (Large customers)                     | (4,755) | (4,647) | (-107) | (-2.3%)              |
| Total gas sales volume (million m <sup>3</sup> ) |                                       | 8,259   | 8,021   | -238   | -2.9%                |
| C  | onsolidated gas sales volume          | 8,290   | 8,052   | -238   | -2.9%                |

### Gas Sales

# 2 What is your strategy for handling the full liberalization of the retail gas market?

It is still unclear what the competitive landscape is going to look like once the retail gas market has been fully deregulated, but we expect to see tougher competition just as has occurred in the retail electricity market, which was fully deregulated in April.

To win in a highly competitive market, a company must understand its customers' needs and offer them exact solutions that meet their requirements. For this to happen, it is important to have direct contact with customers, including face-to-face interactions. The Osaka Gas service chain partners have many opportunities to interact directly with customers through appliance purchases and maintenance, and we would like to further strengthen our relationships with those customers. One of our specific efforts in this area is known as our "Sumikata Services" (Home Services), which we launched in May 2016. Leveraging our strength in having close ties to our customers, this new service offers them optimal approaches to more comfortable living that best suit their lifestyles. We are expanding our conventional services to include plumbing repair and air conditioning repair services so as to be a one-stop shop where customers can solve all of their residential problems, whether related to gas or electricity. By evolving into a next-generation energy marketer that offers not only energy, but also a variety of value-added services, we hope to continue to be our customers' number one choice for energy.

# 3 Now that Osaka Gas has entered the retail electricity business, what are the business conditions and future prospects for this business?

In the retail electricity business, we had received approximately 150,000 applications from customers as of the end of June. In the Kansai region, we have acquired the largest share of new electricity service applications. The sales personnel of Osaka Gas service chain partners offer rate simulations at customers' homes, etc. and provide detailed explanations of our services. In doing so, they are able to convey our price advantages to

customers. We regard that customers are applying for our services based on their confidence in our company, which has been supplying gas to the Kansai region for more than 110 years. For the fiscal year ending March 31, 2017, we are planning to secure 200,000 contracts. By the year ending March 31, 2021, we want to have reached 700,000 contracts and to be running a business that can steadily contribute to our profits.

# 4 What impacts did the decline in crude oil prices have on the fiscal year ended March 31, 2016?

From the second half of the fiscal year ended March 31, 2015 to the end of the fiscal year ended March 31, 2016, crude oil prices fell sharply and, as a result, this had a negative impact on our business performance: impairment losses were recorded in our international upstream business, and the profits in our electricity business were reduced due to the fall in trading unit prices in the Japan Electric Power Exchange (JEPX) and other factors. On the other hand, since the decline in crude oil prices pushes

down LNG prices and hence gas sales prices, an increase in gas demand can be expected. In fact, we successfully developed new gas demand in the fiscal year ended March 31, 2016 and will continue our efforts to develop more in the coming years. In the meantime, we intend to compensate for profit reductions caused by low oil prices through our efforts in developing gas demand and increasing profits in life & business solutions (non-energy business), which is less subject to oil price fluctuations.

# 5 Where will future investments be directed and what is the significance of investing in the international upstream business?

As of the end of the fiscal year ended March 2015, we had made about 88% progress (¥650.5 billion on a commitment decision basis), on the new business expansion and investment plan for the eight years from the fiscal year ended March 2010 to the fiscal year ending March 2017 (¥740.0 billion), indicating that our investment plans are progressing steadily. Over the medium to long term, the plan generally achieves a balance between our sales cash flow and investments.

In the domestic energy business, we are continuing to explore the construction of gas trunk lines and the acquisition of new power sources.

In our international business, participating in upstream projects and having the equity LNG of certain percentage in our procurement portfolio help secure the economy, flexibility and stability of our raw materials procurement and mitigate the impact of oil price fluctuation. To this end, we will continue investing in the existing upstream projects in which we are already taking part and carefully examine proposals for new projects with a greater level of scrutiny than before with consideration of both the current situation and the long-term outlook. In our international downstream business, we will continue looking into further investment opportunities to expand our energy business in areas where our technology and know-how cultivated in our domestic energy business can be utilized.

In life & business solutions (non-energy business), we will continue exploring investments in business expansion, such as acquisitions in our information solutions business and material solutions business.

By continuing to make these investments, we will establish the domestic energy business, international energy business, and life & business solutions (non-energy business) as our three core businesses, and will strive to maximize the overall strength of the Group by developing synergies and dispersing risk among all businesses.

### Why were the ROA/ROE targets in the FY2017 Plan lower than in the "Catalyze Our Dreams" medium-term business plan?

The FY2017 Plan was drawn up to address the fact that we will be unable to hit our targets for ROA (3.5%) and ROE (8.0%) for the fiscal year ending March 31, 2017 as specified in the "Catalyze Our Dreams" medium-term business plan. Underlying this are projections that profits in the electricity and international energy businesses are going to fall dramatically given the changing assumptions regarding oil prices and exchange rates. Decreases in gas sales volume and the effects of gas rate revisions also play a role. Furthermore the FY2017 Plan introduces cost reduction measures that go above and beyond the medium-term business plan. While integrating improvement in sales income from appliance sales and reducing overheads, we will strive for a better profit base over the course of the year.

|              |   | FY2017 Plan                | Medium-Term Business<br>Plan Targets (2017.3) | Change                              |
|--------------|---|----------------------------|---|-------------------------------------|
| ROA          |   | 2.8%                       | 3.5%  | -0.7%                               |
| ROE          |   | 5.4%                       | 8.0%  | -2.6%                               |
| Assumptions: | Crude oil price (JCC)<br>Unit: dollars/barrel | Apr-Sep: 40<br>Oct-Mar: 45 | 110   | First half: —70<br>Second half: —65 |
|              | Exchange rate:<br>yen/dollar                  | 120                        | 105   | +15                                 |

### Comparison of FY2017 Plan and Medium-Term Business Plan (2017.3) Targets

# 7 The fiscal year ending March 31, 2017 is the final year of the "Catalyze Our Dreams" medium-term business plan. What kind of progress has been made on this plan thus far?

The FY2017 Plan foresees that the quantitative targets set in the medium-term business plan will not be met, but it concludes that genuine progress has been made on the key issues of "enhancement of the energy business in the Kansai region," "expansion of the energy business areas," and "creation of the next core businesses by expanding business in growth markets outside the domestic energy business."

In the domestic energy business, we steadily proceeded with the environment assessment for the power plant whose construction is being planned in Ube City, Yamaguchi Prefecture, and in February, we made the decision to move forward with investigating and preparing for a natural gas power generation project in Himeji City, Hyogo Prefecture. Other achievements include launching a new model of ENE-FARM that achieves higher power generation efficiency in a more compact space compared with previous models, entering into the retail electricity business and increasing our sales volume of LNG to other energy providers.

In our international energy business, we entered into a new IPP project in the USA and invested capital in a natural gas local distribution company in Italy. We made steady progress in the upstream business we have been involved in thus far, and in 2016 LNG shipment started at the Gorgon LNG Project.

In life & business solutions (non-energy business), the Group welcomed a company engaged in the manufacture and sales of inorganic adsorbent agents and resin additives in the material solutions business, and we generated synergies in sales and technology with a Swedish activated carbon company that joined the Group in 2014. In the information solutions business, we expanded system sales to financial, energy, and production companies by leveraging the strengths of each group company. Through these efforts, we are steadily expanding our business in various growth markets.

In January 2015, we revised gas rates and lowered them for small-volume customers by 1.26% on average. On the occasion of the 110th anniversary of our founding, we issued a commemorative dividend, and for the fiscal year ending March 31, 2017 and beyond, we will continue our efforts to increase ordinary dividends. Thus, in alignment with our management principle, we are unremittingly striving to create value for customers and shareholders.

### What is the Osaka Gas Group's policy on alliances with other companies?

We have thus far engaged in partnerships with other companies that contribute to the achievement of our growth strategy and with whom we can enjoy mutual benefits, and we will continue to explore opportunities for collaboration in the future.

In response to the full deregulation of the retail electricity and gas markets, we are considering the formation of alliances that go beyond our business sectors to include not only energy companies, but companies in the communications and other industries. When it comes to alliances that will help us engage in the competitive procurement of materials or electricity, or expand our customer engagement opportunities and services, we will explore partnerships with a wide range of service providers, regardless of industry.



# Please give us your thoughts on returning profits to shareholders and provide details of capital policies for the future.

Uncertainty in the domestic energy business is likely to increase due to the full deregulation of the retail electricity and gas markets. To steadily manage and grow our businesses even under the new conditions, we must actively make new investments. Meanwhile, we need to maintain a high credit rating with ample capital and a strong financial position by establishing the financial soundness targets of having a D/E ratio of approx. 0.7 and a shareholders' equity ratio of 50% or more.

With regard to shareholder returns, we have set a consolidated payout ratio target of 30% or more on a basis that excludes factors affecting short-term profits.

The current business landscape is likely to pose challenges, but over the medium term, we can expect profit growth in the retail electricity business and life & business solutions (non-energy business), and profit contribution from international upstream projects in which we have made investments. Because of these prospective gains and the likely implementation of further business efficiency improvements, the Board of Directors' meeting held in March 2016 decided to set the target of 10 yen per share as an ordinary annual dividend for the fiscal year ending March 31, 2017 and beyond. By continuing to promote active business expansion, improve business efficiency and raise profit levels, we hope to increase dividends and meet our shareholders' expectations.

Regarding the acquisition of treasury stock, it will be implemented by comprehensively considering factors including overall performance, future business plans, cash flow, financial conditions, and the extent of our investments.



### Annual Dividends per Share (Yen)

\* Fiscal year ended March 2015: ¥9.0 annual dividend, ¥0.5 commemorative dividend; Fiscal year ended March 2016: ¥9.0 annual dividend, ¥1.0 commemorative dividend

## Consolidated Financial Highlights

|   |   | Millions of yen | Thousands of<br>U.S. dollars |
|---|---|-----------------|------------------------------|
| Net Sales   | 2015.3  | 2016.3          | 2016.3                       |
| Down from the previous year   | Financial Data  |                 |                              |
| due to declines in gas sales<br>unit prices and sales volume.         | • Net sales ¥1,528,164  | ¥1,322,012      | \$11,732,445                 |
|   | • Operating income 105,065                                    | 146,674         | 1,301,686                    |
| Operating Income  | Current net income before<br>income taxes 121,428             | 122,865         | 1,090,338                    |
| Up from the previous year due to the increase in gas business profits | Current net income attributable 76,709                        | 84,324          | 748,349                      |
| attributed to the decline in raw                                      | Capital expenditure 119,398                                   | 114,418         | 1,015,424                    |
| materials expenses associated   | Depreciation and amortization 87,785                          | 86,747          | 769,852                      |
| with the decrease in LNG prices.                                      | R&D expenses 11,434   | 11,340          | 100,638                      |
| Current Net Income Attributable                                       | Total assets 1,862,201  | 1,829,756       | 16,238,516                   |
| to Owners of the Parent<br>Up from the previous year                  | Equity 888,496  | 906,623         | 8,045,997                    |
| as even though losses were  | Interest-bearing liabilities 633,923                          | 567,164         | 5,033,404                    |
| recorded in our upstream<br>businesses, gas business                  | Cash flows from operating activities 156,908                  | 281,819         | 2,501,056                    |
| profits rose.   | Cash flows from investing activities (110,704)                | (144,198)       | (1,279,712)                  |
|   | Cash flows from financing activities 22,892                   | (90,716)        | (805,076)                    |
| Capital Expenditures<br>Down from the previous year                   | Number of shares issued and 2,083,400 outstanding (thousands) | 2,083,400       | -                            |
| due to reduced investments in   |   |                 |                              |
| international upstream business.                                      |   |                 |                              |

### **Total Assets**

Down from the previous year due to reductions in inventory assets and accounts receivable.

#### Notes:

The translation of Japanese yen amounts into U.S. dollar amounts is based on the prevailing exchange rate at March 31, 2016, which was ¥112.68 to U.S.\$1.0.
 Net worth / Total assets = Equity / Total assets (as of the end of the fiscal years ended March 31)

3. Debt equity ratio = Interest-bearing liabilities / Equity (as of the end of the fiscal years ended March 31)

4. Interest coverage ratio = Cash flows from operating activities / Interest expenses

S. Return on assets (ROA) = Net income / Total assets (average)
 Return on equity (ROE) = Net income / Average equity
 Figures in the financial data are rounded down.

### Net Sales





### **Operating Income**





### **Current Net Income Attributable** to Owners of the Parent

(billion yen)



| _  | 2015.3 | 2016.3 | 2016.3  |
|--|--------|--------|---------|
| Per Share Data (yen and U.S. dollars)      |        |        |         |
| Earnings per share (EPS)                   | ¥36.86 | ¥40.53 | \$0.359 |
| Book value per share (BPS)                 | 426.98 | 435.85 | 3.868   |
| Annual dividends                           | 9.50   | 10.00  | 0.088   |
|  |        |        |         |
| Key Ratios                                 |        |        |         |
| Net worth / Total assets                   | 47.7%  | 49.5%  |         |
| Debt equity ratio (times)                  | 0.71   | 0.63   |         |
| Interest coverage ratio (times)            | 16.6   | 28.2   |         |
| Return on assets (ROA)                     | 4.3%   | 4.6%   |         |
| Return on equity (ROE)                     | 9.1%   | 9.4%   | -       |
|  |        |        |         |
| Gas sales volume (million m <sup>3</sup> ) | 8,290  | 8,052  | -       |
| Number of meters installed (thousands)     | 7,224  | 7,280  | -       |
| Number of employees                        | 20,982 | 20,844 | -       |

### Gas Sales Volume

The gas sales volume for residential use was down from the previous year as winter temperatures trended at high levels and demand for hot water and heating declined.

The gas sales volume for commercial, public, and medical use decreased from the previous year due to a downturn in operations at customers' facilities and decreased heating demand. The gas sales volume for industrial use was down from the previous year due to a reduction in operations at customers' facilities.

### Credit Ratings (As of March 31, 2016)

|                   | Long-term bond | Domestic commercial paper |
|-------------------|----------------|---------------------------|
| R&I               | AA+            | a-1+                      |
| Moody's           | Aa3            | _                         |
| Standard & Poor's | AA-            | A-1+                      |

### **Capital Expenditure**

(billion yen)



### Return on Equity (ROE) / Return on Assets (ROA) (%)



### Net Worth / Total Assets (%)



12.3 13.3 14.3 15.3 16.3

## Osaka Gas Group's Business Plan for the Year Ending March 31, 2017

### Positioning of the Osaka Gas Group's "Catalyze Our Dreams" Medium-Term Business Plan

While moving forward in the direction outlined in the Group's "Field of Dreams 2020" long-term management vision, we set up a three-year medium-term business plan starting in the fiscal year ended March 31, 2015, titled "Catalyze Our Dreams." In the fiscal year ending March 31, 2017, the business environment will continue to be characterized by uncertainty regarding the path ahead and widespread fluctuations, but we will promote efforts to achieve continued, robust growth into the future. We are preparing for the full deregulation of the retail gas market in the fiscal year ending March 31, 2018, and will strive for the early expansion of our electricity retail business. In addition to supplying energy in forms including city gas, LPG, and electric power, we are striving to offer customers high-quality solutions that combine various value-added services. In addition, we are promoting initiatives to strengthen our production and supply platform and to develop new power sources, and are actively working to expand our international energy business and life & business solutions (non-energy business).

### Outline of Osaka Gas Group's Medium-Term Business Plan, "Catalyze Our Dreams" (2015.3-2017.3)

| Key Issues                 | Kancai Pagian                                    | International               |
|----------------------------|--|-----------------------------|
|                            | Kansai Region    Japan                           | International               |
| Domestic/<br>International | Energy Supply and Sales <b>&gt;&gt;</b>          | Upstream                    |
| Energy Business            | Power Generation<br>(including Renewable Energy) | International<br>Downstream |
|                            | Material Solutions                               |                             |
| Life & Business            | Information Solutions                            |                             |
| Solutions                  | Real Estate                                      |                             |
| (Non-Energy<br>Business)   | Life Services                                    |                             |
|                            | New Businesses (Water Supply, e                  | tc.)                        |

### Major Management Indicator Targets

|   |                          | 2021.3  |  |
|---|--------------------------|---|--|
| Profitability indicators  | ROA                      | 4.5%  |  |
| indicators '  | ROE                      | 9.0%  |  |
| Financial<br>soundness  | D/E ratio                | Approx. 0.7   |  |
| indicators  | Net worth / Total assets | 50% or higher   |  |
|   | Payout ratio             | 30% or higher*  |  |
| Shareholder<br>returns  | Share buybacks           | Management intends to take a flexible approach while<br>considering overall investments and financial position. |  |
| * Eveloption for the stand that affects all and the second fits |                          |   |  |

\* Excluding factors that affect short-term profits

**1** Enhancement of the Energy Business in the Kansai Region Evolving our core energy business in the Kansai region into a comprehensive energy business able to address a diverse range of customer demands.

## **2** Expansion of the Energy Business Areas

Expanding the scope of our energy business inside and outside Japan by leveraging our expertise.

### **3** Creation of the Next Core Businesses

Expanding business in growth markets in the international energy business and life & business solutions (non-energy business) by leveraging the strengths of the Osaka Gas Group.

### Investment Plan Investment in New Business Expansion (2015.3–2021.3)

|  | "Catalyze Our Dreams | <b>s" Plan</b> (billion yen) |
|--|----------------------|------------------------------|
| Domestic Energy Business                           | 250                  | (80)                         |
| International Energy Business                      |                      | (180)                        |
| Life & Business Solutions<br>(Non-Energy Business) | 160                  | (80)                         |
| Total amount of investment                         | 770                  | (340)                        |

Note: Data in parentheses indicates the investment plan for the three-year period from the fiscal year ended March 31, 2015 to the fiscal year ending March 31, 2017.

### Major Initiatives to Achieve Key Issues

### **Domestic Energy Business**

- (1) Concluded LNG supply contract with Hiroshima Gas Co., Ltd. (July 2014)
- (2) Established Yamaguchi-Ube Power Generation Co., Ltd. to investigate and prepare for a coal-fired power project in Ube City, Yamaguchi Prefecture (March 2015)
- (3) Established Himeji Natural Gas Power Generation Co., Ltd. to investigate and prepare for a natural gas-fired power project in Himeji City, Hyogo Prefecture (April 2016)
- (4) Entered the electricity retail business; started supplying electricity to customers in low-voltage fields, such as homes and eating and drinking establishments (April 2016)
   (E) Launched calls of the new ENE EARM type 5 (April 2016)
- (5) Launched sales of the new ENE-FARM type S (April 2016)

### International Energy Business

- Finalized decision to invest in the Freeport LNG Project in the USA, and concluded a financing agreement through project financing (October 2014)
- (2) Participated in a project to build the St. Charles Energy Center Natural Gas-Fired Power Plant in the USA (April 2015)

(3) Established a joint venture to provide energy services in Thailand through a joint investment with a subsidiary of PTT Public Company Limited (a Thai state-owned oil company) (November 2015)

(4) Invested capital in Erogasmet S.p.A., an Italian city gas distribution company (December 2015)

### Life & Business Solutions (Non-Energy Business)

- (1) Merger of Osaka Gas Chemicals Co., Ltd. and our subsidiary Japan EnviroChemicals, Ltd. (April 2015)
- (2) Acquired shares of Mizusawa Industrial Chemicals, Ltd., which engages in the production and sales of inorganic adsorbent agents and resin additives, and added them as a group company (April 2015)
- (3) Merger of OGIS-RI Co., Ltd. and Osaka Gas Research Institute of Behavior Observation Inc. (July 2015)



### Osaka Gas Group's Business Plan for the Fiscal Year Ending March 31, 2017

ENE-FARM type S

Comprehensive disaster drill

### **Business Activities**

**Energy Marketer Business** 

- Promote steady preparations for full deregulation of the retail electricity and gas markets • As a next-generation energy marketer, provide a variety services to
- meet the needs of customers
- Promote the dissemination of decentralized energy systems
- Buy surplus electricity from customers using ENE-FARM type S and launch business using it as a retail power source

### Stable Supply of City Gas

- Promote full preparations as a gas pipeline operator for the full retail deregulation of the retail gas market, including operations flow developments and system enhancements
- Investigate the construction of new gas trunk lines to improve supply stability
- Conduct aged infrastructure and facility repairs and comprehensive disaster drills (shoring up the disaster response capability for earthquakes and tsunami)

Power Generation Business, Broad-Area Energy Business

- Promote activities aimed at new energy source acquisition
- Expand LNG trading both domestically and internationally
- Implement electric power sales in partnership with other energy providers

Life & Business Solutions (Non-Energy Business)

# Life & Business Solutions (Non-Energy Business)

Domestic/International Energy Business

### Material Solutions

Develop and expand the uses of new products aimed at business diversification Information Solutions Expand the systems development business to

energy, financial, and manufacturing companies

Real Estate Offer high-quality residences **Technological Development** Development of next-generation materials







Cloud-based meter data management service

Sanjo-dori

-7.9%

+53.3%

+31.0

51.5

32.5

75.5

42.0

201.5

150.0

Financial Plan (Consolidated)

|                  | Estimate for the fiscal year<br>ending March 31, 2017 (billion yen) | Increase/<br>Decrease (%) |
|------------------|---|---------------------------|
| Net sales        | 1,170.5   | -11.5                     |
| Operating income | 85.5  | -41.7                     |
| Ordinary income  | 78.0  | -42.2                     |
| Net income       | 52.0  | -38.3                     |
| ROA              | 2.8%  | _                         |
| ROE              | 5.4%  | —                         |

Assumptions: Crude oil price (JCC) first half at \$40/barrel, second half at \$45/barrel; exchange rate of ¥120/\$1

Sensitivity of ordinary income to fluctuations in crude oil price and exchange rate: ±1 billion yen per change of \$1/barrel; ±0.6 billion yen per change of ¥1/\$1

### Natural Gas Procurement International Upstream Business

• Promote stable and economical natural gas procurement through multiple sourcing for supply and diversification of contract price indices, and participate in natural gas liquefaction

and development projects Promote current international



Investigate acquisition of new interests

project participation

### **International Downstream Business**

- Investigate business stakes in a wide range of areas, including power generation, energy services, gas sales, and LNG terminal management primarily in North America and Southeast Asia
- Acquire management know-how in various businesses in respective regions by acquiring a stake in active projects, and harness this to achieve business expansion





St. Charles Energy Center Natural Gas-Fired Power Plant (under construction)



**Investment Plan** 

Investment to improve quality of existing business

Investment in new business expansion

Domestic Energy Business

International Energy Business

Life & Business Solutions (Non-Energy Business)

Total amount of investment

## Energy Value Chain of the Osaka Gas Group

Osaka Gas provides secure and competitive gas supply by utilizing its strengths as a Group that covers both the upstream processes of extracting and transporting natural gas and the downstream processes of producing, supplying, and selling gas. We are now actively exploring ways to expand new business domains both in Japan and internationally that utilize the expertise we have gained through our operations to date to further strengthen the natural gas value chain.

Strengthening and Expanding the Domestic Energy Business

Business Domains of Certain City Gas Suppliers, including the Osaka Gas Group

### **Upstream Business** Natural Gas Extraction LNG Transportation and Liquefaction Natural gas is a raw material used in the We are proactively moving forward production of city gas. After extraction with the operation of our own LNG overseas, natural gas is cooled and liquefied, carriers to enable a more flexible and then imported into Japan as LNG. response to changes in demand and Currently, the Group has concluded long-term other external factors, and to curtail purchase agreements with natural gas transportation costs. suppliers in eight countries worldwide and is working to ensure stable LNG procurement. Strengthening and Expanding Strengthening and Expanding the Value Chain the International Energy Business **Extracting and Liquefying** Natural Gas Ourselves Gorgon LNG Project and Other Projects Strengthening and Expanding the Value Chain We are participating in Using Our Own Group Carriers several upstream business projects. By expanding our **Our Fleet of Eight Ships** business fields, we are able to procure more cost-competitive LNG. By chartering out Groupmanaged vessels to third Freeport LNG Project parties, we can increase the rate of operation of our We liquefy and export natural gas procured in the USA. As well LNG carriers and further as using it in our own gas and electric power businesses, we contribute to profits. aim to sell it to energy providers both in Japan and abroad.



### Strengthening and Expanding the Value Chain

### Participating in the Gas Distribution Business Gas Distribution Business in Italy

Leveraging our experience and knowledge as a domestic gas provider, we are supporting the expansion of a city gas distribution company in Italy in which we have a capital stake, in an effort to earn stable revenues.



Strengthening and Expanding the Value Chain

### Developing the Energy Services Business

### Energy Services Business in Southeast Asia

Leveraging engineering capabilities cultivated domestically, we are expanding our business globally, launching, for example, an energy services business in Thailand and an industrial gas sales business in Singapore.



## Business Climate Surrounding the Osaka Gas Group

## **Characteristics of Natural Gas**

### Environmental Friendliness of Natural Gas

Natural gas, a fossil fuel like petroleum and coal, is an energy resource which contains methane as its principal component. A major advantage of natural gas over petroleum and coal is its low emissions of carbon dioxide  $(CO_2)$ , a cause of global warming. When it is burned, natural gas emits only limited amounts of nitrogen oxides  $(NO_x)$ , a contributing factor in air pollution, because of its low nitrogen content, and emits no sulfur oxides  $(SO_x)$ , which are a contributor to acid rain.

### Prospects for Natural Gas

Against a backdrop of increasing demand for energy in emerging countries, the expanding use of natural gas as a non-conventional energy source, and changing conditions in electricity supply and demand in Japan, natural gas has been growing in importance. The International Energy Agency (IEA) predicts that the world's energy demand is going to continue to increase until 2040, and that the percentage of natural gas will increase in the world's primary energy consumption composition mix as we move toward the achievement of low-carbon, efficient energy systems.

### Supply Stability of Natural Gas

Abundant reserves of natural gas have been discovered around the world, making it likely that a stable supply of natural gas will be available to meet growing demand. Proven reserves of natural gas are sufficient to satisfy global demand for more than 50 years.



Volume of major proven natural gas reserves (trillion m<sup>3</sup>)

Comparison of Amount of Emissions with Coal as 100



(CO<sub>2</sub> figures) The Institute of Applied Energy, "Report on Thermal Power Plant Atmospheric Impact Assessment Technology Demonstration Surveys" (March 1990) (SO<sub>x</sub> and NO<sub>x</sub> figures) International Energy Agency (IEA), "Natural Gas Prospects to 2010" (1986)

### Primary Energy Consumption Forecasts (Global)



Sources: World Energy Outlook 2015 (New Policies Scenario)



# Characteristics of the Gas Business in Japan

### **Gas Pipeline Networks**

Gas pipeline networks have been developed in each region of the country, separate from each other, with no trunk line running throughout the entire country connecting local networks.

— Major pipeline network 🖌 🗸



Pipeline open-cut construction work

### Responsibility for Security

Gas companies have an obligation to maintain gas facilities, including the installed gas facilities that are assets of their customers, in compliance with technical standards that will allow them to supply gas safely. They are also obligated to inspect consumer gas appliances and to share with users the information necessary to prevent hazards associated with the use of those consumer appliances. After the full deregulation of the retail gas market, the responsibility for the security of installed gas facilities, including those located on customers' premises, is to be ascribed to the gas pipeline operating company, while the obligation to carry out inspections and share information about consumer appliances will be ascribed to the gas retailer.



### Fuel Cost Adjustment System

The purchasing prices of LNG and LPG, both raw materials for the gas supplied to customers, fluctuate in accordance with movements in foreign currency exchange rates and the price of crude oil. The mechanism for determining gas rates is referred to as the Fuel Cost Adjustment System. In addition to reflecting external factors in gas rates, this system is designed to clarify the results of efforts in enhancing operating efficiency in areas other than raw material costs. Due to its structure, it also causes a time lag before price fluctuations of raw materials are reflected in gas rates, which impacts performance on a single fiscal-year basis. However, these impacts are neutralized over the medium to long term.

### System Reflecting Changes in Resource Costs in Gas Rates (example)





# **Domestic Energy Business**



### Segment Income\* (billion yen)



\* Segment income = Operating income + Equity in earnings of affiliates

In the fiscal year ended March 31, 2016, net sales from the domestic energy business were  $\pm$ 1,154.9 billion. Segment income came in at  $\pm$ 124.5 billion.

Heightened interest among customers with regard to saving energy and protecting the environment, combined with lower crude oil prices, population decline in the Kansai region, and the full deregulation of the retail electricity and gas markets are all factors that will keep conditions in the energy business in constant flux.

Osaka Gas sells energy in forms including city gas, LPG, and electricity, and combines offerings of gas appliances, such as ENE-FARM, with services that contribute to the success of customers' lives and businesses, thereby meeting the diversifying needs of customers.

## Kansai Region Gas Business

As a core pillar of the Osaka Gas Group's business, we provide comprehensive gas-related services to customers in the Kansai region, ranging from the production, supply and sale of city gas to the installation of gas pipes and the sale of gas appliances.

### Overview of Gas Sales in the Fiscal Year under Review

The non-consolidated gas sales volume reported by Osaka Gas for the fiscal year ended March 31, 2016 fell 2.9% from the previous year to 8,021 million m<sup>3</sup>. A breakdown by use shows that residential use was down 4.7% to 2,083 million m<sup>3</sup> due to high air and water temperatures and reduced demand for heating and hot water. Due to a downturn in operations at customers' facilities, commercial use was down 2.9% from the previous year to 833 million m<sup>3</sup>, while public and medical use was down 5.1% to 577 million m<sup>3</sup>. Industrial use was down 1.8% from the previous year to 4,059 million m<sup>3</sup> due to a decline in operations at customers' facilities. Sales to other gas companies were down 1.0% to 469 million m<sup>3</sup>.



### Pipeline Expansion and New Demand Development



## **Electric Power Business**

### **Business Overview and Characteristics**

The electric power business is mainly conducted across two business domains: power generation and electricity sales (wholesale and retail). The electric power business is growing into a second core business after city gas. In its power generation activities, the Group relies heavily on the use of natural gas-fired thermal power plants. At the same time, we are actively involved in renewable energy operations encompassing a wide range of areas including wind and solar power generation. In the electric power wholesale business, we engage in wholesaling to electric power companies and the Japan Electric Power Exchange (JEPX). In the electric power retail business, we are engaged in retail sales through ENNET Corporation, a joint venture between Osaka Gas and other companies. In addition, we



Electric power sales in partnership with energy suppliers



\* The Otsu Gas Service Center serves as our representative agent in the City of Otsu.



Hirogawa Myojin-yama Wind Power Plant (Wakayama Prefecture)

began handling some of our own retail sales starting in April 2016.

We have created a well-balanced mix of wholesale and retail sales, and are developing the optimal electric power sales portfolio.

The total power generation capacity of our domestic power sources currently amounts to approximately 1.8 GW, with our flagship power plant being the Senboku Natural Gas Power Plant, which has a capacity of approximately 1.1 GW. Combining our domestic capacity with our overseas capacity, Osaka Gas boasts a total power generation capacity of approximately 2.9 GW. Including power sources currently under construction brings this figure to 3.2 GW. We are currently looking to double our capacity to 6.0 GW by the 2020s.

### Overview of the Fiscal Year under Review

In the fiscal year ended March 31, 2016, the Osaka Gas Group' s electric power sales volume rose 2% year on year to 8,503 GWh. We are continuing to provide a stable supply of electric power and are promoting the further expansion of our electric power business.

### Efforts to Expand the Electric Power Business

Leveraging the full deregulation of the retail electricity market in April 2016, we have begun offering our own retail sales of electric power and plan to secure 200,000 contracts by the end of the fiscal year ending March 31, 2017. Our goal is to have 700,000 contracts by the end of the fiscal year ending March 31, 2021. We are partnering with eight companies in the Kansai region on electric power sales.

To expand its electric power business, the Osaka Gas Group is working to develop power sources nationwide. In addition to our natural gas-fired power plants, which play a central role among our power sources, we are working on coal-fired power generation and renewable energies as well. By establishing the optimal energy portfolio, we will be able to reliably meet the diversifying demands of our customers.

### Initiatives Aimed at Expanding the Use of Renewable Energy

The Osaka Gas Group is actively engaged in solar and wind power generation projects in Japan and overseas and is promoting the widespread use of environmentally friendly energies to help bring about a low-carbon society.

The Osaka Gas Group maintains five wind power generation installations in the prefectures of Wakayama, Kochi, Yamaguchi, and Saga, and six solar power generation plants in the prefectures of Osaka, Wakayama, Okayama, Mie, and Oita.

In December 2015, we began construction of a wind power generation plant with a power generating capacity of 26 MW in Inamicho, Hidaka-gun, Wakayama Prefecture (operations scheduled to start in June 2018).

### **Expanding Electric Power Business Nationwide**

### **Power Source Development**

Adjacent to the Nakayama Nagoya Joint Power Generation Plant currently in operation, a coal-fired power station is now under construction. This power station partially uses biomass fuel to generate power, thereby reducing the environmental load.

In March 2015, we established Yamaguchi-Ube Power Generation Co., Ltd. as a joint venture with The Electric Power Development Co., Ltd. and Ube Industries, Ltd. to review and prepare to set up a coal-fired power plant in the Nishiokinoyama district of Ube, Yamaguchi Prefecture.

In April 2016, we established Himeji Natural Gas Power Generation Co., Ltd. as a joint venture with Idemitsu Kosan Co., Ltd. to review and prepare to set up a natural gas-fired power plant in Himeji City, Hyogo Prefecture.



Nagoya I Power Plant (under construction), Nakayama Nagoya Joint Power Generation Generation capacity: 110 MW / Generation facilities: sub-critical pressure boiler (coal/wood biomass) / Start of operations: FY2017



Yamaguchi-Ube Power Generation Generation capacity: 1.2 GW (planned) / Generation facilities: ultra supercritical pressure boiler (coal) / Start of operations: early 2020s (planned)

Himeji Natural Gas Power Generation Generation capacity: 1.8 GW (planned) / Generation facilities: combined cycle / Start of operations: early 2020s (planned)

## Power Sources Owned by the Osaka Gas Group (As of May 31, 2016)

| Domestic power plant  | Capacity |
|---|----------|
| 1 Torishima Energy Center (natural gas), Gas & Power  | 150 MW   |
| Punamachi Power Plant (natural gas),<br>Nakayama Joint Power Generation   | 149 MW   |
| Nagoya Power Plant (coal/wood biomass),<br>Nakayama Nagoya Joint Power Generation                                       | 149 MW   |
| I Himeji Power Plant (natural gas)  | 55 MW    |
| Senboku Natural Gas Power Plant (natural gas)   | 1,109 MW |
| <ul> <li>Hayama Wind Farm Power Plant (renewable energy),</li> <li>Hayama Wind Farm Power Plant</li> </ul>              | 20 MW    |
| <ul> <li>Hirogawa Myojin-yama Wind Power Plant (renewable<br/>energy), Hirogawa Myojin-yama Wind Power Plant</li> </ul> | 16 MW    |
| <ul> <li>Yura Wind Power Plant (renewable energy),<br/>Yura Wind Power Generation</li> </ul>                            | 10 MW    |
| <ul> <li>Hizen Wind Power Plant (renewable energy),</li> <li>Hizen Wind Power Generation</li> </ul>                     | 30 MW    |
| <ul> <li>Hirao Wind Power Plant (renewable energy),</li> <li>Hirao Wind Power Generation</li> </ul>                     | 9 MW     |
| <ul> <li>Nissan Green Energy Farm in Oita<br/>(renewable energy), Nikki Mirai Solar Plant</li> </ul>                    | 27 MW    |
| Others  | 116 MW   |
| Total   | 1,840 MW |

### Company share of capacity: 1,812 MW

In addition to the above, the Osaka Gas Group owns stakes totaling 1,100 MW in power sources outside of Japan.

Data in parentheses indicate the fuel used for power generation.

### Power Facilities of the Osaka Gas Group



## **Residential Gas and Electricity Sales**

### **Business Overview and Characteristics**

In the residential sector, we provide homes with a stable and safe supply of gas and also sell various gas appliances with the aim of encouraging increased gas usage.

Following the full deregulation of the retail electricity markets in April 2016, we began supplying electric power to residential customers. We are taking steps to help create a low-carbon society through the efficient use of energy. By improving energy security through the increased usage of distributed power generation systems, we are working to expand gas demand. Furthermore, as an integrated energy supplier, we are helping our customers live more comfortably and are contributing to their business development.

### Initiatives Aimed at Residential Electricity Sales

Following the full deregulation of the retail electricity markets in April 2016, we also began supplying electric power to residential customers. Leveraging the relationships we had built with our customers through our business thus far, which is well embedded in the local community, we have been marketing "Electricity by Osaka Gas." As of the end of June 2016, we already received about 150,000 contract applications.\*1

Our electricity rates offer savings for families that use a lot of electricity. A combination contract that includes city gas from Osaka Gas offers up to 5% savings on a two-year contract.<sup>\*2,3,4</sup>

We will continue striving to bolster our rate plans and services to meet the needs of our customers.

### Initiatives Aimed at Promoting Installation of Residential Fuel Cell Cogeneration System "ENE-FARM"

ENE-FARM is a fuel cell cogeneration system for residential use that generates energy by initiating a reaction between hydrogen extracted from city gas and oxygen in the air. In addition to further expanding the use of natural gas, it can help save energy and achieve CO<sub>2</sub> emission reductions, improve energy security, which is an increasingly pressing need for society, and cut peak electricity.

In April 2016, we began marketing a new product, ENE-FARM type S, which achieves the world's highest<sup>\*1</sup> power generation efficiency<sup>\*2</sup> of 52% and the world's smallest size.<sup>\*3</sup> In conjunction with the full deregulation of the retail electricity markets, we were the first in Japan to implement purchases of (surplus) electricity that was generated using fuel cells but not used in customers' homes.<sup>\*4</sup> This allows for the further reduction of customer utility expenditures as well as CO<sub>2</sub> emissions.

Since we first launched sales of ENE-FARM in 2009, the product has been adopted by many residential customers, and in May 2016, we reached a cumulative total of 50,000 units sold. We hope to increase the total sales to 200,000 units by the fiscal year ending March 31, 2021.



\*1 No. of low-voltage electricity supply contracts

- \*2 Comparison based on KEPCO meter rate lighting A electricity rates (price as of January 2016), excluding renewable energy surcharges and fuel cost adjustment amounts
- \*3 Applies to base plan A (equivalent to KEPCO meter rate lighting A) \*4 Discount rates are as of July 8, 2016



\*1 World's highest power generation efficiency using a household fuel cell with a rated power output of 1 kW or less (Source: Osaka Gas, as of February 24,

\*2 Calculated using the lower heating value; the power generation efficiency for the LP gas model is 51%

3 World's smallest solid oxide fuel cell (including waste heat management system) for residential use (Source: Osaka Gas, as of February 24, 2016)

\*4 First in Japan in the business of purchasing electricity generated by residential fuel cells through the electric power system (Source: Osaka Gas, as of February 24, 2016). Applicable targets from whom surplus electricity is purchased are customers who are using the new product (192-AS05 and 192-AS06 models) and have gas usage contracts with Osaka Gas.

In the future, we will strive to see ENE-FARM come into more widespread use and will work to further develop the relevant technologies and reduce costs. As an integrated energy supplier, we are helping our customers live more comfortable lifestyles, while reducing the burden on the environment, and improving energy security.

### New Product, ENE-FARM type S



○Achieves the highest power generation efficiency in the world at 52%

- Smallest in the world, requiring only 1.4 m<sup>2</sup> for installation (Only when installed in a detached residence. Can only be installed in multi-unit residential buildings at the time of initial construction.)
- ○Purchases of surplus electricity have begun

#### Power Generating Mechanism of the ENE-FARM type S

The system generates power by extracting hydrogen from city gas and initiating a reaction with oxygen in the air. The heat that is generated by this process is used to heat water.



### "Sumikata Services" (Home Services) Strengthen Relationships with Customers

We launched our "Sumikata Services" (Home Services) in May 2016 as a new service offering that will strengthen our relationships with our customers. Leveraging our strength in having close ties to our communities, this new service offers optimal residential approaches that best suit our customers' lifestyles, providing a form of residential support.

Osaka Gas and its service chain partners have spent more than 50 years working as members of their communities in offering local residents gas appliance sales, maintenance services, and renovation proposals. Using the results and know-how developed thus far by Osaka Gas and service chain partners, we are further improving our service levels and starting to offer new types of services based on a new concept of "residential support."

In addition to advancing the conventional services already available, we are expanding our lineup by gradually developing and adding new services.

It is through such services that we are aiming to strengthen our relationships with our customers and to continue being our customers' number one choice for energy.

### Service Chain Partners

There are about 200 service chain partners in our service area, and they develop activities that are grounded in their local communities so that they can be helpful to customers in many different ways. In addition to offering services on our behalf (opening and closing gas valves, gas appliance maintenance), they also make gas appliance recommendations and propose upgrade opportunities.

Our gas appliance maintenance services have gained the high regard of our custumers. About 1,300 certified maintenance specialists conduct more than 500,000 gas appliance repairs and inspections annually. Inquiries received by 3:00 pm are handled with same-day service calls. Furthermore, we receive 14,000 renovations inquiries annually, and have performed a cumulative total of 270,000 renovations.

### About Our "Sumikata Services" (Home Services)

### Safe, Reliable Support

We offer our customers "just-in-case" support by combining the various functions of our extended warranty services on gas appliances and other residential equipment, known as our RAKU-TOKU Warranty Service, with our disaster prevention services and

crime prevention services.



**住まれる** サービス もっと、住まいのミカタに。 Home Services

### Maintenance Services

We will bolster our gas appliance repair services with plumbing and air conditioning repair services, offering prompt service appointments and robust technological capabilities that take advantage of the local integration of our service bases. We want to be a one-stop shop for customers, whatever their problems.



Our upgrade services utilize our knowledge of energy conservation and our maintenance capabilities on home equipment, including gas appliances. We present custom upgrade plans that combine gas and electrical appliances, home equipment, and construction materials that allow customers to save energy while living in safety and comfort.



## **Commercial and Industrial Gas and Electricity Sales**

### **Business Overview and Characteristics**

In the commercial and industrial sectors including public and medical institutions, Osaka Gas supplies gas to its customers for such wide-ranging applications as gas cogeneration systems and gas air conditioning systems. Harnessing its engineering capabilities, where the Company's strengths lie, Osaka Gas strives to enhance the efficiency of customers' gas usage by developing custom burners and proposing business solutions tailored to the specific needs of each customer.

The deregulation of the retail electricity market, which has been gradually moving forward since the 1990s, was fully achieved in FY2016.

At Osaka Gas, we aim to continue selling electric power to an ever wider range of customers.

# Initiatives in Commercial and Industrial Electric Power Sales

Osaka Gas, through the retail agents of its affiliated company ENNET Corporation,\*1 has been engaged in electricity sales activities in the special high voltage and high voltage fields that have already been deregulated for more than 15 years. Thus far, through ENNET, we have sold electricity to more than 3,000 customers.

In April 2016, we began selling and supplying electricity directly to low-voltage customers, such as eating and drinking establishments and dry cleaners.

\*1 ENNET Corporation is a joint venture established by three companies: NTT Facilities, Tokyo Gas, and Osaka Gas. It entered the retail electricity business in 2000.

### Expanded Use of Gas Cogeneration Systems and Air Conditioning Systems

We are continuing to propose cogeneration systems and gas air conditioning systems that help reduce peak electricity consumption and promote energy conservation.

The cumulative capacity of gas cogeneration systems sold stood at 1.58 GW as of March 31, 2016 and we are striving to expand this to 2 GW for the fiscal year ending March 31, 2021.

With robust sales of gas air conditioning systems including gas heat pumps and natural chillers (gas absorption water heater-coolers), cumulative capacity sold stands at 4.75 million refrigeration tons (RT) as of March 31, 2016. Osaka Gas is looking to reach a cumulative total of 5.5 million RT in the fiscal

year ending March 31, 2021.



Gas cogeneration system



\*1 Sales performance of ENNET retail agents



Gas Air Conditioning System Cumulative Shipped Capacity (million refrigeration tons)



### Solutions That Strengthen Relationships with Customers

To encourage the use of energy through optimal systems, we provide an integrated series of services that includes everything from energy diagnoses and facility improvement proposals to the procurement of necessary equipment, technology and product development, and maintenance and management services. We want to be a one-stop shop for solving all our customers' energy needs.

We are also offering several ICT services, such as

### No Initial Cost Services

From the time our equipment is installed, we offer a complete service package that includes operation, maintenance, and management. We can devise plans to help customers save energy and reduce costs by introducing cogeneration or gas air conditioning equipment, without requiring customers to make any initial investment.

### **Ecollave**



The "ekul" service measures and immediately provides gas and electricity usage information in real time. It can also measure various data, including water usage, number of customers, temperature, and humidity.

### Delivering Solutions for the Industrial Market

We began developing burners for industrial furnaces in the 1950s and 1960s, and have developed a vast range of burners at our experimental facility.

#### Energy Diagnoses and Facility Improvement Proposals



Using cutting-edge measurement technologies and our specialized know-how, we perform thorough surveys of customers' equipment. We then propose optimal gas systems that can save energy and improve product quality.

### Maintenance



We employ information technologies to provide fast and detailed service. We handle troubleshooting and also propose facility improvements to save energy and improve the quality of products.

Develop

Demand

"HelloOG!" which offers gas and electricity usage, rate, and other helpful information for free via a customers-only website. "ekul" meanwhile, measures gas and electricity usage in real time, and notifies customers of excessive usage or wastefulness.

It is through such services and the provision of optimal energy solutions that we are aiming to strengthen our relationships with customers and to continue being their number one choice for energy.

### ICT Services

We offer ICT services that can meet customers' needs for energy-saving, cost-saving, and labor-saving solutions, as well as visual depictions of their energy consumption landscape. We offer customers optimal solutions using a wide variety of data.



With our unique engineering expertise, we supply optimal solutions that boost customer satisfaction and help develop further demand.

### Technology and Equipment Development Using Unique Engineering Strengths

Osaka Gas develops technologies and equipment for the systems we propose. We reproduce the customer's furnace at our experimental facility and conduct repeated testing and analyses to meet the needs of the customer.



### Engineering Solutions, Fuel Conversion

We offer systems to meet the specific needs of each customer. When installing, we strive to shorten the construction period to minimize impact on the customer's production activities. We conduct fuel conversion and install new gas equipment.



## **Broad-Area Energy Business**

### **Business Overview and Characteristics**

In addition to supplying city gas to customers within its service area, the Osaka Gas Group sells a portion of the LNG it procures to large-scale customers outside of the Kansai region and to other utilities, transporting the gas by tanker truck or ship. In addition to ongoing LNG supply using large-scale LNG carriers to Okinawa Electric Power Company, Inc. and Shizuoka Gas Co., Ltd., in 2016, we began supplying to Hiroshima Gas Co., Ltd. Going forward, we will expand the volume of LNG we handle to enhance competitiveness from a resource procurement standpoint, and will continue to provide energy solutions that address the needs of customers while pursuing alliances with regional utilities.





LNG satellite station

### LPG Business and Industrial Gas Business

### **Business Overview and Characteristics**

The Osaka Gas Group's LPG business mainly serves customers outside its city gas service area by providing retail and wholesale supplies of LPG. The Group takes full advantage of its city gas operating know-how as well as its nationwide sales network to enhance competitiveness in its LPG business. At the same time, the Group is working to provide multi-energy services that



LPG business



Industrial gas business (low-temperature crushing technologies)

combine city gas and electricity for a wide range of applications from residential to industrial use.

Moreover, in the industrial gas business, the Group utilizes cryogenic technologies to engage in such businesses as air separation as well as the manufacture and sale of liquefied carbon dioxide and dry ice. We are also expanding our business using proprietary low-temperature crushing technologies.



## **Energy Resource Procurement and Trading**

### **Business Overview and Characteristics**

The city gas supplied by the Osaka Gas Group to customers is produced from LNG, which is imported entirely from overseas. Taking into consideration growing global demand, the Group's ability to secure stable and competitive supplies of LNG is a critical issue for business management.

Under these circumstances, the Osaka Gas Group is making every effort to lower the procurement cost of energy resources by diversifying its suppliers and procuring new natural gas resources, including shale gas, as well as diversifying the terms and conditions of contracts, including its LNG pricing mechanisms.

### **Diversifying Sources of Supply**

LNG Purchase Volume (thousand tons)

Currently, the Osaka Gas Group procures supplies of LNG under long-term agreements concluded with producers from the eight countries of Brunei, Indonesia, Malaysia, Australia, Qatar, Oman, Russia, and Papua New Guinea.

Looking further into the future, we are pursuing opportunities to source supplies from the USA.\* \* Please refer to "Status of Main Upstream Investments" on page 34.

### 📕 Indonesia 📕 Australia Brunei Oman 📕 Russia 10.000 Malaysia 📕 Qatar Papua New Guinea Other 8,000 6,000 4,000 2,000 0 07.3 08.3 09.3 10.3 11.3 12.3 13.3 14.3 15.3 16.3





### Use of Osaka Gas Group LNG Carrier Fleet

In order to further stabilize the procurement of energy resources while reducing the costs of transportation, as well as expand trading in LNG, the Osaka Gas Group is building a fleet of LNG carriers. Its seventh carrier entered service in 2014. This carrier is a new model that incorporates an innovative steam turbine engine, and is expected to cut fuel costs compared to existing vessels. Thus reducing emissions of CO<sub>2</sub> and sulfur oxides (SO<sub>x</sub>), our new carriers will help in addressing environmental concerns.



Venus, the 7th Osaka Gas carrier

### Diversifying the Terms and Conditions of Agreements

There is an established system in Japan wherein LNG procurement prices are generally linked to the price of crude oil. For this reason, when crude oil prices rise, the price of LNG in Japan also rises, creating a situation which easily leads to a price discrepancy between Japan and the West.

The Osaka Gas Group is striving to establish new pricing mechanisms in LNG procurement. As one example, the Group has introduced pricing mechanisms indexed to Henry Hub\* prices instead of crude oil prices for procurement from the USA. By diversifying pricing mechanisms in agreements, we are working to stabilize and reduce the price of LNG. \* The name given to an index widely used as a reference for natural gas prices in the USA.

# International Energy Business



#### Segment Income<sup>\*1</sup> (billion yen)



#### Note: Starting in the fiscal year ended March 31, 2015, Osaka Gas repositioned the renewable energy business from the environment/non-energy segment to the LPG/electricity/other energy segment or to the international energy segment according to the details of individual business activities. For this reason, figures from the fiscal year ended March 31, 2015 on include the international renewable energy business. \*1 Segment income = Operating inco the fiscal year ended March 31, 2015 on include the international renewable energy business.

In the fiscal year ended March 31, 2016, net sales from the international energy business amounted to  $\pm$ 18.7 billion. Segment income was negative at  $-\pm$ 200 million due to income reductions at affiliates accounted for by the equity method, as a result of the decline in crude oil prices and other factors.

As a supplier of energy, the Osaka Gas Group first focused its attention on the natural gas value chain from an early stage. Comprehensive efforts have been directed toward expanding business activities from the upstream business such as the overseas acquisition of rights in gas fields and extraction of natural gas, to downstream businesses, including LNG terminal business, independent power producer (IPP) business, and international city gas sales and energy service business utilizing domestically cultivated know-how.

Moreover, the Group is taking steps to expand its trading business by leveraging its own fleet of LNG carriers.

## **Upstream Business**

### **Business Overview and Characteristics**

The energy resource development business activities of Osaka Gas are helping to expand profits for the entire Group and stabilize profits by serving as a natural hedge against fluctuations in crude oil prices and foreign currency exchange rates. The activities also contribute to the accumulation of valuable

### Status of Main Upstream Investments

The gas liquefaction facility that is part of the Freeport LNG Project (Texas, USA) has been granted approval by the U.S. Federal Energy Regulatory Commission, with construction getting underway in November 2014.

We are actively moving forward on this project,

expertise and experience in the field of LNG procurement.

Moving forward, we will robustly promote those ventures in which we have already decided to engage, and will continue pursuing the acquisition of new interests as we carefully examine new investment opportunities.

including the construction of pipelines and liquefaction facilities for the gas that will be used as a resource, with the goal of starting shipments in the latter half of 2018. In 2016, production started at the Gorgon LNG Project, in which we are an investor. Around 2017, production is slated to begin at the Ichthys LNG Project.



## **Downstream Business**

### **Business Overview and Characteristics**

Aiming to utilize the know-how gleaned from domestic energy business in overseas development and to secure stable income, the Osaka Gas Group participates in LNG terminal business and IPP business in North America, Europe, the Middle East, and Australia. We are also working to develop our natural gas retail business and develop our energy services business\* in Southeast Asia, and to further expand our business domains in this region, where energy demand is expected to rise.

\* Services that allow customers to introduce natural gas facilities without requiring any initial investment—by only paying rates for the amount of energy used.

### Development of the Power Generation Business Overseas

To secure stable income and acquire experience and expertise, the Osaka Gas Group has been developing the power generation business in the USA, Australia, and other countries. At present, the Osaka Gas Group owns stakes totaling 1.10 GW in power sources outside of Japan. In June 2015 the Group began participating in a project to build the St. Charles Energy Center Natural Gas-Fired Power Plant in Maryland, USA. Going forward we will continue to pursue power generation overseas.



St. Charles Energy Center Natural Gas-Fired Power Plant (under construction)

### Participation in City Gas Distribution Business Overseas

In December 2015, we concluded a joint business contract in which we received a capital increase through a third-party allocation of stocks conducted by Erogasmet S.p.A, an Italian city gas distribution company. This was our first time participating in overseas city gas distribution business and represents our willingness to take on new challenges. Using our experience and knowledge as a gas provider, we supported Erogasmet's business expansion and aimed to increase stable revenues.





Emergency response vehicle

Governor station

### Developing Our Natural Gas Sales and Energy Services in Southeast Asia

In March 2013, after setting up a local representative company in Singapore, we began selling natural gas and offering energy services to the industrial markets in Singapore and Thailand, utilizing our energy-saving technologies related to cogeneration, boilers, and industrial furnaces. We are rolling out operations across Southeast Asia, a region where continued economic growth is expected, promoting conversion from heavy oil and other fuels to clean natural gas, which also helps contribute to energy conservation.

### Developing the Energy Services Business in Thailand Striving to Raise the Business Performance of Local Companies



Osaka Gas established a staffed office in Thailand in 2012 and explored the potential of the energy services business in the industrial market. Thailand has not only maintained a high rate of economic growth in recent years, but also has the kind of gas pipeline infrastructure that our business requires. It is furthermore home to the plants of numerous Japanese companies. Recognizing its potential as a large market with remarkable growth within Southeast Asia, we established Osaka Gas (Thailand) Co., Ltd. in September 2013.

On the ground, we began checking the pipeline conditions needed for converting customers to natural gas service. We propose energy service plans that allow us to serve as a one-stop-shop for everything from pipeline construction and gas supply contracts, to the development, new procurement, and repair of natural gas fuel equipment, such as boilers and heating furnaces, as well as the measurement and management of energy usage conditions, and maintenance services, based on our customers' needs. We collect energy service fees from customers based on their energy usage, including energy fees, installation fees, and other service fees. Customers likewise benefit from the introduction of natural gas without any upfront investment, as they are able to reduce costs through energy conservation and have access to a stable supply system, all with the minimum of effort. By utilizing the engineering and problem-solving capabilities cultivated in the domestic industrial market, Osaka Gas is able to exercise its forte in surveying natural gas fuel facilities, and plants as a whole, and proposing efficient energy use systems. We provide carefully tailored services to customers, holding regular energy management workshops for facility managers after our proposals have been accepted. This has allowed us to significantly increase our customer base, particularly among Japanese companies.

Toshihiro Ouchi Managing Director Osaka Gas (Thailand) Co., Ltd.



In 2015, we entered into a joint venture with Thailand's largest comprehensive gas company, the PTT Group, which engages in activities ranging from natural gas extraction and imports to retail sales. Through this, we established OGP Energy Solutions Co., Ltd., a new company that engages in the energy services business targeting industrial customers. By partnering with PTT, we were able to open up major new sales channels to local companies, and to increase our name recognition and credibility among local Thai companies. This also helped increase our ability to appeal to Japanese companies operating in Thailand.

In FY2016, our goal was to improve our performance not only among Japanese companies, but also among local companies with a growing interest in energy conservation. In addition, through a joint project with a local company, we are exploring the possibility of establishing a gas supply business for natural gas vehicles using biogas. We strive to offer a wide array of helpful services to our customers and to expand our businesses, without being limited to businesses related to natural gas.
#### Investments in the International Energy Business



# Life & Business Solutions (Non-Energy Business)



The Osaka Gas Group actively applies the technologies and know-how it has accumulated over more than 110 years in the city gas business in other businesses, including its material solutions business, real estate business, and information solutions business.

The Osaka Gas Group efficiently manages its operations through the selection and concentration of business activities, while constantly paying close attention to the conditions in each business.

In the fiscal year ended March 31, 2016, net sales totaled ¥221.7 billion. Segment income was ¥18.8 billion.

Life & business solutions (non-energy business) plays a major role underpinning the revenue base of the Osaka Gas Group as a stable source of earnings despite rapidly changing conditions in society that affect the energy business, such as dropping raw material prices and greater awareness of energy conservation.

### Material Solutions Business | Osaka Gas Chemicals Group

#### **Business Overview and Characteristics**

Osaka Gas employs coal chemistry technologies developed through the production of coal gas, as well as pharmaceutical-related technologies that were owned by the former Japan EnviroChemicals, which was fully integrated in April 2015, to develop and provide high-value-added functional chemical products.

In the field of fine materials, we produce and sell materials with fluorene derivatives that present excellent optical and heat-resisting properties, including resins for optical lenses used in smartphone cameras. In the field of carbon fiber, we produce and sell energy-saving molded heat insulation material used in high-temperature furnaces such as silicon

#### Initiatives in the Fiscal Year under Review

In the fiscal year ended March 31, 2016, sales declined in the fine materials sector. However, the addition of Mizusawa Industrial Chemicals, a subsidiary of Takeda Pharmaceuticals that produces and sells inorganic fine particles such as inorganic adsorbents and resin additives, to the Group in April 2015 resulted

in an increase in the net sales and current net income of the Osaka Gas Chemicals Group from the previous year. Activated clay



#### Global Expansion of the **Activated Carbon Business**

Hiroaki Shigesada Executive Officer, Division Director Activated Carbon Business Division Osaka Gas Chemicals Co., Ltd.



The activated carbon business is one of the key businesses of Osaka Gas Chemicals. It entails the production of activated carbon, which is used in water purification and sewerage treatment plants, the manufacturing processes of foods, beverages, and pharmaceuticals, as well as in water and air purification devices. We also handle the manufacture of cartridges and other related products in which activated carbon is used. In 2005, Japan EnviroChemicals, formerly a subsidiary of Takeda Pharmaceuticals, joined the Group, giving us the SHIRASAGI brand of activated carbon, which has a reputation for its high level of quality.

Our strengths lie in our high quality as well as our technical ability in design and processing, which allows us to develop and propose activated carbon with diverse functionality, in response to our customers' needs. Our competitiveness is derived from our ability to achieve the stable procurement of coconut husks or sawdust, which are used as raw materials, at an inexpensive price from the Philippines and Malaysia.

melting furnaces used in photovoltaic cell manufacturing. Moreover, in activated carbon, we produce and sell the SHIRASAGI<sup>®</sup> series, which is the top brand in Japan, as well as water purifier cartridges that use SHIRASAGI® activated carbon. In the preservatives sector, meanwhile, we produce and sell the XYLADECOR series, which is the top brand of protective wood coatings in Japan.

We will continue to expand our existing businesses by strengthening R&D and actively pursuing mergers and acquisitions to boost sales in the Osaka Gas Chemicals Group to 100 billion yen by the end of the fiscal year ending March 31, 2021.



In conjunction with the strengthening of environmental regulations in developed countries and the increase in the standard of living in newly emerging economies, the global market for activated carbon continues to grow. In an effort to expand into the global market, we added Jacobi Carbons, a Swedish activated carbon manufacturing and marketing company, to the Group in 2014. Jacobi Carbons is a global activated carbon maker with a sales network spanning more than 100 countries worldwide, and boasts the largest share of the world's market for activated carbon made from coconut husks. Today, Osaka Gas Chemicals is engaged in domestic sales of coconut activated carbon, in which Jacobi Carbons has price competitiveness, and is introducing its technologies in Jacobi Carbons factories. Synergies are being derived from both companies, as reflected in improved production efficiency and efforts to make improvements in existing products. As a result of these efforts, the activated carbon sales of the Osaka Gas Chemicals Group, of which both we and Jacobi Carbons are members, was the second highest in the world last year.

In the future, we will accelerate our developments overseas. Using the technical capabilities cultivated in our business for the domestic market, we will develop and advance products with high added value for new markets, such as the automobile market, where the demand for environmental measures is expected to grow. In Japan, meanwhile, we will continue to place new products on the market, where high functionality is demanded for pharmaceutical and food product applications, and will expand sales by introducing Jacobi Carbons products into markets where there is a particular focus on costs, such as air purification and water treatment.

### Real Estate Business | Osaka Gas Urban Development Group

#### **Business Overview and Characteristics**

In addition to making good use of existing real estate held by the Osaka Gas Group, this business acquires new real estate and engages in a broad range of real estate operations, including leasing, sales, area development, research park business, and building maintenance.

Through these activities, we aim to provide environmentally friendly and comfortable residential and business spaces.

The Urbanex Tower Kobe Motomachi-dori

#### Initiatives in the Fiscal Year under Review

In the leasing business, we are striving to optimize our owned assets, such as through the acquisition of prime properties, and are maintaining high occupancy rates in both the office and residential sectors.

In the condominium business, while the overall number of units sold in the fiscal year ended March 31,2016 fell across the industry from the previous year, our own progress in sales has been steady.

In the research park business, we have achieved a high occupancy rate due to the enticement of overseas companies made possible through partnerships with Kyoto Prefecture, Kyoto City, and JETRO. Osaka Gas Urban Development Group Net Sales / Net Income (million yen)



### Information Solutions Business | OGIS-RI Group

#### **Business Overview and Characteristics**

OGIS-RI Co., Ltd. traces its roots back to developing and managing systems for the gas business of Osaka Gas. Today, this business develops cutting-edge systems, provides cloud-based services, and operates highly secure data centers by leveraging the innovative technologies and customer base of the OGIS-RI Group.



#### Initiatives in the Fiscal Year under Review

We achieved steady progress on the development of systems for the financial and manufacturing industries, including the development of systems for energy businesses in response to the full deregulation of the retail electricity and gas markets, and our results, in terms of both net sales and current net income, improved over the previous year.

OGIS-RI Co., Ltd. merged with the Osaka Gas Research Institute of Behavior Observation in July 2015. Moving forward, we will utilize the know-how cultivated in our behavior observation business to propose high-value-added solutions to customers.

ICC Building



### **Technological Development**

### Technological Development Strategy | Technology-Driven Solutions and Innovation

The Osaka Gas Group aims to spur innovation for the next generation and provide optimal solutions to its customers by leveraging its accumulated core technologies.

#### Development of technologies for business solutions

- Accumulated data used to predict equipment failure and improve services
- Development of new carbon and chemical materials and the creation of new applications for those materials

#### Development of technologies in the environmental field

- •Lowered price and improved efficiency of hydrogen generator HYSERVE
- Wastewater treatment systems developed
- Equipment developed to generate biogas from kitchen waste

#### Priority Fields in Technological Development

Osaka Gas aims to improve its engineering capabilities in growth fields, including upstream business and the power generation business.

Looking ahead to the full deregulation of the retail electricity and gas markets, Osaka Gas is developing new gas appliances, such as fuel cells, to increase its competitiveness in gas appliance sales. Osaka Gas is also focusing its efforts on information communications technology (ICT) and big data analysis to provide new services that enhance value in the gas and electricity businesses.

Efforts are also being made to develop a wide range of materials and expand the material solutions business.

# Development of technologies to expand the use of natural gas

- Increased efficiency and decreased size of residential fuel cell ENE-FARM
- Built-to-order engineering using combustion technologies
- "Smart" gas appliances created using information communication technology (ICT)

# Promotion of projects using engineering technologies

- Resource development and gas liquefaction engineering
- LNG facility engineering
- Power generation engineering

# Research and Development Expenses (Consolidated) (billion yen) 10.97 10.87 11.79 11.43 11.34 1.34 12.3 13.3 14.3 15.3 16.3

#### Development of Technologies for Business Solutions [Major Initiatives] —— Development of New Materials

#### Development of fluorene cellulose as a material to serve as a resin fiber (fiber for strengthening resin)

Fluorene, a coal-derived material, is processed by the Osaka Gas Group into fluorene derivatives that have excellent optical properties and heat resistance. Fluorene derivatives are used in liquid crystal displays, mobile phone camera lenses, and other devices.

Osaka Gas developed hydrophobized\* fluorene cellulose by reacting the cellulose fiber surface with a fluorene derivative. Cellulose is a biomass material, and fiber made from cellulose (cellulose fiber) is one-fifth the weight of steel but has more than five times its strength. By mixing it with plastic, a strong, lightweight, heat-resistant plastic can be created for

\* Having a low affinity with water, meaning it does not mix well with water. Cellulose fiber is highly hydrophilic, so mixing it with plastics and other materials had previously been problematic. home appliances, automotive structural members, and other applications. It is a promising material with low environmental impact.

It will soon become possible to mass produce the

material, further improve its performance, and lower its cost; its imminent commercialization is highly anticipated.



Fluorene cellulose

### Technological Development

#### Development of Technologies to Expand the Use of Natural Gas [Major Initiatives] — Development of the World's Highest Efficiency ENE-FARM

#### Development of the new ENE-FARM type S, the worlds highest power generation efficiency in a compact structure

Osaka Gas, Aisin Seiki Co., Ltd., Kyocera Corporation, and Noritz Corporation jointly developed a new solid oxide fuel cell (SOFC) for residential use known as the ENE-FARM type S. This product achieves the world's highest<sup>\*1</sup> power generation efficiency (52%)<sup>\*2</sup> in the world's most compact structure.\*3 Cost reductions were a achieved through major adjustments to the device specifications. In conjunction with the full deregulation of the retail electricity market we developed a new product and are purchasing (surplus) electricity generated from that new product but not used in customershomes. This helps

customers reduce their utility costs as well as their CO<sub>2</sub> emissions.



- \*1 World's highest power generation efficiency using a household fuel cell with a ratedpower output of 1 kW or less (Source: Osaka Gas, as of February 24, 2016)
- \*2 Calculated using the lower heating value; LHV is a measure of the amount of heat that does not include the latent heat of vaporization of water vapor when fuel gas is completely combusted; the power generation efficiency for the LP gas model is 51%
- \*3 World's smallest solid oxide fuel cell (including waste heat management system) for residential use (Source: Osaka Gas, as of February 24, 2016)

Development of the New ENE-FARM type S—Improving Power Generation Efficiency Using the Osaka Gas Group's Technologies



Manager, SOFC micro-CHP Development Team Residential Energy System Development Department

After developing the first residential fuel cell, ENE-FARM, in 2009, we continued to create new models and to pursue the goals of higher efficiency, smaller size, and reduced cost. The ENE-FARM type S uses a solid oxide fuel cell (SOFC) and although had been able to achieve a high power generation efficiency of 46.5%, as previously, we took on the challenge to improve the efficiency even further. By using Osaka Gas technologies to apply a coating to the cell stack, where electricity is generated, we were able to improve power generation efficiency, reaching a high efficiency of 52%, while also improving heat resistance.

By thus increasing the power generation efficiency, we were able to reduce waste heat and eliminate the need for a large hot water tank. Thus, we were able to mount a small tank in the power generating unit, allowing us to achieve a single unit appliance. In addition, by improving

the system so that an existing gas water heater could be used as a supplemental heat source, we were able to achieve the world's smallest appliance of its kind. These developments meant that the system could be installed not only in detached residences, but also in apartment buildings with only limited space. In addition, great efforts have been made to even further reduce costs by using the Osaka Gas Group's low cost catalyst as a component of the fuel cell. By increasing environmental functionality as well as economy, we are further encouraging uptake of this appliance amongst a greater number of customers.

ENE-FARM is an amalgamation of many different technologies. By combining the technologies possessed by the joint developers Aisin Seiki Co., Ltd., Kyocera Corporation, and Noritz Corporation, with the Osaka Gas Group's technologies and know-how in cogeneration system development and maintenance, as well as catalysts, we were able to achieve a high level of functionality unmatched by our competitors.

With SOFC, it should theoretically be possible to increase power generation efficiency up to as high as 80%. There is also great potential for the achievement of even further size and cost reductions. We will continue to pursue higher efficiency, smaller size, and reduced costs in the future.

#### Development of Technologies to Expand the Use of Natural Gas [Major Initiatives] — Industrial Furnace Simulation Technologies

#### Industrial furnace simulation technologies

Osaka Gas develops gas burners used in equipment designed for various purposes, including heat treatment, drying, and liquid heating. We meet our customers' diverse needs for reduced initial costs, high efficiency, and energy conservation. Industrial furnace simulation technologies support the high efficiency, low environmental impact design and operation of various types of heating furnaces, melting furnaces, and heat treating furnaces.

Using supercomputers, we can predict the temperature increases of heated objects and offer energy-saving simulations that propose higher efficiency methods of operation to

customers. By performing simulations to optimize nozzle structures and waste heat collection mechanisms in the development of new burners, we support burner development in a way that results in both high-functionality burners and a shortened development process timeline. We will continue to try

to improve the reliability of our simulations, and will promote support for the engineering of industrial furnaces and the development of burners.



Experimental furnaces measure actual data

#### Development of Technologies in the Environmental Field [Major Initiatives]—Toward a Hydrogen Society

#### Clean energy hydrogen stations

The HYSERVE-300 system was developed by Osaka Gas to produce hydrogen from city gas. We installed this system at a commercial onsite hydrogen station that began operating in Ibaraki, Osaka in April 2015. In March 2016, we began operating a mobile hydrogen station in Minami-ku, Kyoto. We transport hydrogen manufactured at the Kita-Osaka Hydrogen Station and supply it to customers using the mobile hydrogen station.

Osaka Gas is striving to improve running efficiency of the Kita-Osaka Hydrogen Station and achieve more efficient operations by establishing a mother-and-daughter model that integrates the Kita-Osaka Hydrogen Station (mother station) and the Kamitoba Hydrogen Station (daughter station).

Osaka Gas is helping to build a low-carbon society by providing automakers with hydrogen fuel for fuel cell vehicles developed for the general public, and selling HYSERVE systems for hydrogen stations.



Kita-Osaka Hydrogen Station (Began operation in Ibaraki, Osaka in April 2015)



Kamitoba Hydrogen Station (Began operation in Minami-ku, Kyoto in March 2016)

#### Promotion of Projects Using Engineering Technologies [Major Initiatives]—Construction of a Large-Capacity PCLNG Tank

#### Completion of world's largest aboveground LNG tank using the latest technologies

The world's largest capacity aboveground tank, with a volume of 230,000 m<sup>3</sup>, was completed and went into operation at the Osaka Gas Senboku No. 1 Works in November 2015.

# Cost reductions achieved with the development and use of 7% nickel steel, using less rare earth metal

This is the first time in the world where 7% nickel steel was used as the inner tank material. This reduces the cost of the inner tank materials while achieving the same performance as conventional 9% nickel steel.

# Slipform construction method considerably shortens time to build outer tank

Osaka Gas built an outer tank using the slipform construction method, a first for a PCLNG tank in Japan. This construction method uses hydraulic jacks to raise integrated formwork and scaffolding equipment, allowing for the continuous placement of reinforcements and concrete without construction joints.

While the previous method required nine months for the construction of a PCLNG tank, this method takes just 20 days.



Visual representation of the slipform mechanism



# Intellectual Property Activities

Intellectual Property Strategy | The Osaka Gas Group positions intellectual property rights as an important management resource. At the same time, the Group takes proactive steps to secure and utilize intellectual property rights in concert with its business and technology development strategies.

#### Strategically Acquiring Intellectual Property Rights

In order to build strong patent coverage, we use patent portfolio management\* and other techniques, focusing on applying for patents for technologies in domains that are vital to our business and technology development strategies. For example, in fuel cells and other residential gas cogeneration technologies, we strategically apply for patents for key catalytic technologies, system technologies, etc. The Group submitted 437 patent applications in the fiscal year ended March 31, 2016.

\* Patent portfolio management is designed to support business strategies by building strong patent coverage, filling in technological gaps by developing new technologies and acquiring patents.

#### Effective Utilization of Intellectual Property Rights

We hold a growing number of patents in all of the technical fields in which the Osaka Gas Group operates. There has been a particular increase in the number of patents held in the fields of cogeneration and material solutions, which are of key importance in our business strategy. In gas production and transmission, we hold patents in LNG tank technologies and excavation pipelines; in residential gas appliances we hold patents for mist saunas and gas stoves; in commercial gas equipment we hold patents in gas air conditioning and industrial burners; and in materials technology we hold patents in fine materials such as fluorene, as well as carbon materials. The Osaka Gas Group utilizes intellectual property rights across all of its businesses, and actively licenses them to other companies.

As of March 31, 2016 the Osaka Gas Group holds 3,401 patents, an increase of 96 over the same time in the previous year.

#### Examples of registered trademarks





The Group's Patent Portfolio by Business Type (number)



#### Acquiring and Protecting Trademark Rights

The Osaka Gas Group strategically obtains trademarks for the services and products it provides in order to build its corporate brand. For the fiscal year ended March 31, 2016, the Group held 995 registered trademarks.

#### Strengthening Intellectual Property throughout the Group

We employ a variety of educational and instructional tools to further improve Osaka Gas Group employees' understanding of intellectual property rights. For example, instructors from both inside and outside the Company conduct training sessions based on both goals and employee career level. We also publish an email magazine and distribute the latest news articles on relevant topics.

Other efforts are centered on reducing the risks of infringement of intellectual property rights belonging to other companies or infringement of our own intellectual property rights, including full investigations of the Group's trademarks.

### Corporate Governance

#### Basic Stance Toward Corporate Governance

Osaka Gas believes it is important to achieve sustainable growth and increase medium and long-term corporate value by engaging in fair and transparent business activities. To achieve this, the Company looks to respond appropriately to the exercising of shareholder rights, work toward maintaining and increasing a sense of trust by dialogue and cooperation with its stakeholders, and enhance the level of the entire Group's corporate social responsibility (CSR). Further, the Group looks to respond swiftly to changes in the Group's business environment and continuously improve and strengthen its corporate governance so that transparent, fair and decisive decisions can be made and efficient and appropriate actions can thereby be implemented.



### Corporate Governance System

#### **Corporate Governance Organization Chart**

(As of June 29, 2016)



\*1 Board of Directors: 13 directors

- (10 internal directors and 3 outside directors)
- \*2 Advisory Committee: 3 outside directors, 3 outside Audit & Supervisory Board Members, Representative Director and President and persons appointed by the President

(up to two members who are Representative Directors)

\*3 Audit & Supervisory Board: 5 Audit & Supervisory Board Members (2 full-time Audit & Supervisory Board Members (internal) and 3 outside Audit & Supervisory Board Members)

\*4 Executive Board: 1 Executive President, 3 Executive Vice Presidents and 8 Senior Executive Officers

#### Corporate Governance Promotion Organization and Activities

#### **1** General Meeting of Shareholders

To allow shareholders time to carefully consider proposed resolutions, Osaka Gas sends out its general meeting notifications early (about four weeks in advance of the meeting). Before sending out convocation notices, the Company discloses them on the website of the Tokyo Stock Exchange and on the Company's website. The Company has adopted an electronic voting system in which voting rights can be exercised electronically over the Internet.

#### **2** Board of Directors, Directors of the Company

The Board of Directors consists of 13 directors (including three outside directors; the number of outside directors was increased by one at the annual General Meeting of Shareholders on June 29, 2016). Its mission is to make swift and appropriate decisions about important matters that affect the whole Group including subsidiaries and to enhance supervisory capabilities. It met a total of 13 times in FY2015 and had an attendance rate of 98.8%. There was adequate time for deliberations, and active discussions were conducted.

#### **3** Executive Officers

Osaka Gas has adopted an executive officer system, which enables the Directors of the Company to focus on decision-making and monitoring and supervisory functions, and worked toward strengthening the business efficiency and the supervisory functions by dynamically mobilizing the Board of Directors. Executive officers perform duties determined by the Board of Directors, and some Representative Directors and Directors concurrently serve as executive officers to make management decision-making more accurate and efficient.

#### 4 Executive Board

Osaka Gas examines basic management policies and important management issues through the Executive Board and fully deliberates the foregoing before decision-making. In accordance with internal regulations, the Executive Board

#### **Risk Management**

In the Osaka Gas Group, organizational heads of the Company and presidents of the affiliated companies promote the management of the risk of losses and periodically conduct risk management assessments. Each basic organization or affiliated company sets risk items by using the "G-RIMS (Gas Group Risk Management System)", which systematizes the self-assessment of risk management consists of the Executive President, Executive Vice Presidents, Senior Executive Officers, Heads of Corporate Headquarters, and Heads of Business Division, and generally meets every week. In principle, CSR Promotion Meetings are held three times a year by the Executive Board, which deliberate on plans for CSR activities and make reports on CSR activities.

#### **5** Audit & Supervisory Board, Audit & Supervisory Board Members

Osaka Gas has chosen the organizational form as a company with an Audit & Supervisory Board. The Audit & Supervisory Board consists of five Audit & Supervisory Board Members, of whom three are outside auditors and each Audit & Supervisory Board Member monitors the execution of work duties by the Directors. The Corporate Auditors' Office with a dedicated full-time staff of four which is not under the direct control of the directors has been established to support the Audit & Supervisory Board Members' auditing work and thus improve the auditing system.

#### 6 Auditing Department

Osaka Gas has established the Auditing Department (with a staff of 21) that functions as an internal auditing division and, based on an annual auditing plan, monitors the appropriateness and efficiency of business activities. It provides advice and recommendations to internal organizations and affiliated companies, and reports its audit results to management. In the business units and core Group companies, the Group is working to enhance and strengthen the auditing and internal control functions by establishing internal auditors whose roles are clearly defined in the basic rules for affiliated companies and the self-auditing regulations that apply to all Group companies. Moreover, the Auditing Department works in partnership with the internal auditors to evaluate internal controls over financial reporting based on the Japanese Financial Instruments and Exchange Act and reports its results to management.

Corporate auditors, the accounting auditor and the Auditing Department meet on a regular basis to discuss annual audit plans and audit reports, and also convene as required to exchange audit information. This facilitates audit coordination and helps improve audit effectiveness and quality.

practices, and checks the status of management concerning the risk items and provides follow-up.

Regarding the management of risks concerning security and disaster prevention which are common to the Group, the organization in charge is clearly specified, and the organization supports each basic organization and affiliated company to ensure risk management on a Group-wide basis. To prepare for emergencies, regulations for disaster countermeasure and business continuity plans are prepared.

### Management Team

#### Directors



Representative Director and Chairman Hiroshi Ozaki



President Takehiro Honjo



Representative Director Hidetaka Matsuzaka



Representative Director Tetsuo Setoguchi



Representative Director Masataka Fujiwara



Director Kazuhisa Yano



Director Eiichi Inamura



Director Toshimasa Fujiwara



Director Tadashi Miyagawa



Director Hideaki Nishikawa



Director (Outside) Shunzo Morishita





Biography

Director (Outside) Hideo



Director (Outside) Takayuki

Biography

- 1970.4 Joined Nippon Telegraph and Telephone Public Corporation 2004.3 Representative Director and President of Nippon
- Telegraph and Telephone West Corporation 2008.6 Director and Executive Advisor of Nippon
- 2008.6 Director and Executive Advisor of Nippon Telegraph and Telephone West Corporation 2009.6 Director of the Company (current) 2010.6 Executive Advisor of Nippon Telegraph and Telephone West Corporation 2012.6 Chairman of the Board of Directors of Hanshin Exercised Company Light (current)
- Expressway Company Limited (current) 2014.7 Senior Advisor at Nippon Telegraph and Telephone
- West Corporation (current) 2014.10 Commissioner of the Osaka Prefectural Public
- Safety Commission (current) 2015.3 NHK Board of Governors (current)

Board of Directors Meetings Attendance Record (April 1, 2015–March 31, 2016)

Attended 11 of 13 meetings of the Board of Directors.

Miyahara

- 1998.10 Professor, Faculty of Engineering, Osaka University 1998.4 Dean of the Graduate School of Engineering, Dean of the Faculty of Engineering, Osaka University
- 2002.4 Dean of the Graduate School of Information Science and Technology, Osaka University
- 2003.8 President of Osaka University 2007.9 President of the National Institute of Information and Communications Technology
- 2012.6 Representative Director of Knowledge Capital
- 2012.6 Representative Director or Knowledge Capital Association (current)
   2013.4 Specially Appointed Professor, Graduate School of Information Science and Technology, Osaka University
   2013.6 Director of West Japan Railway Company (current)
- Director of the Company (current)
- 2016.4 Visiting Professor, Graduate School of Information Science and Technology, Osaka University (current) 2016.6 NHK Board of Governors (current)

Board of Directors Meetings Attendance Record (April 1, 2015–March 31, 2016)

Attended 13 of 13 meetings of the Board of Directors.

Biography 1970.4 Joined Japanese National Railways

2002.6 President, West Japan Railway Daily Service Net Company Co., Ltd.

2007.6 Vice President, West Japan Railway Company 2009.6 Vice Chairman, West Japan Railway Company 2009.8 President, West Japan Railway Company 2012.5 Chairman, West Japan Railway Company

(current) 2016.6 Director of the Company (current)

Sasaki



#### **Corporate Auditor**



Corporate Auditor Takahiko Kawagishi



Corporate Auditor Akihiko Irie

(Outside)

Eiji Hatta



Corporate Auditor (Outside) Yoko Kimura

Biography 1987.12 Assistant Professor, Faculty of Home Economics, Nara Women's University 1993.10 Assistant Professor, Faculty of Human Life and Environment, Nara Women's University

2000.4 Professor, Faculty of Human Life and Environment, Nara Women's University

2004.12 Member of Local Public Finance Council 2010.4 Chairperson of the Board of Directors, Council of Local

Authorities for International Relations 2014.4 Advisor of Japan Center for Cities

2014.6 Corporate Auditor of the Company (current)

2015.4 Director, Nara Prefectural University (current) Board of Directors Meetings Attendance Record

(April 1, 2015–March 31, 2016) Attended 13 of 13 meetings of the Board of Directors. Attended 14 of 14 meetings of the Board of Auditors.



Biography 1985.4 Professor, Faculty of Economics, Doshisha University (current) 1996.4 Dean, Faculty of Economics, Doshisha University 1998.4 President, Doshisha University

2008.2 Chairman, Japan Student Baseball Association (current) 2009.4 Vice Chairman, Japan University Auditors Association (current) 2011.10 Chancellor, The Doshisha

2015.6 Vice President, Baseball Federation of Japan (current) 2015.6 Corporate Auditor of the Company (current) 2015.9 Director, Japan High School Baseball Federation (current)

Board of Directors Meetings Attendance Record (April 1, 2015-March 31, 2016) Attended 11 of 11 meetings of the Board of Directors after his appointment on June 26, 2015. Attended 11 of 11 meetings of the Board of Auditors.



Corporate Auditor (Outside) Shigemi Sasaki

Biography

1974.4 Appointed as judge 2011.5 Chief Judge, Takamatsu High Court 2012.3 Chief Judge, Osaka High Court 2013.3 Retired from judgeship 2013.4 Professor, Graduate School of Law, Kyoto University (current) 2016.6 Auditor of the Company (current)

#### Director and Corporate Auditor Remuneration

To improve motivation for achieving sustainable growth and improving corporate value over the medium to long term, remuneration for directors and corporate auditors is paid as a monthly amount comprised of a fixed portion and a portion based on performance. However, the amount of remuneration paid to outside directors is fixed, taking into consideration their independence from business execution functions. To ensure objectivity and transparency in the decision-making process, the amount is determined by a resolution of the Board of Directors after deliberations by the Advisory Committee, the majority of whose members are outside directors. The amount falls within the scope (up to a maximum of ¥63 million per month) approved at the General Meeting of Shareholders and reflects the position and responsibilities of each director, as well as consideration for the levels paid by other companies. The Advisory Committee consists of outside and internal members. The outside members are all of the outside directors (three outside directors and three outside auditors), while the internal members are the president and individuals appointed by the president as deemed necessary (up to two other representative directors can be appointed). The head of the committee is elected by the members of the committee.

The amount of remuneration paid to each corporate auditor is determined following deliberations by corporate auditors. The amount falls within the scope (up to a maximum of ¥14 million per month) approved at the General Meeting of Shareholders and reflects the position of each corporate auditor.

Retirement bonuses for directors and corporate auditors have been discontinued.

#### Criteria for Determining the Independence of Outside **Directors and Outside Corporate Auditors**

Osaka Gas appoints three outside directors and three outside auditors. The selection of candidates for the position of director or auditor is made from a large pool of individuals in consideration of their knowledge, experience, expertise, and character. In addition, candidates for outside director are also screened for their independence and ability to make objective decisions, wide range of insight, wealth of experience, and high level of expertise in their field of specialization. Outside directors and outside auditors will hear about a variety of issues at Board of Directors' meetings, including the operation of internal control systems based on corporate law, the evaluation of internal controls as they relate to financial reports based on the Financial Instruments and Exchange Act, internal audits, and CSR activities. They will also confirm the content of accounting audit reports. Osaka Gas sets criteria for determining the independence of directors and corporate auditors, and since all of the outside directors and outside auditors meet these criteria, we can report that all of our directors and corporate auditors are independent with regard to the financial instruments exchanges on which we are listed.

| Classification   | Total amount of<br>remuneration (million yen) | Number of payees |
|--|---|------------------|
| Director (excluding outside directors)                       | 548   | 12               |
| Corporate auditors<br>(excluding outside corporate auditors) | 64  | 3                |
| Outside directors and<br>outside corporate auditors          | 51  | 5                |

Note: The number of persons and amount data includes one director and one auditor who retired as of the close of the Company's 197th General Meeting of Shareholders held on June 26, 2015. Moreover, the total amount of remuneration is made up of a total amount and basic remuneration

# Corporate Social Responsibility (CSR) Activities

#### Osaka Gas Group CSR Promotion System

As its policy for conducting business activities, the Osaka Gas Group has adopted the creation of value for customers as its number one priority, which in turn links to the creation of value for society, value for shareholders, and value for employees. We believe that conducting our operations with fairness and transparency and generating these four types of value is the way to fulfill the Group's corporate social responsibilities.

We have set forth the Osaka Gas Group CSR Charter to serve as activity guidelines for Group executives and employees, with the aim of satisfying stakeholder expectations, fulfilling our social responsibilities as a business enterprise, and ensuring the sustainable development of the Osaka Gas Group.

To promote CSR, we have set up the CSR Promotion Council, under the supervision of the president, and primarily consisting of executives, to deliberate on CSR plans and activity reports. We have furthermore established the CSR Committee, comprised of the heads of relevant business units and led by the CSR executive, an officer who manages all of the Group's CSR activities, to coordinate and advance CSR activities across the organization. In these ways we are pursuing the appropriate and proactive execution of CSR activities.

#### Priority CSR Issues for the Osaka Gas Group (Materiality)



#### CSR Indicators and Initiative Results

The Osaka Gas Group established CSR indicators for each of its CSR Charter priorities in 2009 to help promote and visually quantify CSR initiatives. Current indices were set for FY2014 to FY2016, and initiatives are being promoted to achieve the established targets.

#### Study and Determination of Materiality in CSR

As an integrated energy provider, the Osaka Gas Group considers it necessary to recognize and manage the possible and actual effects on society of its business activities. As part of the social responsibility of the Osaka Gas Group, we classify our business activities with respect to their importance at the present time, i.e. materiality, and conduct management as appropriate.

The 46 aspects to be reported according to the G4 global guidelines (the fourth edition of the GRI Guidelines) have been sorted in line with the Osaka Gas Group CSR Charter and studied on the basis of determining the materiality of each aspect. In this process, assessment results regarding the importance of the 46 aspects are plotted on a materiality analysis map from the viewpoints of the Company and outside experts. Those aspects considered of high importance from both viewpoints are singled out and given the highest priority.

- Customer health and safety
- Safety labeling of products and services
- Energy consumption
- Atmospheric emissions
- Water discharge and waste
- Environmental evaluation of suppliers
- Mechanisms for handling grievances concerning the environment
- Regional communities
- Assessment of the impact that suppliers have on society

- Mechanisms for handling grievances concerning impact on society
- Customer privacy
- Supplier human rights evaluation
- Mechanisms for handling grievances
- concerning human rights
- Supplier labor practice evaluation
   Mechanisms for handling grievances concerning labor practices
- Financial performance

#### Promotion of Women's Advancement in the Workplace

At Osaka Gas, we believe that giving female employees the opportunity to thrive is of critical importance at a time when the domestic working population is declining, and we are striving to create workplace environments that allow women to pursue employment where they can make full use of their skills. Our female employees are actively engaged in broad-ranging workplaces, depending on their preferences and aptitudes, including gas production, supply, and marketing. We have also received external recognition in this area. In FY2015, we were awarded the Osaka City Mayor' s Award (First Prize) for Leading Companies in Promoting Female Employment, and were designated a "Nadeshiko Brand" for the third consecutive year.

We are seeking to maintain the percentage of female hires at 30% or more among positions eligible for managerial tracts, and are promoting various efforts and bolstering systems to achieve the goal of having 5% or more of managerial positions held by women by 2020.

Our efforts to promote work-life balance are yielding results. The ratio of women in managerial positions\* hit 2.7% in April 2016.

\* Managerial positions: Manager level (section manager) positions or higher





Osaka Gas was designated a "Nadeshiko Brand" in FY2015.

#### **CSR Charter & CSR Indicators**

| CSR Charter   | CSR Indicators / Key Performance Indicators   | FY2015 Results   |
|---|---|--|
| I Creating value for customers  | Customer satisfaction survey:<br>Seven customer service duties  |  |
| The Osaka Gas Group is committed to making a positive contribution to realizing a higher level of comfort and development in the business activi-<br>ties of its customers. We intend to achieve this objective through the provi-<br>sion of a reliable and safe supply of natural gas and other forms of energy<br>with an improved level of services for our customers. We also pursue the<br>development of new, useful products and services to generate new value<br>as we strive to continue forward growth alongside our customers. | <ul> <li>Overall satisfaction rate of<br/>87% or more</li> <li>84% or more in each category</li> </ul>                      | 91.9%<br>At least 84%<br>in each category  |
| ${f I}$ Harmonizing with the environment and contributing to realizing a sustainable society  | Environmental management indicator  |  |
| Addressing the issues of the environment both at regional and global<br>levels is of paramount importance for the Osaka Gas Group, which is<br>engaged primarily in the energy business. Seriously aware of the impacts<br>of each of our business activities on the environment, we seek to harmo-<br>nize our businesses with the environment and efficiently utilize energy<br>and other resources, thereby contributing to a sustainable society.   | • Environmental management efficiency<br>58 yen/1,000 m <sup>3</sup><br>or less by FY2016                                   | FY2015 at<br>59 yen/1,000 m³   |
| III Being a good corporate citizen contributing to society  | Number of contacts and communication events   |  |
| The Osaka Gas Group strives to maintain communication with society<br>and the communities it serves in order that its business activities be<br>accurately understood by the world. We achieve this while carrying out  | • Number of events held (on-site dietary and energy/environment seminars, etc.): 1,100 or more                              | 2,028  |
| proactive disclosure of information and seeking improved managerial transparency. We intend to make positive contributions to society, fulfill-   | Number of contacts (no. of visitors to<br>Gas Science Museum, etc.): 60,000 or more   | 61,402   |
| ing our role of being a good corporate citizen.   | • Number of activities implemented: 600 or more   | 778  |
| ${f N}$ Complying with laws and regulations and respect for human rights  | Compliance awareness survey scores  | 0.4 points higher than   |
| The thorough compliance with laws and regulations by all executives<br>and employees sets the stage for gaining society's trust as a healthy<br>corporate group. Our perspectives on compliance go beyond legal and<br>regulatory boundaries to include decent conduct expected of all  | of Conduct: Higher than previous year<br>• (Organization) Degree of penetration of<br>compliance: Higher than previous year | previous year (73.8%)<br>0.4 points lower than<br>previous year (86.6%)  |
| citizens. Based on a respect for human rights, we intend to maintain<br>equitable relationships with our customers, business partners, and other<br>parties.  | Percentage of employees<br>receiving compliance training<br>• 100%  | 100%   |
| V Management policy for human growth<br>Along with ensuring employment opportunities, the Osaka Gas Group also<br>strives to realize the growth of its employees through work by respecting<br>employees' individuality and initiative. We support employees so that they<br>are able to carry out work with a sense of purpose and grow as individuals,<br>pursuing the creation of new values for customers, shareholders, and society.   | Employee awareness survey<br>• Maintaining sufficient levels in job<br>satisfaction and loyalty to the<br>company           | Survey not conducted<br>in FY2015<br>FY2014 performance<br>(Satisfaction: 3.85/5-point scale)<br>(Loyalty: 4.38/5-point scale) |

#### Inclusion in SRI Indices

As of July 2016, Osaka Gas was included in the following socially responsible investment (SRI) indices.







Sustainability Indexes\*2 2016 Constituent MSCI Global Sustainability Indexes

MS-SRI モーニングスター社会的責任投資特価指数 Marritegatur Sociality Responsible Investment Index

For more detailed information about the CSR activities of the Osaka Gas Group, consult the Osaka Gas Group CSR Report or the CSR section of the Osaka Gas website:



http://www.osakagas.co.jp/ csr\_e/index.html

\*1 FTSE Russell is a trademark of FTSE International Limited and Frank Russell Company. Osaka Gas has been independently evaluated based on the FTSE4Good Standards, and has fulfilled the inclusion requirements of the FTSE4Good Index Series. FTSE4Good, which was developed by FTSE Russell, a global indexing company, is a stock index that aims to promote investments in companies that meet globally recognized standards for corporate responsibility. Companies selected for the FTSE4Good Index Series meet rigorous environmental, social, and governance standards, and are viewed as engaging in responsible business practices. responsible business practices. http://www.ftse.com/products/indices/FTSE4Good

<sup>\*2</sup> The inclusion of Osaka Gas in any MSCI index, and the use of MSCI logos, trademarks, service marks or index names herein, do not constitute a sponsorship, endorsement or promotion of Osaka Gas by MSCI or any of its affiliates. The MSCI index names and logos are trademarks or service marks of MSCI or its affiliates. https://www.msci.com/esg-integration

### Osaka Gas Group Organization

As of April 1, 2016



Note: Organizations other than those denoted by corporate names are part of Osaka Gas Co., Ltd.

# **Financial Section**

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# Summary of Consolidated Operating Results

Osaka Gas Co., Ltd. and Consolidated Subsidiaries Fiscal years ended March 31, 2006 through 2016

| Financial Data  | 2006.3     | 2007.3     | 2008.3       | 2009.3      |  |
|---|------------|------------|--------------|-------------|--|
| Financial Data  |            |            | V/4 222 4 45 | V/4 226 705 |  |
| Net sales   | ¥1,065,961 | ¥1,174,456 | ¥1,238,145   | ¥1,326,785  |  |
| Operating income  | 100,657    | 93,729     | 75,611       | 66,932      |  |
| Income before income taxes and minority interests       | 132,393    | 88,078     | 72,478       | 64,510      |  |
| Current net income attributable to owners of the parent | 80,710     | 52,929     | 40,283       | 36,041      |  |
| Capital expenditure                                     | 117,455    | 95,267     | 111,087      | 106,087     |  |
| Depreciation and amortization                           | 84,250     | 84,031     | 95,253       | 86,549      |  |
| R&D expenses  | 11,324     | 9,906      | 10,178       | 9,603       |  |
| Total assets  | 1,398,692  | 1,405,682  | 1,467,934    | 1,452,457   |  |
| Equity  | 628,510    | 668,887    | 648,592      | 612,566     |  |
| Interest-bearing liabilities                            | 487,509    | 487,827    | 566,441      | 573,483     |  |
| Cash flows from operating activities                    | 152,935    | 98,354     | 134,282      | 120,691     |  |
| Cash flows from investing activities                    | (162,989)  | (99,765)   | (132,029)    | (108,102)   |  |
| Cash flows from financing activities                    | 13,245     | (22,009)   | 12,495       | (3,438)     |  |
| Number of shares issued and outstanding (thousands)     | 2,235,669  | 2,235,669  | 2,158,383    | 2,158,383   |  |
| Per Share Data (yen and U.S. dollars)                   |            |            |              |             |  |
| Earnings per share (EPS)                                | ¥ 36.18    | ¥ 23.77    | ¥ 18.27      | ¥ 16.72     |  |
| Book value per share (BPS)                              | 282.12     | 300.61     | 300.76       | 284.21      |  |
| Annual dividends  | 7.00       | 7.00       | 7.00         | 7.00        |  |
| Key Ratios  |            |            |              |             |  |
| Net worth / Total assets                                | 44.9%      | 47.6%      | 44.2%        | 42.2%       |  |
| Debt equity ratio (times)                               | 0.78       | 0.73       | 0.87         | 0.94        |  |
| Interest coverage ratio (times)                         | 23.6       | 10.3       | 13.6         | 11.5        |  |
| Return on assets (ROA)                                  | 6.2%       | 3.8%       | 2.8%         | 2.5%        |  |
| Return on equity (ROE)                                  | 13.9%      | 8.1%       | 6.1%         | 5.7%        |  |
| Gas sales volume (million m <sup>3</sup> )              | 8,469      | 8,764      | 8,917        | 8,416       |  |
| Number of meters installed (thousands)                  | 6,785      | 6,848      | 6,913        | 6,971       |  |
| Number of employees                                     | 16,077     | 16,435     | 16,682       | 19,009      |  |

Notes:

Notes:
 The translation of Japanese yen amounts into U.S. dollar amounts is based on the prevailing exchange rate at March 31, 2016, which was ¥112.68 to U.S.\$1.0.
 Net worth / Total assets = Equity / Total assets (as of the end of the fiscal years ended March 31)
 Debt equity ratio = Interest-bearing liabilities / Equity (as of the end of the fiscal years ended March 31)
 Interest coverage ratio = Cash flows from operating activities / Interest expenses
 Return on assets (ROA) = Net income / Total assets (average)
 Return on equity (ROE) = Net income / Average equity (up to 2006, "average equity" was "shareholders' assets [average]")

7. Figures in the financial data are rounded down.

|            |            |            |            |            |            | Millions of yen | Thousands of<br>U.S. dollars |
|------------|------------|------------|------------|------------|------------|-----------------|------------------------------|
| 2010.3     | 2011.3     | 2012.3     | 2013.3     | 2014.3     | 2015.3     | 2016.3          | 2016.3                       |
|            |            |            |            |            |            |                 |                              |
| ¥1,096,628 | ¥1,187,142 | ¥1,294,781 | ¥1,380,060 | ¥1,512,581 | ¥1,528,164 | ¥1,322,012      | \$11,732,445                 |
| 91,140     | 88,584     | 77,274     | 84,773     | 99,381     | 105,065    | 146,674         | 1,301,686                    |
| 82,572     | 81,587     | 75,694     | 84,630     | 81,874     | 121,428    | 122,865         | 1,090,338                    |
| 48,384     | 45,968     | 45,207     | 52,467     | 41,725     | 76,709     | 84,324          | 748,349                      |
| 98,246     | 69,600     | 87,171     | 112,987    | 124,146    | 119,398    | 114,418         | 1,015,424                    |
| 95,402     | 97,569     | 93,624     | 82,818     | 83,806     | 87,785     | 86,747          | 769,852                      |
| 10,670     | 10,918     | 10,974     | 10,875     | 11,793     | 11,434     | 11,340          | 100,638                      |
| 1,483,895  | 1,437,297  | 1,475,759  | 1,566,899  | 1,668,317  | 1,862,201  | 1,829,756       | 16,238,516                   |
| 666,689    | 664,959    | 684,584    | 747,802    | 798,964    | 888,496    | 906,623         | 8,045,997                    |
| 539,081    | 532,493    | 541,349    | 540,199    | 573,586    | 633,923    | 567,164         | 5,033,404                    |
| 229,714    | 126,399    | 122,793    | 129,597    | 154,225    | 156,908    | 281,819         | 2,501,056                    |
| (111,265)  | (82,408)   | (107,764)  | (116,791)  | (175,591)  | (110,704)  | (144,198)       | (1,279,712)                  |
| (49,553)   | (41,257)   | (8,279)    | (27,897)   | 4,163      | 22,892     | (90,716)        | (805,076)                    |
| 2,158,383  | 2,083,400  | 2,083,400  | 2,083,400  | 2,083,400  | 2,083,400  | 2,083,400       | _                            |
|            |            |            |            |            |            |                 |                              |
|            |            |            |            |            |            |                 |                              |
| ¥ 22.50    | ¥ 21.62    | ¥ 21.71    | ¥ 25.20    | ¥ 20.04    | ¥ 36.86    | ¥ 40.53         | \$ 0.359                     |
| 310.39     | 319.33     | 328.77     | 359.16     | 383.90     | 426.98     | 435.85          | 3.868                        |
| 7.00       | 8.00       | 8.00       | 8.50       | 9.00       | 9.50       | 10.00           | 0.088                        |
|            |            |            |            |            |            |                 |                              |
|            |            |            |            |            |            |                 |                              |
| 44.9%      | 46.3%      | 46.4%      | 47.7%      | 47.9%      | 47.7%      | 49.5%           | _                            |
| 0.81       | 0.80       | 0.79       | 0.72       | 0.72       | 0.71       | 0.63            | _                            |
| 23.1       | 14.0       | 13.8       | 15.4       | 18.0       | 16.6       | 28.2            | _                            |
| 3.3%       | 3.1%       | 3.1%       | 3.4%       | 2.6%       | 4.3%       | 4.6%            | _                            |
| 7.6%       | 6.9%       | 6.7%       | 7.3%       | 5.4%       | 9.1%       | 9.4%            | _                            |
|            |            |            |            |            |            |                 |                              |
| 8,150      | 8,560      | 8,711      | 8,534      | 8,554      | 8,290      | 8,052           | _                            |
| 7,009      | 7,041      | 7,074      | 7,114      | 7,164      | 7,224      | 7,280           | _                            |
| 19,268     | 19,684     | 19,818     | 19,870     | 21,250     | 20,982     | 20,844          | _                            |
| .,         |            |            |            |            |            |                 |                              |

# Management's Discussion and Analysis

#### 1. Operating Environment

In the fiscal year ended March 31, 2016, the Japanese economy experienced a further decline in crude oil prices combined with a stronger yen and lower stock prices toward the end of the period. However, on the whole, corporate performance and the employment environment remained strong and the economy continued to show signs of moderate recovery.

#### 2. An Overview of the Fiscal Year Ended March 31, 2016

Consolidated net sales for the fiscal year ended March 31, 2016 decreased by  $\pm$ 206.1 billion (-13.5%) year on year, to  $\pm$ 1,322.0 billion, mainly because sales unit prices fell and sales volume declined in the gas business of Osaka Gas on a stand-alone basis. Meanwhile, consolidated operating income rose to  $\pm$ 134.9 billion, up  $\pm$ 26.8 billion (+24.8%), largely due to increased non-consolidated gas business earnings as a result of lower raw material costs accompanying the decline in LNG prices. Despite booking an impairment loss in the upstream business, current net

income attributable to owners of the parent increased  $\pm$ 7.6 billion (+9.9%), to  $\pm$ 84.3 billion due to increased profits from the gas business.

As of March 31, 2016, the Company had 149 consolidated subsidiaries. Over the course of the fiscal year, three companies were excluded, and seven companies were brought within the scope of consolidation. In addition, there were 16 affiliates reported by the equity method as of the end of the fiscal year, an increase of three affiliates from the end of the previous fiscal year.





Up ¥1.7 billion

• U.S. energy business Up ¥5.4 billion • Idemitsu Snorre Oil Development Co., Ltd. (equity method affiliate) Down ¥3.6 billion

#### 3. Non-Consolidated Gas Sales

In the fiscal year ended March 31, 2016, overall gas sales volume for Osaka Gas was 8,021 million m<sup>3</sup>, a decrease of 2.9% from the previous fiscal year. Included in this amount are residential gas sales, which decreased by 4.7% year on year, to 2,083 million m<sup>3</sup>. This mainly reflected the downturn in heating and hot water demand due to higher ambient and water temperatures in the winter compared with the previous fiscal year. Industrial

gas sales volume fell by 1.8% year on year to 4,059 million m<sup>3</sup>. This was primarily due to reduced operation of customer equipment. Gas sales for commercial, public and medical use declined by 3.8% over the previous year to 1,410 million m<sup>3</sup>, mainly as a result of reduced operation of customer equipment and reduced heating demand. Wholesale gas sales came in at 469 million m<sup>3</sup>, a 1.0% decrease over the previous year.

#### Non-Consolidated Gas Sales

| 45MJ/m <sup>3</sup> | -                                       | 2015.3 | 2016.3 | Change | Change (%) |
|---------------------|---|--------|--------|--------|------------|
| Average monthly usa | age per residential customer (m³/month) | 30.9   | 29.3   | -1.7   | -5.3       |
| Gas sales volume    | Residential                             | 2,186  | 2,083  | -103   | -4.7       |
| (million m³)        | Commercial and industrial               | 5,599  | 5,469  | -130   | -2.3       |
|                     | Industrial                              | 4,133  | 4,059  | -74    | -1.8       |
|                     | Commercial, public, and medical         | 1,465  | 1,410  | -56    | -3.8       |
|                     | Wholesale                               | 474    | 469    | -5     | -1.0       |
|                     | Total                                   | 8,259  | 8,021  | -238   | -2.9       |
|                     |   |        |        |        |            |

#### 4. Overview by Business Segment

#### Gas

Net sales for the gas business segment were down by  $\pm$ 188.4 billion (-16.6%) year on year to  $\pm$ 948.5 billion. This was mainly due to a decline in unit selling prices and decreased sales volume in the gas business. Segment income increased by  $\pm$ 45.4 billion (+90.3%) compared with the previous fiscal year, to  $\pm$ 95.7 billion, primarily due to reduced raw material costs accompanying the drop in LNG prices.

#### LPG, Electricity and Other Energy

Net sales from this segment decreased by  $\pm 37.3$  billion (-15.3%) to  $\pm 206.4$  billion, owing mainly to a decline in sales unit prices in the electric power and LPG businesses. Segment income was down by  $\pm 12.8$  billion (-30.8%), to  $\pm 28.8$  billion due mainly to the effects of reduced revenue in the electric power business.

#### International Energy

Net sales from the international energy business segment increased by  $\pm4.9$  billion (+36.4%) year on year, to  $\pm18.7$  billion. The segment loss was  $\pm0.2$  billion (compared with  $\pm1.2$  billion earnings in the previous year) due to reduced income from equity in earnings of affiliates in North Sea oil due to the fall in crude oil prices.

#### Life & Business Solutions

Net sales for this segment increased by ¥14.1 billion (+6.8%) to ¥221.7 billion, primarily as a result of increased sales in the material solutions and information solutions businesses. Segment income increased by ¥2.2 billion (+13.6%) to ¥18.8 billion.

| Net Sales and Segment Income*            |  |
|--|--|
| for the Fiscal Year Ended March 31, 2016 |  |

\* Segment income = Operating income + Equity in earnings of affiliates (Billions of yen)

|                         | Gas    | LPG, Electricity,<br>and Other Energy | International<br>Energy | Life & Business<br>Solutions | Adjustments | Total   |
|-------------------------|--------|---------------------------------------|-------------------------|------------------------------|-------------|---------|
| Net sales               | 948.5  | 206.4                                 | 18.7                    | 221.7                        | -73.3       | 1,322.0 |
| Year-on-year change (%) | -16.6% | -15.3%                                | +36.4%                  | +6.8%                        | —           | -13.5%  |
| Year-on-year change     | -188.4 | -37.3                                 | +4.9                    | +14.1                        | —           | -206.1  |
| Segment income*         | 95.7   | 28.8                                  | -0.2                    | 18.8                         | -0.9        | 142.1   |
| Year-on-year change (%) | +90.3% | -30.8%                                | _                       | +13.6%                       | —           | +26.8%  |
| Year-on-year change     | +45.4  | -12.8                                 | -1.5                    | +2.2                         |             | +30.0   |

#### 5. Assets, Liabilities, and Net Assets Analysis

#### Asset Management Policies

The Osaka Gas Group plans to reduce assets in unprofitable business fields as well as day-to-day operations, and intends to aggressively expand its operations in growth fields, especially in the domestic energy business, the international energy business, and life & business solutions (non-energy business). To minimize investment risks caused by changes in the operating environment, the Group is further tightening its procedures for investment decisions, as well as subsequent follow-up and evaluation for individual investment proposals based on Group-wide investment criteria. The Group will conduct quantitative risk management and pursue returns through active business investments within the scope of the allowed risk amount of the entire Group. To effectively advance the Group's business strategies, we aim to improve the Group's financial constitution, procure funding through the most appropriate means, and respond to financial risks in the best manner possible. Under the medium-term business plan "Catalyze Our Dreams," covering the three years from the year ended March 2015 to the year ending March 2017, we strive to maintain a consolidated ratio of interest-bearing liabilities to equity of approximately 0.7 and a consolidated shareholders' equity ratio of 50% or more as an index for continued financial strength.

In this pursuit, we employ a number of measures, including cash management systems (CMSs) and other Group-wide capital efficiency measures; measures to improve the efficiency of invested capital, such as using free cash flows to reduce interest-bearing liabilities and buy back shares; and financial risk management measures, such as hedging activities to prevent revenue fluctuations due to business risks. In these ways, we are working to strengthen the financial constitution of the Group.

Looking ahead, having the ability to create cash flow through business activities combined with a sound financial condition should make it possible to procure the funding needed for corporate growth over the long term.

#### **Capital Expenditure**

The Osaka Gas Group is carrying out capital investment to cope with steadily increasing gas demand and to establish a stable, rational production and supply system for high-quality urban energy. At the same time, we are investing in plants and equipment to expand our future business in fields other than gas.

In the fiscal year ended March 31, 2016, non-consolidated capital expenditure totaled  $\pm 58.6$  billion, up by  $\pm 12.1$  billion year on year. In addition, consolidated capital expenditure fell by  $\pm 4.9$  billion year on year, to  $\pm 114.4$  billion, on the back of such factors as reduced investments in overseas upstream business by consolidated subsidiaries.



#### Consolidated Capital Expenditure

#### Assets, Liabilities, and Net Assets Analysis

Total assets as of March 31, 2016 stood at ¥1,829.7 billion, down by ¥32.4 billion from the previous fiscal year-end. This was mainly due to a decrease in fixed assets, such as net defined benefit assets, and a decrease in liquid assets, such as inventories and accounts receivable. Total liabilities decreased by ¥49.3 billion, to ¥893.9 billion. This was mainly due to a decrease in bonds payable. Net assets climbed by ¥16.9 billion, to ¥935.7 billion, on the back of increases mainly in Shareholders'equity due to increased retained earnings.

As a result, the shareholders' equity ratio increased by 1.8 percentage points from the previous fiscal year-end, to 49.5%. Return on assets (ROA) was up 0.2 percentage points, to 4.6%, while return on equity (ROE) increased 0.3 percentage points, to 9.4%.



#### Total Assets, Net Assets, Net Worth/Total Assets

Return on Equity (ROE), Return on Assets (ROA)



#### **Debt Equity Ratio**



#### 6. Overview of Cash Flows

Net cash provided by operating activities during the fiscal year ended March 31, 2016 increased by ¥124.9 billion, to ¥281.8 billion. This was due to an increase in net income before income taxes and a decrease in inventories as well as in notes and accounts receivable.

Net cash used in investing activities decreased by ¥33.4 billion, to ¥144.1 billion, primarily as a result of an increase in repayment of long-term loans receivable, and increased expenditures due to the purchase of shares of subsidiaries and affiliates.

Net cash used in financing activities came to ¥90.7 billion, an increase of ¥113.6 billion over the previous fiscal year. This was largely on the back of reduced proceeds from long-term loans payable and increased redemption of bonds.

Taking these activities into consideration, the net increase in cash and cash equivalents in the fiscal year ended March 31, 2016 totaled ¥46.5 billion after adjustment for the effect of exchange rate changes on cash and cash equivalents.

Furthermore, cash and cash equivalents at the year-end for the fiscal year ended March 31, 2016 increased by ¥46.5 billion, to ¥209.3 billion.

|  |        |        | (Billions of yen) |
|--|--------|--------|-------------------|
|  | 2015.3 | 2016.3 | Change            |
| Cash flows from operating activities                 | 156.9  | 281.8  | +124.9            |
| Cash flows from investing activities                 | -110.7 | -144.1 | -33.4             |
| Cash flows from financing activities                 | 22.8   | -90.7  | -113.6            |
| Net increase (decrease) in cash and cash equivalents | 72.4   | 46.5   | -25.8             |
| Cash and cash equivalents at the end of the year     | 162.7  | 209.3  | +46.5             |
| Interest-bearing liabilities at the end of the year  | 633.9  | 567.1  | -66.7             |

#### Use of Free Cash Flows

Consolidated free cash flows for the fiscal year ended March 31, 2016 increased by ¥113.5 billion, to ¥225.7 billion. Uses of these free cash flows included investments of ¥97.8 billion for expansion, greenfield projects, and M&A activities as well as dividend payments of ¥20.8 billion.

Use of Consolidated Free Cash Flows for the Fiscal Year Ended March 31, 2016



Note: Free cash flows = Cash flows from operating activities - Investments for upgrading existing businesses (Capital expenditure)

#### 7. Ratings

Osaka Gas recognizes that improving fund-raising competitiveness is an important issue in a sound financial strategy. At the same time, to maintain its credit ratings and other indications of financial soundness, the Company has put in place a fresh set of financial soundness indicators under its medium-term business plan, "Catalyze Our Dreams." Looking ahead, Osaka Gas will seek to achieve: (1) a shareholders' equity ratio of 50% or more, and (2) a ratio of consolidated interest-bearing liabilities to equity of about 0.7, while maintaining the existing balance with shareholders' value added (SVA), free cash flow, interest-bearing liabilities, and other

indicators.

Currently, Osaka Gas has been rated AA and Aa by foreign credit rating agencies, and AA by a domestic credit rating agency. Going forward, the Company will continue to ensure that it possesses a sound financial standing.

#### Credit Ratings (As of March 31, 2016)

| R&I               | AA+ |
|-------------------|-----|
| Moody's           | Aa3 |
| Standard & Poor's | AA- |

#### 8. Basic Policy Regarding the Distribution of Profits and Dividends

The Company has been striving to grow the business and improve the efficiency of operations, and has appropriated the increase in profit resulting from these efforts for future business growth, for internal reserves, and for the payment of steady dividends to shareholders.

We will endeavor to continue payment of steady dividends (interim and year-end) to shareholders, and comprehensively take alternative profit distribution plans and other measures into consideration, based on operational results, future business management, and other plans. We will aim at keeping a consolidated payout ratio exceeding 30%, within the non-consolidated retained earnings distributable to Osaka Gas shareholders, excluding temporary factors affecting the profit situation. Internal reserves will be appropriated for capital investments and investment for expansion, greenfield projects, and M&A activities.

The Company issued dividend payments totaling  $\pm 10$  per share (ordinary dividend of  $\pm 9$ , including interim dividend of  $\pm 4.5$ , and a commemorative dividend of  $\pm 1$ , including interim commemorative dividend of  $\pm 0.5$ ) for the fiscal year ending March 31, 2016. For the fiscal year ending March 31, 2017, we are planning to pay a dividend of  $\pm 10$  per share ( $\pm 10$  for ordinary dividend including interim dividend).

#### 9. Outlook for the Fiscal Year Ending March 31, 2017

We project that net sales in the fiscal year ending March 31, 2017 will decrease by ¥151.5 billion (-11.5%) year on year, to ¥1,170.5 billion. This is largely because LNG prices are expected to be lower in the next fiscal year, and city gas sales unit prices are anticipated to decrease due to the Fuel Cost Adjustment System. Ordinary income is expected to decrease by ¥56.9 billion (-42.2%) to ¥78.0 billion due primarily to the decrease in time-lag adjustments within the gas business and lower earnings for the electric power business. In addition, current net income attributable to owners of the parent in the fiscal year ending March 31, 2017 is forecast to decrease by ¥32.3 billion (-38.3%), to ¥52.0 billion.





### Net Income Attributable to Owners of the Parent



Net Sales and Segment Income\* for the Fiscal Year Ended March 31, 2017 (Outlook)

\* Segment income = Operating income + Equity in earnings of affiliates (Billions of yen)

|       |                         | Gas    | LPG, Electricity,<br>and Other Energy | International<br>Energy | Life & Business<br>Solutions | Adjustments | Total   |
|-------|-------------------------|--------|---------------------------------------|-------------------------|------------------------------|-------------|---------|
| Net s | ales                    | 796.1  | 190.8                                 | 22.7                    | 221.3                        | -60.4       | 1,170.5 |
|       | Year-on-year change (%) | -16.1% | -7.6%                                 | +21.4%                  | -0.2%                        | —           | -11.5%  |
|       | Year-on-year change     | -152.4 | -15.6                                 | +3.9                    | -0.4                         | —           | -151.5  |
| Segme | ent income*             | 45.5   | 13.5                                  | 1.5                     | 22.0                         | 2.1         | 84.6    |
|       | Year-on-year change (%) | -52.5% | -53.2%                                | _                       | +16.8%                       | _           | -40.5%  |
|       | Year-on-year change     | -50.2  | -15.3                                 | +1.7                    | +3.1                         | —           | -57.5   |

#### 10. Business Risks

The following are risks that could affect the business performance and financial position of the Group.

#### Risks Related to All Businesses within the Osaka Gas Group

- a. Changes in economic, financial, and social conditions as well as market contraction A decrease in net sales, difficulties in fund-raising, insolvency of partner companies, Japan's shrinking population or the transfer of manufacturing overseas, due to worsening economic, financial, and social conditions in the economies of Japan and/or other countries
- b. Changes in foreign exchange rates and borrowing rates
- c. Occurrence of catastrophic disasters, accidents, or infectious diseases

Occurrence of catastrophic natural disasters, terrorist events, accidents, or infectious disease epidemics such as new strains of influenza or other diseases

d. Changes in politics, laws and regulations, and institutional systems

Changes in the Gas Utility Industry Law, the Electricity Utilities Industry Law, the Companies Act, the Financial Instruments and Exchange Law, environment-related laws or other policies, laws and regulations, and institutional systems in Japan and/or other countries

e. Intensifying competition

Intensified competition with other operators in the gas and electric businesses, as well as other business areas related to the Group

- f. Breakdown or malfunction of critical IT systems Breakdown or malfunction of critical IT systems, such as systems related to gas production/supply or billing
- g. Quality issues with products or services Expenditures to resolve quality problems relating to products or services handled by the Osaka Gas Group or damage to the Group's social reputation thereof
- h. Information leaks

External leaks of important information used in the course of the Group's business, including customer information or technical information possessed by the Group

i. Non-compliance with laws and regulations Damage to social reputation following acts carried out by the Group or by any person related to the Group in violation of any law or regulation

#### Risks Related to Major Businesses

- 1) Domestic energy business
- a. Impact of fluctuations in temperature/water temperature on energy demand
- b. Changes in raw fuel costs Fluctuation in raw fuel costs due to changes in crude oil prices, foreign exchange rates, renewal of contracts and price negotiation trends with fuel suppliers, and other relevant factors\*
- \* Although the fluctuation in LNG prices may be offset by the Fuel Cost Adjustment System, under which gas rates are revised to reflect changes in fuel costs, a time lag before the actual adjustment is made or changes in the composition of fuel suppliers could affect the business performance of the Group.
- c. Difficulty in procuring raw fuels Problems with the facilities of LNG (raw fuel from which gas or electricity are produced) suppliers or their operations, or other incidents
- d. Difficulties in gas production and supply Disruption of the production or supply of gas due to catastrophic natural disaster or accidents
- e. Difficulties in power generation or supply Any difficulties in power generation or supply due to a natural disaster, accident, problems with fuel purchasing or other incidents
- f. Gas equipment and facility issues Serious problems with gas equipment or facilities

#### 2) International energy business

Changes in the operating environment, such as decreased profitability or project delay or cancellation, resulting from the public policies, implementation of or changes in regulations, deterioration of economic or social conditions, or technical problems in the countries in which the Osaka Gas Group operates

The Osaka Gas Group strives to minimize the potential impact of these risks on business performance through various measures, including derivative contracts to hedge against fluctuations in exchange rates and fuel costs, accident and other insurance contracts, improvement of security of critical IT systems, adherence to compliance and strict information control, monitoring and proper supervision of business management, security measures, disaster countermeasures, and the establishment and periodic revision of business continuity plans (BCPs).

# Consolidated Balance Sheets

Osaka Gas Co., Ltd. and Consolidated Subsidiaries March 31, 2015 and 2016

| March 31, 2015 and 2016                        |            |                 | Thousands of                         |
|--|------------|-----------------|--------------------------------------|
|  |            | Millions of Yen | Thousands of<br>U.S. Dollars (Note1) |
|  | 2015       | 2016            | 2016                                 |
| Assets   |            |                 |                                      |
| Non-current Assets                             |            |                 |                                      |
| Property, plant and equipment (Note 8)         | N 75 270   | V 00.400        |                                      |
| Production facilities                          | ¥ 75,370   | ¥ 89,192        | \$ 791,551                           |
| Distribution facilities                        | 304,286    | 297,424         | 2,639,545                            |
| Service and maintenance facilities             | 64,206     | 60,257          | 534,762                              |
| Other facilities                               | 295,387    | 291,836         | 2,589,953                            |
| Construction in progress                       | 156,146    | 172,949         | 1,534,868                            |
| Total property, plant and equipment            | 895,398    | 911,659         | 8,090,690                            |
|  |            |                 |                                      |
| Intangible assets                              |            |                 |                                      |
| Total intangible assets                        | 98,680     | 89,613          | 795,287                              |
|  |            |                 |                                      |
|  |            |                 |                                      |
|  |            |                 |                                      |
|  |            |                 |                                      |
| Investments and other assets                   |            |                 |                                      |
| Investment securities (Notes 6, 7 and 8)       | 230,958    | 236,774         | 2,101,295                            |
| Net defined benefit asset (Note 17)            | 55,336     | 25,154          | 223,233                              |
| Other  | 45,405     | 51,729          | 459,078                              |
| Allowance for doubtful accounts                | (1,914)    | (1,811)         | (16,072)                             |
| Total investments and other assets             | 329,784    | 311,846         | 2,767,536                            |
| Total non-current assets                       | 1,323,864  | 1,313,119       | 11,653,523                           |
|  |            |                 |                                      |
| Current Assets                                 |            |                 |                                      |
| Cash and deposits (Notes 4 and 8)              | 147,426    | 209,982         | 1,863,525                            |
| Notes and accounts receivable - trade (Note 8) | 187,482    | 167,246         | 1,484,256                            |
| Inventories (Notes 5 and 8)                    | 103,420    | 79,782          | 708,040                              |
| Other (Note 8)                                 | 101,323    | 60,735          | 539,004                              |
| Allowance for doubtful accounts                | (1,315)    | (1,110)         | (9,850)                              |
| Total current assets                           | 538,337    | 516,636         | 4,584,984                            |
| Total assets                                   | ¥1,862,201 | ¥1,829,756      | \$16,238,516                         |

|   |            |                 | Thousands o         |
|---|------------|-----------------|---------------------|
|   | 2015       | Millions of Yen | U.S. Dollars (Note1 |
| Liabilities   | 2015       | 2016            | 2016                |
| Non-current liabilities   |            |                 |                     |
| Bonds payable (Note 8)  | ¥ 240,666  | ¥ 184,975       | \$ 1,641,595        |
| Long-term loans payable (Note 8)  | 309,848    | 300,588         | 2,667,625           |
| Deferred tax liabilities (Note 12)  | 36,981     | 21,864          | 194,036             |
| Provision for gas holder repairs  | 1,722      | 1,649           | 14,634              |
| Provision for safety measures   | 8,451      | 12,549          | 111,368             |
| Provision for investment loss   | 6,999      | 6,999           | 62,113              |
| Provision for loss on guarantees  | 1,589      | 1,757           | 15,592              |
| Provision for equipment warranties  | 2,895      | 8,377           | 74,343              |
| Net defined benefit liability (Note 17)                                       | 16,484     | 18,145          | 161,031             |
| Other   | 33,154     | 37,725          | 334,797             |
| Total non-current liabilities   | 658,794    | 594,633         | 5,277,183           |
| Current liabilities   | 050,754    | 554,055         | 5,277,105           |
| Current portion of non-current liabilities (Note 8)                           | 55,731     | 54,521          | 483,856             |
| Notes and accounts payable - trade  | 54,610     | 53,882          | 478,186             |
| Short-term loans payable (Note 8)   | 26,832     | 25,916          | 229,996             |
| Income taxes payable  | 30,835     | 33,834          | 300,266             |
| Other   | 116,527    | 131,181         | 1,164,190           |
| Total current liabilities   | 284,537    | 299,336         |                     |
| Total liabilities   | 943,331    | 893,970         | 2,656,514           |
| Net Assets (Note 9)   | 945,551    | 893,970         | 7,955,700           |
|   |            |                 |                     |
| Shareholders' equity  | 132,166    | 132,166         | 1,172,932           |
| Capital stock   | 152,100    | 152,100         | 1,172,952           |
| Authorized - 3,707,506,909 shares   |            |                 |                     |
| Issued - 2,083,400,000 shares in 2015 and in 2016                             |            |                 |                     |
| Capital surplus   | 19,488     | 19,320          | 171,458             |
| Retained earnings   | 648,896    | 712,401         | 6,322,337           |
| Treasury shares (Note 10)   | (938)      | (1,275)         | (11,315             |
| 2,532,646 shares in 2015 and  | (556)      | (1)273)         | (11,515)            |
| 3,256,640 shares in 2016  |            |                 |                     |
| Total shareholders' equity  | 799,613    | 862,613         | 7,655,422           |
| Accumulated other comprehensive income  | 755,015    | 002,015         | 7,033,422           |
| Valuation difference on available-for-sale securities                         | 50,868     | 44,143          | 391,755             |
|   |            |                 |                     |
| Deferred gains and losses on hedges<br>Revaluation reserve for land (Note 12) | (6,519)    | (12,347)        | (109,575            |
|   | (737)      | (737)           | (6,540              |
| Foreign currency translation adjustments                                      | 39,341     | 28,924          | 256,691             |
| Remeasurements of defined benefit plans                                       | 5,929      | (15,972)        | (141,746            |
| Total accumulated other comprehensive income                                  | 88,882     | 44,010          | 390,575             |
| Non-controlling interests   | 30,373     | 29,162          | 258,803             |
| Total net assets  | 918,869    | 935,786         | 8,304,810           |
| Total liabilities and net assets  | ¥1,862,201 | ¥1,829,756      | \$16,238,516        |

# Consolidated Statements of Income

Osaka Gas Co., Ltd. and Consolidated Subsidiaries Years ended March 31, 2015 and 2016

| Years ended March 31, 2015 and 2016                           |            |                      | Thousands of                 |
|---|------------|----------------------|------------------------------|
|   | 2015       | Millions of Yen 2016 | U.S. Dollars (Note 1<br>2016 |
| Net sales   | ¥1,528,164 | ¥1,322,012           | \$11,732,445                 |
| Cost of sales (Note 14)                                       | 1,071,021  | 814,760              | 7,230,741                    |
| Gross profit  | 457,143    | 507,251              | 4,501,695                    |
| Selling, general and administrative expenses (Note 14)        | 352,077    | 360,576              | 3,200,000                    |
| Operating income  | 105,065    | 146,674              | 1,301,686                    |
| Non-operating income  |            |                      |                              |
| Interest income   | 770        | 448                  | 3,975                        |
| Dividend income   | 4,659      | 3,262                | 28,949                       |
| Share of profit of entities accounted for using equity method | 6,990      | _                    | _                            |
| Miscellaneous income  | 10,401     | 6,156                | 54,632                       |
| Total non-operating income                                    | 22,822     | 9,867                | 87,566                       |
| Non-operating expenses  |            |                      |                              |
| Interest expense  | 9,475      | 10,003               | 88,773                       |
| Share of loss of entities accounted for using equity method   | _          | 4,538                | 40,273                       |
| Miscellaneous expenses  | 10,238     | 7,012                | 62,229                       |
| Total non-operating expenses                                  | 19,714     | 21,555               | 191,293                      |
| Ordinary income   | 108,173    | 134,986              | 1,197,958                    |
| Extraordinary income  |            |                      |                              |
| Gain on sales of non-current asset                            | 2,941      | 2,467                | 21,893                       |
| Gain on sales of investment securities (Note 7)               | 13,011     | _                    | -                            |
| Total extraordinary income                                    | 15,952     | 2,467                | 21,893                       |
| Extraordinary losses  |            |                      |                              |
| Impairment loss (Note 13)                                     | 2,697      | 14,588               | 129,463                      |
| Total extraordinary losses                                    | 2,697      | 14,588               | 129,463                      |
| Income before income taxes                                    | 121,428    | 122,865              | 1,090,388                    |
| Income taxes  |            |                      |                              |
| Income taxes - current  | 38,064     | 43,394               | 385,108                      |
| Income taxes - deferred                                       | 4,744      | (5,478)              | (48,615)                     |
| Total income taxes (Note 18)                                  | 42,808     | 37,916               | 336,492                      |
| Profit  | 78,619     | 84,949               | 753,895                      |
| Profit attributable to non-controlling interests              | 1,910      | 624                  | 5,537                        |
| Profit attributable to owners of parent                       | ¥ 76,709   | ¥ 84,324             | \$ 748,349                   |

|   |        | Yen    | U.S. Dollars<br>(Note 1) |
|---|--------|--------|--------------------------|
|   | 2015   | 2016   | 2016                     |
| Amounts per share of capital stock (Note 2) |        |        |                          |
| Profit                                      | ¥36.86 | ¥40.53 | \$0.359                  |
| Cash dividends applicable to the year       | 9.50   | 10.00  | 0.088                    |
|   |        |        |                          |

# Consolidated Statements of Comprehensive Income

Osaka Gas Co., Ltd. and Consolidated Subsidiaries Years ended March 31, 2015 and 2016

| Years ended March 31, 2015 and 2016                   |          |                 | Thousands of          |
|---|----------|-----------------|-----------------------|
|   |          | Millions of Yen | U.S. Dollars (Note 1) |
|   | 2015     | 2016            | 2016                  |
| Profit  | ¥ 78,619 | ¥84,949         | \$753,895             |
| Other comprehensive income (Note 21)                  |          |                 |                       |
| Valuation difference on available-for-sale securities | 16,045   | (6,736)         | (59,779)              |
| Deferred gains and losses on hedges                   | (3,232)  | (3,926)         | (34,842)              |
| Foreign currency translation adjustments              | 10,241   | (4,078)         | (36,190)              |
| Adjustment for employee retirement benefits           | 12,018   | (22,528)        | (199,929)             |
| Share of other comprehensive income of associates     |          |                 |                       |
| accounted for using equity method                     | (7,608)  | (9,422)         | (83,617)              |
| Total other comprehensive income                      | 27,464   | (46,692)        | (414,376)             |
| Comprehensive income                                  | ¥106,084 | ¥38,256         | \$339,510             |
| Attributable to:                                      |          |                 |                       |
| Owners of parent                                      | ¥104,751 | ¥39,452         | \$350,124             |
| Non-controlling interests                             | ¥ 1,332  | ¥(1,196)        | \$ (10,614)           |

# Consolidated Statements of Changes in Net Assets

Osaka Gas Co., Ltd. and Consolidated Subsidiaries Years ended March 31, 2015 and 2016

| Millions of Yen  |               |                 |                    |                 |  |  |
|--|---------------|-----------------|--------------------|-----------------|--|--|
| _  |               | Share           | eholders' equity   |                 |  |  |
| Years ended March 31, 2015   | Capital stock | Capital surplus | Retained earnings  | Treasury shares | Total shareholders'<br>equity          |  |
| Balance at beginning of current period   | ¥132,166      | ¥19,486         | ¥587,268           | ¥(797)          | ¥738,124                               |  |
| Cumulative effects of changes in accounting policies   |               |                 | 3,649              |                 | 3,649                                  |  |
| Restated balance   | 132,166       | 19,486          | 590,917            | (797)           | 741,773                                |  |
| Changes in items during period<br>Dividends from surplus<br>Profit attributable to owners of parent<br>Change in scope of equity method<br>Purchase of treasury shares<br>Disposal of treasury shares<br>Changes in ownership interest of subsidiaries arising<br>from transaction with non-controlling shareholders |               | 2               | (18,729)<br>76,709 | (153)<br>12     | (18,729)<br>76,709<br>—<br>(153)<br>14 |  |
| Net changes in items other than shareholders' equity   |               |                 |                    |                 |  |  |
| Total changes in items during period   | —             | 2               | 57,979             | (141)           | 57,840                                 |  |
| Balance at end of current period   | ¥132,166      | ¥19,488         | ¥648,896           | ¥(938)          | ¥799,613                               |  |

| Millions of Yen  |                      |                 |                   |                 |                               |  |  |
|--|----------------------|-----------------|-------------------|-----------------|-------------------------------|--|--|
| _  | Shareholders' equity |                 |                   |                 |                               |  |  |
| Years ended March 31, 2016   | Capital stock        | Capital surplus | Retained earnings | Treasury shares | Total shareholders'<br>equity |  |  |
| Balance at beginning of current period   | ¥132,166             | ¥19,488         | ¥648,896          | ¥(938)          | ¥799,613                      |  |  |
| Changes in items during period   |                      |                 |                   |                 |                               |  |  |
| Dividends from surplus   |                      |                 | (20,808)          |                 | (20,808)                      |  |  |
| Profit attributable to owners of parent  |                      |                 | 84,324            |                 | 84,324                        |  |  |
| Change in scope of equity method   |                      |                 | (11)              |                 | (11)                          |  |  |
| Purchase of treasury shares  |                      |                 |                   | (357)           | (357)                         |  |  |
| Disposal of treasury shares  |                      | 4               |                   | 20              | 25                            |  |  |
| Changes in ownership interest of subsidiaries arising from transaction with non-controlling shareholders |                      | (173)           |                   |                 | (173)                         |  |  |
| Net changes in items other than shareholders' equity   |                      |                 |                   |                 |                               |  |  |
| Total changes in items during period   |                      | (168)           | 63,504            | (336)           | 62,999                        |  |  |
| Balance at end of current period   | ¥132,166             | ¥19,320         | ¥712,401          | ¥(1,275)        | ¥862,613                      |  |  |

| Thousands of U.S. Dollars  |               |                 |                   |                 |                               |   |
|--|---------------|-----------------|-------------------|-----------------|-------------------------------|---|
| _  |               | Share           | eholders' equity  |                 |                               | P |
| Years ended March 31, 2016   | Capital stock | Capital surplus | Retained earnings | Treasury shares | Total shareholders'<br>equity |   |
| Balance at beginning of current period   | \$1,172,932   | \$172,949       | \$5,758,750       | \$(8,324)       | \$7,096,317                   |   |
| Changes in items during period   |               |                 |                   |                 |                               | P |
| Dividends from surplus   |               |                 | (184,664)         |                 | (184,664)                     | , |
| Profit attributable to owners of parent  |               |                 | 748,349           |                 | 748,349                       |   |
| Change in scope of equity method   |               |                 | (97)              |                 | (97)                          |   |
| Purchase of treasury shares  |               |                 |                   | (3,168)         | (3,168)                       |   |
| Disposal of treasury shares  |               | 35              |                   | 177             | 221                           |   |
| Changes in ownership interest of subsidiaries arising from transaction with non-controlling shareholders |               | (1,535)         |                   |                 | (1,535)                       |   |
| Net changes in items other than shareholders' equity   |               |                 |                   |                 |                               |   |
| Total changes in items during period   |               | (1,490)         | 563,578           | (2,981)         | 559,096                       |   |
| Balance at end of current period   | \$1,172,932   | \$171,458       | \$6,322,337       | \$(11,315)      | \$7,655,422                   |   |

| Millions of Yen  |                                     |                              |  |               |  |                 |                   |
|--|-------------------------------------|------------------------------|--|---------------|--|-----------------|-------------------|
|  |                                     | Accum                        | nulated other cor                        | nprehensive i | ncome  | Non-controlling | Total net         |
| Valuation difference on<br>available-for-sale securities | Deferred gains and losses on hedges | Revaluation reserve for land | Foreign currency translation adjustments |               | Total accumulated other comprehensive income | interests       | assets            |
| ¥34,839  | ¥2,425                              | ¥(737)                       | ¥30,414                                  | ¥(6,100)      | ¥60,840                                      | ¥29,601         | ¥828,565          |
|  |                                     |                              |  |               |  | (97)            | 3,551             |
| 34,839   | 2,425                               | (737)                        | 30,414                                   | (6,100)       | 60,840                                       | 29,503          | 832,117           |
|  |                                     |                              |  |               |  |                 | (18,729<br>76,709 |
|  |                                     |                              |  |               |  |                 | (153<br>14        |
| 16,028   | (8,944)                             |                              | 8,927                                    | 12,030        | 28,042                                       | 869             | 28,912            |
| 16,028   | (8,944)                             | —                            | 8,927                                    | 12,030        | 28,042                                       | 869             | 86,752            |
| ¥50,868  | ¥(6,519)                            | ¥(737)                       | ¥39,341                                  | ¥5,929        | ¥88,882                                      | ¥30,373         | ¥918.869          |

Millions of Yen Accumulated other comprehensive income Valuation difference on available-for-sale securities Non-controlling Total net Deferred gains and losses on hedges Revaluation Foreign currency Remeasurements of Total accumulated other reserve for land translation adjustments defined benefit plans comprehensive income interests assets ¥30,373 ¥50,868 ¥(6,519) ¥(737) ¥39,341 ¥5,929 ¥88,882 ¥918,869 (20,808) 84,324 (11)(357) 25 (173) (6,724) (5,827) (10,417) (21, 902)(44,871) (1,211) (46,083) 16,916 (5,827) (21,902) (44,871) (1,211) (6,724) (10,417) \_ ¥44,143 ¥(12,347) ¥(737) ¥28,924 ¥(15,972) ¥44,010 ¥935,786 ¥29,162

|      |                                    |                                     |                              | Thousands of U.                             | S. Dollars                              |  |                              |   |
|------|------------------------------------|-------------------------------------|------------------------------|---|---|--|------------------------------|---|
|      |                                    |                                     | Accum                        | ulated other con                            | nprehensive ir                          | ncome  |                              |   |
|      | difference on<br>r-sale securities | Deferred gains and losses on hedges | Revaluation reserve for land | Foreign currency<br>translation adjustments | Remeasurements of defined benefit plans | Total accumulated other comprehensive income | Non-controlling<br>interests | Total net<br>assets                                       |
| \$45 | 51,437                             | \$(57,854)                          | \$(6,540)                    | \$349,139                                   | \$52,618                                | \$788,800                                    | \$269,550                    | \$8,154,676   |
|      |                                    |                                     |                              |   |   |  |                              | (184,664)<br>748,349<br>(97)<br>(3,168)<br>221<br>(1,535) |
| (5   | 59,673)                            | (51,712)                            |                              | (92,447)                                    | (194,373)                               | (398,216)                                    | (10,747)                     | (408,972)   |
| (5   | 59,673)                            | (51,712)                            | _                            | (92,447)                                    | (194,373)                               | (398,216)                                    | (10,747)                     | 150,124   |
| \$39 | 91,755                             | \$(109,575)                         | \$(6,540)                    | \$256,691                                   | \$(141,746)                             | \$390,575                                    | \$258,803                    | \$8,304,810   |

# Consolidated Statements of Cash Flows

Osaka Gas Co., Ltd. and Consolidated Subsidiaries Years ended March 31, 2015 and 2016

| Usaka Gas Co., Etc. and Consolidated Subsidialies   |            |                 |                                      |
|---|------------|-----------------|--------------------------------------|
| Years ended March 31, 2015 and 2016   |            | Millions of yen | Thousands of<br>U.S. dollars (Note1) |
|   | 2015       | 2016            | 2016                                 |
| Cash Flows from Operating Activities  |            |                 |                                      |
| Income before income taxes and minority interests   | ¥121,428   | ¥122,865        | \$1,090,388                          |
| ,<br>Depreciation and amortization  | 87,785     | 86,747          | 769,852                              |
| Amortization of long-term prepaid expenses  | 5,411      | 5,369           | 47,648                               |
| Impairment loss   | 2,697      | 14,588          | 129,463                              |
| Increase (decrease) in provision for safety measures  | (2,379)    | 4,097           | 36,359                               |
| Increase (decrease) in provision for equipment warranties   | 2,895      | 5,482           | 48,651                               |
| Interest and dividend income  | (5,430)    | (3,711)         | (32,933)                             |
| Interest expense  | 9,475      | 10,003          | 88,773                               |
| Shares of loss (profit) of entities accounted for using equity method   | (6,990)    | 4,538           | 40,273                               |
| Loss (gain) on sales of non-current fixed assets  | (2,941)    | (2,467)         | (21,893)                             |
| (Increase) decrease in notes and accounts receivable - trade  | 4,132      | 23,852          | 211,679                              |
| (Increase) decrease in inventories  | (14,935)   | 24,346          | 216,063                              |
| Increase (decrease) in notes and accounts payable - trade   | (5,371)    | (2,275)         | (20,189)                             |
| Increase (decrease) in accrued expenses   | (2,361)    | (6,294)         | (55,857)                             |
| Other   | 3,314      | 35,016          | 310,756                              |
| Subtotal  | 196,731    | 322,161         | 2,859,078                            |
| Interest and dividends income received  | 8,678      | 6,387           | 56,682                               |
| Interest expenses paid  | (9,592)    | (10,224)        | (90,734)                             |
| Income taxes paid   | (38,909)   | (36,504)        | (323,961)                            |
| Net cash provided by (used in) Operating Activities   | 156,908    | 281,819         | 2,501,056                            |
| Cash Flows from Investing Activities  |            |                 | 0                                    |
| Purchase of property, plant and equipment   | (105,082)  | (109,910)       | (975,417)                            |
| Proceeds from sales of non-current assets   | 8,285      | 5,486           | 48,686                               |
| Purchase of intangible assets   | (9,600)    | (7,646)         | (67,855)                             |
| Purchase of long-term prepaid expenses  | (4,956)    | (5,383)         | (47,772)                             |
| Proceeds from withdrawal of time deposits   | 1,174      | 4,430           | 39,314                               |
| Purchase of shares of subsidiaries and associates   | (18,495)   | (25,975)        | (230,520)                            |
| Purchase of shares of subsidiaries resulting in change in scope of consolidation                                    | -          | (1,998)         | (17,731)                             |
| Payments of long-term loans receivable  | (282)      | (7,791)         | (69,142)                             |
| Proceeds from sales of shares of subsidiaries resulting in change in scope of consolidat                            | tion 1,180 | 414             | 3,674                                |
| Other   | 17,072     | 4,175           | 37,051                               |
| Net cash provided by (used in) Investing Activities   | (110,704)  | (144,198)       | (1,279,712)                          |
| Cash Flows from Financing Activities  |            |                 | 0                                    |
| Payments from changes in ownership interests in subsidiaries that do not result in change in scope of consolidation | n –        | (3,603)         | (31,975)                             |
| Proceeds from long-term loans payable   | 71,650     | 15,456          | 137,167                              |
| Repayment of long-term loans payable  | (17,420)   | (25,298)        | (224,511)                            |
| Redemption of bonds   | (21,590)   | (53,131)        | (471,521)                            |
| Cash dividends paid   | (18,742)   | (20,809)        | (184,673)                            |
| Proceeds from share issuance to non-controlling shareholders  | -          | 190             | 1,686                                |
| Dividends paid to non-controlling interests   | (404)      | (602)           | (5,342)                              |
| Other   | 9,398      | (2,918)         | (25,896)                             |
| Net cash provided by (used in) Financing Activities   | 22,892     | (90,716)        | (805,076)                            |
| Effect of Exchange Rate Changes on Cash and Cash Equivalents  | 3,336      | (328)           | (2,910)                              |
| Net Increase (Decrease) in Cash and Cash Equivalents  | 72,433     | 46,574          | 413,329                              |
| Cash and Cash Equivalents at the Beginning of Current Period  | 90,359     | 162,793         | 1,444,737                            |
| Cash and Cash Equivalents at the End of Current Period(Note 4)  | ¥162,793   | ¥209,367        | \$1,858,067                          |
|   |            |                 |                                      |

### Notes to Consolidated Financial Statements

Osaka Gas Co., Ltd. and Consolidated Subsidiaries March 31, 2015 and 2016

1. Basis of Presenting Consolidated Financial Statements

The accompanying consolidated financial statements of Osaka Gas Co., Ltd. (the "Company") and its consolidated subsidiaries (together, the "Companies") have been prepared in accordance with the provisions set forth in the Japanese Regulations of accounting process for Gas-Business and related regulations and the Japanese Financial Instruments and Exchange Law and its related accounting regulations and in conformity with accounting principles generally accepted in Japan ("Japanese GAAP"), which are different in certain respects as to application and disclosure requirements from International Financial Reporting Standards. The accounts of the Company's consolidated overseas

The accounts of the Company's consolidated overseas subsidiaries are based on their accounting records maintained in conformity with generally accepted accounting principles prevailing in the respective countries of domicile. The accompanying consolidated financial statements have been restructured and translated into English, with some expanded descriptions, from the consolidated financial statements of the Company prepared in accordance with Japanese GAAP

#### 2. Significant Accounting Policies

#### (1) Consolidation

The consolidated financial statements for the years ended March 31, 2015 and 2016 included the accounts of the Company and its 145 and 149 subsidiaries, respectively. For the year ended March 31, 2016, 7 subsidiaries were newly consolidated and 3 subsidiaries were excluded from consolidation. Intercompany transactions and accounts were eliminated. All material unrealized profit resulting from intercompany transactions and included in assets was eliminated.

The 75 subsidiaries included in consolidation have fiscal years that end on December 31.

These subsidiaries do not prepare for consolidation purposes statements with periods that correspond to the fiscal year-end of the Company (March 31). For these 75 consolidated subsidiaries, if there were significant transactions between their fiscal year-end and the Company's year-end, necessary adjustments were made to reflect these transactions in the accompanying consolidated financial statements.

Goodwill is amortized within 20 years on a straight-line basis. If goodwill is insignificant, it is charged or credited to income in the first year of consolidation.

Investments in significant affiliates are accounted for by the equity method. Affiliates that have an insignificant impact on consolidated net income and consolidated retained earnings are not accounted for by the equity method. As of March 31, 2015 and 2016, 13 and 16 significant affiliates, respectively, were accounted for by the equity method.

#### (2) Consolidated Statements of Cash Flows

In preparing the consolidated statements of cash flows, cash on hand, readily available deposits and short-term highly liquid investments with maturities not exceeding three months at the time of purchase are considered to be cash and cash equivalents.

#### (3) Inventories

Inventories are mainly valued at moving average cost. The method used to value inventories held for sale in the ordinary course of business subjects the amounts carried on the balance sheet to a write-down in the event of reduced profitability.

#### (4) Securities

Under the Japanese accounting standard for financial instruments, all companies are required to examine the securities they hold to determine the intention for which they are held and to classify those securities and filed with the appropriate Local Finance Bureau of the Ministry of Finance as required by the Financial Instruments and Exchange Law. Some supplementary information included in the statutory Japanese language consolidated financial statements, but not required for fair presentation, is not presented in the accompanying consolidated financial statements.

The translation of the Japanese yen amounts into U.S. dollar amounts is included solely for the convenience of readers outside Japan, using the prevailing exchange rate at March 31, 2016 which was ¥112.68 to U.S. \$1.00. The translations should not be construed as representations that the Japanese yen amounts have been, could have been or could in the future be converted into U.S. dollars at this or any other rate of exchange.

As permitted, amounts of less than one million yen are omitted in the presentation for 2015 and 2016. As a result, the total amounts shown in the accompanying consolidated financial statements, both in yen and in U. S. dollars, do not necessarily agree with the sum of the individual amounts.

according to the intention as 1) securities held for trading purposes ("trading securities"), 2) debt securities intended to be held to maturity ("held-to-maturity debt securities"), 3) equity securities issued by subsidiaries and affiliates and 4) all other securities that are not classified in any of the above categories ("available-for-sale securities").

The Companies have no trading securities. Held-to-maturity debt securities are stated at amortized cost. Equity securities issued by subsidiaries and affiliates that are not consolidated or accounted for using the equity method are stated at moving average cost. Available-for-sale securities whose fair value is readily determinable are stated at fair value as of the end of the year with unrealized gains and losses, net of applicable deferred tax assets/liabilities and non-controlling interests, directly reported as a separate component of net assets rather than reflected in earnings. Realized gains and losses on the sale of such securities are computed mainly using moving average cost. Other securities with no fair values are stated mainly at moving average cost.

If the value of equity securities issued by non-consolidated subsidiaries or affiliated companies or the market value of available-for-sale securities declines significantly, the securities are stated at fair value and the difference between the fair value and the carrying amount is recognized as loss in the period of the decline.

#### (5) Property, Plant and Equipment

Depreciation is provided mainly by the declining balance method (the straight-line method by certain consolidated subsidiaries) over the estimated useful life of the asset. However, the Company and its domestic consolidated subsidiaries depreciate buildings acquired on or after April 1, 1998 by the straight-line method.

Certain capital gains arising from beneficiaries' contributions or expropriations of property, deferral of which is permitted for tax purposes, are offset against the acquisition cost of property purchased. The cumulative capital gain arising from the beneficiaries' contributions and offset against the acquisition cost of property, plant and equipment at March 31, 2015 and 2016 was ¥260,741 million and ¥261,938 million (\$2,324,618 thousand), respectively. The current capital gain arising from the expropriation of property offset against the acquisition cost of property, plant and equipment at March 31, 2015 and 2016 was ¥392 million and ¥18 million (\$159 thousand), respectively.

#### (6) Intangible Assets

The Companies include goodwill and software in intangible assets. Goodwill is amortized using the straight-line method over a period that is within 20 years, and software is amortized over its estimated useful life.

#### (7) Leased Assets

Property, plant and equipment that are capitalized under finance lease arrangements and that do not transfer ownership of the leased asset to the lessee are depreciated using the straight-line method over the term of the lease with the assumption of no residual value.

#### (8) Allowance for Doubtful Accounts

The Companies provide the allowance for doubtful accounts at an amount based principally on the historical default ratio plus the estimated uncollectible amounts of certain individual receivables.

#### (9) Retirement Benefits

As for the provision for retirement benefits, for the purposes of employee retirement benefits, an amount is provided based on the estimate of the retirement benefit obligation and pension assets at the end of the fiscal year.

a. Method of attributing projected retirement benefits to periods of service In calculating retirement benefit obligations, the benefit formula basis is applied to attribute projected retirement benefits to periods of service.

b. Amortization of actuarial differences and past service cost Past service cost is mainly charged to income for the fiscal year at the time of occurrence.

Actuarial differences are mainly amortized on a straightline basis over a period of 10 years beginning from the fiscal year following the time of occurrence.

#### (10) Provision for Gas Holder Repairs

The Company and certain consolidated subsidiaries provide for periodic repairs to gas holders by estimating the future expenditures arising from such repairs and charging them to income in equal annual amounts. The difference between the actual expenditure and the estimated amount provided for is charged to income in the year the repair is completed.

#### (11) Provision for Safety Measures

The Company provides for future payments for consumer safety by estimating the future expenditures required for the promotion of replacements with safety-enhanced models, strengthening of incidental inspections and publicity and maintenance work on aging gas pipelines.

#### (12) Provision for Safety Measures

The Company provides for future payments for potential losses on the business of affiliates by estimating the expected losses.

#### (13) Provision for Loss on Guarantees

With regard to the provision for loss on guarantees, to provide for any losses on debt guarantees, an estimated amount for such losses is provided upon consideration of the financial conditions of the debtors.

#### (14) Provision for Equipment Warranties

With regard to the provision for warranty on gas appliances, to provide for the payment of any service costs arising from the sale of gas appliances within their warranty periods, an estimated amount of such costs is provided.

(Additional information)

For the fiscal year ended March 31, 2016, it has become possible to reasonably estimate service costs arising from the sale of gas appliances within their warranty periods based on the past results of periodic inspections and other factors. Therefore, in order to provide for the payment of such costs, the Company has decided to record an estimated amount to be incurred as a provision.

As a result, a provision for warranty on gas appliances of 44,415 million (39,181 thousand) has been stated, reducing operating income, ordinary income and

income before income taxes by the same amount, respectively.

#### (15) Income Taxes

Income taxes comprise corporation tax, prefectural and municipal inhabitants taxes and enterprise tax.

The Companies recognize the tax effects of loss carryforwards and the temporary differences between the carrying amounts of assets and liabilities for tax and financial reporting. The asset/liability approach is used to recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes.

#### (16) Translation of Foreign Currencies

Receivables and payables denominated in foreign currencies are translated into Japanese yen at year-end rates.

Assets and liabilities of foreign subsidiaries are translated into Japanese yen at year-end rates. Net assets are translated into Japanese yen at historical rates. Income and expenses are translated into Japanese yen at average rates for the year. The translation differences arising from the use of different rates are recognized in non - controlling interests and as foreign currency translation adjustments in net assets.

#### (17) Derivative Transactions and Hedge Accounting

The Companies state derivative financial instruments at fair value at the end of the fiscal year and recognize changes in the fair value as gain or loss unless the derivative financial instruments are used for hedging purposes. If derivative financial instruments are used as hedges and meet certain hedging criteria, the Companies principally defer recognition of gain or loss resulting from changes in the fair value of the derivative financial instruments until the related loss or gain on the hedged items is recognized. However, in cases in which forward foreign currency exchange contracts and interest rate swap contracts are used as hedges and meet certain hedging criteria, forward foreign currency exchange contracts, interest rate swap contracts and the hedged items are accounted by the exceptional method as follows:

If a forward foreign currency exchange contract or a currency swap contract is executed to hedge an existing foreign currency receivable or payable, the difference, if any, between the Japanese yen amount of the hedged foreign currency receivable or payable, translated using the spot rate at the inception date of the contract and the book value of the receivable or payable is recognized in the income statement in the period which includes the inception date.

If a forward foreign currency exchange contract is executed to hedge a future transaction denominated in a foreign currency, the future transaction will be recorded using the contracted forward rate, and no gain or loss on the forward foreign currency exchange contract will be recognized.

Also, if interest rate swap contracts are used as hedges and meet certain hedging criteria, the net amount to be paid or received under the interest rate swap contract is added to or deducted from the interest on the assets or liabilities for which the swap contract was executed.

#### (18) Profit Per Share

The computation of profit per share of capital stock shown on the consolidated statements of income is based on the weighted average number of shares outstanding during the fiscal year. Diluted net income per share of capital stock for the years ended March 31, 2015 and 2016 was not shown since there were no outstanding convertible bonds or other capital stock equivalents.

#### 3. Changes in Accounting Policies, etc.

#### <Changes in Accounting Policies>

The Company and its domestic subsidiaries adopted "Revised Accounting Standard for Business Combinations" (ASBJ Statement No.21, September 13, 2013 (hereinafter, "Statement No.21")), "Revised Accounting Standard for Consolidated Financial Statements" (ASBJ Statement No.22, September 13, 2013 (hereinafter, "Statement No.22")) and "Revised Accounting Standard for Business Divestitures" (ASBJ Statement No.7, September 13, 2013 (hereinafter, "Statement No.7")) (together, the "Business Combination Accounting Standards"), from the current fiscal year. As a result, the Company changed its accounting policies to recognize in capital surplus the differences arising from the changes in the Company's ownership interest of subsidiaries over which the Company continues to maintain control and to record acquisition related costs as expenses in the fiscal year in which the costs are incurred. In addition, the Company changed its accounting policy for the reallocation of acquisition costs due to the completion following provisional accounting to reflect such reallocation in the consolidated financial statements for the fiscal year in which the business combination took place. The Company also changed the presentation of net income and the term "non-controlling interests" is used instead of "minority interests". Certain amounts in the prior year comparative information were reclassified to conform to such changes in the current year presentation.

With regard to the application of the Business Combination Accounting Standards, the Company followed the provisional treatments in article 58-2 (4) of Statement No.21, article 44-5 (4) of Statement No.22 and article 57-4 (4) of Statement No.7 with application from the beginning of the current fiscal year prospectively.

As a result, capital surplus as of the end of the current fiscal year decreased by ¥173 million (\$1,535 thousand).

In the consolidated statement of cash flows, cash flows from acquisition or disposal of shares of subsidiaries with no changes in the scope of consolidation are included in "Cash flows from

#### 4. Cash and Cash Equivalents

The relationship between the closing balance of cash and cash equivalents on the consolidated statements of cash flows and the amount of cash and deposits on the consolidated balance sheets was as follows:

|   |  | Millions of Yen | Thousands of<br>U.S. Dollars |
|---|--|-----------------|------------------------------|
|   | 2015                                     | 2016            | 2016                         |
| Cash and deposits on the consolidated balance sheets  | ¥147,426                                 | ¥209,982        | \$1,863,525                  |
| Time deposits with more than 3 months to maturity   | (4,633)                                  | (614)           | (5,449)                      |
| Short-term investments with a<br>original maturity of threemon<br>or less, presentingnegligible r<br>of change in value and includ<br>in current assets | an<br>ths<br>isk<br><sup>ed</sup> 20,000 | _               | _                            |
| Cash and cash equivalents<br>on the consolidated statements<br>of cash flows  | ¥162,793                                 | ¥209,367        | \$1,858,067                  |

#### 6. Financial Instruments

Book value, fair value and any difference between book value and fair value as of March 31, 2015 are set forth in the table below. Financial instruments for which it was extremely difficult to determine the fair value are not included in the table. financing activities" and cash flows from acquisition related costs for shares of subsidiaries with changes in the scope of consolidation or costs related to acquisition or disposal of shares of subsidiaries with no changes in the scope of consolidation are included in "Cash flows from operating activities".

Capital surplus as of the end of the current fiscal year in the consolidated statement of changes in net assets decreased by ¥173 million (\$1,535 thousand).

As a result, the net assets per share as of the end of the current fiscal year decreased by  $\pm 0.08$ .

#### <Unadopted Accounting Standards>

"Revised Implementation Guidance on Recoverability of Deferred Tax Assets" (ASBJ Guidance No. 26, March 28, 2016 (hereinafter, "Guidance No.26")

#### (1) Overview

Following the framework in Auditing Committee Report No. 66 "Audit Treatment regarding the Judgment of Recoverability of Deferred Tax Assets", which prescribes estimation of deferred tax assets according to the classification of the entity by one of five types. Treatment for an entity that does not meet any of the criteria in types 1 to 5 @Criteria for types 2 and 3 @Treatment for deductible temporary differences which an entity classified as type 2 is unable to schedule @Treatment for the period which an entity classified as type 3 is able to reasonably estimate with respect to future taxable income before consideration of taxable or deductible temporary differences that exist at the end of the current fiscal year and ®Treatment when an entity classified as type 4 also meets the criteria for types 2 or 3 were changed as necessary. (2) Effective date

Effective from the beginning of the fiscal year ending March 31, 2017 (3) Effects of application of the Guidance

The Company and its consolidated domestic subsidiaries are currently in the process of determining the effects of the guidance on the consolidated financial statements.

#### 5. Inventories

Inventories at March 31, 2015 and 2016 consisted of the following:

|                            |          | Millions of Yen | Thousands of<br>U.S. Dollars |
|----------------------------|----------|-----------------|------------------------------|
| _                          | 2015     | 2016            | 2016                         |
| Merchandises and finished  |          |                 |                              |
| products                   | ¥ 21,290 | ¥24,989         | \$221,769                    |
| Work-in-process            | 8,810    | 9,313           | 82,649                       |
| Raw materials and supplies | 73,318   | 45,479          | 403,611                      |
| Total                      | ¥103,420 | ¥79,782         | \$708,040                    |

|   |              | M          | illions of Yen |
|---|--------------|------------|----------------|
|   | Book Value   | Fair Value | Difference     |
| (1) Cash and deposits                           | ¥ 147,426    | ¥ 147,426  | ¥ —            |
| (2) Notes and accounts receivable - tra         | ade 187,482  | 187,482    | —              |
| (3) Marketable securities and investment securi | ties 119,118 | 119,118    |                |
| Total assets                                    | ¥ 454,027    | ¥ 454,027  | ¥ —            |
| (1) Notes and accounts payable - trade          | e ¥ 54,610   | ¥ 54,610   | ¥ —            |
| (2) Short-term loans payab                      | ole 26,832   | 26,832     | —              |
| (3) Bonds payable <sup>(*1)</sup>               | 272,342      | 288,054    | 15,712         |
| (4) Long-term loans payable                     | *1) 333,354  | 345,565    | 12,211         |
| Total liabilities                               | ¥ 687,139    | ¥ 715,063  | ¥ 27,924       |
| Derivative transactions(*2)                     | ¥ 3,363      | ¥ 3,363    | ¥ —            |

(\*1) Bonds payable and long-term loans payable include current portions.
(\*2) Assets and liabilities arising from derivative transactions were offset and indicated by parentheses () when the amount offset was a liability. Book value, fair value and any difference between book value and fair value as of March 31, 2016 are set forth in the table below. Financial instruments for which it was extremely difficult to determine the fair value are not included in the table.

|   | Book Value      |                              |                 | Difference                   |          |        |      |                       |
|---|-----------------|------------------------------|-----------------|------------------------------|----------|--------|------|-----------------------|
|   | Millions of Yen | Thousands of<br>U.S. Dollars | Millions of Yen | Thousands of<br>U.S. Dollars | Millions | of Yen |      | sands of<br>. Dollars |
| (1) Cash and deposits                               | ¥209,982        | \$1,863,525                  | ¥209,982        | \$1,863,525                  | ¥        | _      | \$   | _                     |
| (2) Notes and accounts receivable - trade           | 167,246         | 1,484,256                    | 167,246         | 1,484,256                    |          | —      |      | _                     |
| (3) Marketable securities and investment securities | 87,908          | 780,156                      | 87,908          | 780,156                      |          | _      |      | _                     |
| Total assets  | ¥465,137        | \$4,127,946                  | ¥465,137        | \$4,127,946                  | ¥        | _      | \$   | _                     |
| (1) Notes and accounts payable - trade              | ¥ 53,882        | \$ 478,186                   | ¥ 53,882        | \$ 478,186                   | ¥        | _      | \$   |                       |
| (2) Short-term loans payable                        | 25,916          | 229,996                      | 25,916          | 229,996                      |          | —      |      | _                     |
| (3) Bonds payable (*1)                              | 220,674         | 1,958,413                    | 239,201         | 2,122,834                    | 18,527   |        | 164  | 4,421                 |
| (4) Long-term loans payable <sup>(*1)</sup>         | 318,852         | 2,829,712                    | 334,807         | 2,971,308                    | 15,955   |        | 14   | 1,595                 |
| Total liabilities                                   | ¥619,326        | \$5,496,325                  | ¥653,808        | \$5,802,342                  | ¥ 34,482 |        | \$30 | 5,017                 |
| Derivative transactions (*2)                        | ¥ (6,665)       | \$ (59,149)                  | ¥ (6,665)       | \$ (59,149)                  | ¥        | _      | \$   |                       |

(\*1) Bonds payable and long-term loans payable include current portions.

(\*2) Assets and liabilities arising from derivative transactions were offset and indicated by parentheses ()

when the amount offset was a liability.

### Notes on the methods used to calculate the fair value of financial instruments, securities and derivatives

#### Assets

(1) Cash and deposits and (2) Notes and accounts receivable - trade

The fair value is determined by the book value, which is almost equivalent to the fair value due to the short-term nature of the financial transactions. (3) Marketable securities and investment securities

The fair value of stock is determined by market prices. The fair value of bonds is derived from market prices or prices presented by the corresponding financial institution. Refer to notes on securities (Note 7) for information about securities classified by the purpose for which they are held.

#### Liabilities

### (1) Notes and accounts payable - trade and (2) Short-term loans payable

The fair value is determined by book value, which is almost equivalent to the fair value due to the short-term nature of the financial transactions. (3) Bonds payable

The fair value of the bonds issued by Osaka Gas and each of its group companies is the market price if available, otherwise, fair value is calculated as the present value, which is the total amount of principal and interest discounted at the rate reflecting the time to maturity of the bonds and the credit risk. (4) Long-term loans payable

The fair value of long-term loans payable based on fixed interest rates is calculated by discounting the total amount of principal and interest at the estimated interest rate of a new loan which is similar to the long-term loans.

The fair value of long-term loans payable based on floating interest rates is determined by the book value because the market value is deemed similar to the book value.

Interest rate swap transactions, which determine the interest rate level of long-term loans based on floating interest rates, are treated as extraordinary account items. The transaction amount is calculated by discounting the sum of principal and interest at the estimated rate of a new loan which is similar to the long-term loans.

#### Derivative transactions

Refer to notes on derivative transactions (Note 16).

Shown in the table below are financial instruments for which it was extremely difficult to determine the fair value.

|                               |          | Thousands of<br>U.S. Dollars |             |
|-------------------------------|----------|------------------------------|-------------|
| Book Value                    | 2015     | 2016                         | 2016        |
| Affiliated company securities | ¥125,333 | ¥143,557                     | \$1,274,023 |
| Non-listed equity securities  | ¥ 10,027 | ¥ 7,419                      | \$ 65,841   |

The expected redemption amounts of monetary receivables and securities

| with maturities after the consolidated fiscal year-end were as follows: |                  |                   |                   | Millions of Yen     |
|---|------------------|-------------------|-------------------|---------------------|
| For 2015:   | One Year or Less | One to Five Years | Five to Ten Years | More than Ten Years |
| Cash and deposits   | ¥147,426         | ¥—                | ¥ —               | ¥—                  |
| Notes and accounts receivable - trade                                   | 187,482          | _                 | —                 | —                   |
| Marketable securities and investment securities                         |                  |                   |                   |                     |
| Held-to-maturity debt securities (corporate bonds)                      | 12               | 25                | —                 | —                   |
| Available-for-sale securities with maturities                           |                  |                   |                   |                     |
| (Government bonds and municipal bonds)                                  | 10               | —                 | —                 | 98                  |
| (Negotiable certificates of deposit)                                    | 22,000           | _                 | —                 | —                   |
| (Commercial paper)  | 1,498            | _                 | —                 | _                   |
| (Other)   | —                | 200               | —                 |                     |
| Total   | ¥358,430         | ¥225              | ¥ —               | ¥98                 |
|  |                  |                   |                   | Millions of Yen     |
|--|------------------|-------------------|-------------------|---------------------|
| For 2016   | One Year or Less | One to Five Years | Five to Ten Years | More than Ten Years |
| Cash and deposits                                  | ¥209,982         | ¥ —               | ¥ —               | ¥—                  |
| Notes and accounts receivable - trade              | 167,246          | _                 | _                 | _                   |
| Marketable securities and investment securities    |                  |                   |                   |                     |
| Held-to-maturity debt securities (corporate bonds) | 12               | 12                | _                 | 180                 |
| Available-for-sale securities with maturities      |                  |                   |                   |                     |
| (Government bonds and municipal bonds)             | -                | _                 | _                 | 98                  |
| (Negotiable certificates of deposit)               | 600              | _                 | _                 | _                   |
| (Commercial paper)                                 | 1,498            | _                 | _                 | _                   |
| (Other)  | -                | 200               | _                 | _                   |
| Total  | ¥379,339         | ¥212              | ¥ —               | ¥278                |

|  |                  |                   | Thousands         | of U.S. Dollars     |
|--|------------------|-------------------|-------------------|---------------------|
| For 2016   | One Year or Less | One to Five Years | Five to Ten Years | More than Ten Years |
| Cash and deposits                                  | \$1,863,525      | \$ —              | \$ —              | \$ —                |
| Notes and accounts receivable - trade              | 1,484,256        | _                 | —                 | —                   |
| Marketable securities and investment securities    |                  |                   |                   |                     |
| Held-to-maturity debt securities (corporate bonds) | 106              | 106               | _                 | 1,597               |
| Available-for-sale securities with maturities      |                  |                   |                   |                     |
| (Government bonds and municipal bonds)             | _                | _                 | _                 | 869                 |
| (Negotiable certificates of deposit)               | 5,324            | _                 | _                 | _                   |
| (Commercial paper)                                 | 13,294           | _                 | _                 | _                   |
| (Other)  | _                | 1,774             | _                 | _                   |
| Total  | \$3,366,515      | \$ 1,881          | \$ —              | \$2,467             |

### 7. Securities

(1) The following tables summarize acquisition costs and book values (fair values) of available-for-sale securities with available fair value as of March 31, 2015 and 2016.

Securities with available fair value (book value) that exceeded acquisition cost were as follows:

Securities with available fair value (book value) that did not exceed acquisition cost were as follows:

|                  |   | Millions of Yen   |
|------------------|---|---|
| Acquisition Cost | Book Value  | Difference  |
|                  |   |   |
| ¥23,959          | ¥95,030   | ¥71,071   |
| 10               | 10  | 0   |
| ¥23,969          | ¥95,040   | ¥71,071   |
|                  |   | Millions of Yen   |
| Acquisition Cost | Book Value  | Difference  |
|                  |   |   |
| ¥24,399          | ¥85,394   | ¥60,995   |
| —                | —   | —   |
| ¥24,399          | ¥85,394   | ¥60,995   |
|                  | Thousan   | nds of U.S. Dollars   |
| Acquisition Cost | Book Value  | Difference  |
|                  |   |   |
| \$216,533        | \$757,845   | \$541,311   |
| —                | _   | _   |
| \$216,533        | \$757,845   | \$541,311   |
|                  | ¥23,959<br>10<br>¥23,969<br>Acquisition Cost<br>¥24,399<br>–<br>¥24,399<br>Acquisition Cost<br>\$216,533<br>– | Acquisition Cost     Book Value       ¥23,959     ¥95,030       10     10       ¥23,969     ¥95,040       Acquisition Cost     Book Value       Acquisition Cost     Book Value       ¥24,399     ¥85,394       —     —       ¥24,399     ¥85,394       Thousan     Acquisition Cost       Book Value     3000000000000000000000000000000000000 |

(2) Total sales of available-for-sale securities in the years ended March 31, 2015 and 2016 amounted to  $\pm$ 14,142 million and  $\pm$ 908 million ( $\pm$ 8,058 thousand), respectively. The related gains and losses amounted to  $\pm$ 13,011 million and  $\pm$ 7 million, respectively, for the year ended March 31, 2015. The related gains and losses amounted to  $\pm$ 313 million ( $\pm$ 2,777 thousand) and  $\pm$ 0 million ( $\pm$ 0 thousand), respectively, for the year ended March 31, 2016.

|           | ea acquisition cost | were as lotto |                    |
|-----------|---------------------|---------------|--------------------|
|           |                     | 1             | Millions of Yer    |
|           | Acquisition Cost    | Book Value    | Difference         |
| For 2015: |                     |               |                    |
| Stocks    | ¥ 519               | ¥ 480         | ¥(38)              |
| Bonds     | 23,596              | 23,596        | _                  |
| Total     | ¥ 24,116            | ¥24,077       | ¥(38)              |
|           |                     | 1             | Millions of Yer    |
|           | Acquisition Cost    | Book Value    | Difference         |
| For 2016: |                     |               |                    |
| Stocks    | ¥ 343               | ¥ 316         | ¥(26)              |
| Bonds     | 2,197               | 2,197         |                    |
| Total     | ¥ 2,540             | ¥ 2,513       | ¥(26)              |
|           |                     | Thousand      | ds of U.S. Dollars |
|           | Acquisition Cost    | Book Value    | Difference         |
| For 2016: |                     |               |                    |
| Stocks    | \$ 3,044            | \$ 2,804      | \$(230)            |
| Bonds     | 19,497              | 19,497        | _                  |
| Total     | \$ 22,541           | \$ 22,302     | \$(230)            |
| (2) = "A  |                     |               |                    |

(3) For "Available-for-sale securities," impairment losses of  $\pm 2,323$  million and  $\pm 207$  million (\$1,837 thousand) were recorded for the years ended March 31, 2015 and 2016, respectively.

### 8. Short-Term Loans and Long-Term Debt

Short-term loans consisted of short-term notes payable bearing interest at an annual average rate of 0.4% and 0.7% at March 31, 2015 and 2016, respectively. Long-term debt at March 31, 2015 and 2016 consisted of the following:

| Long-term de    | debt at March 31, 2015 and 2016 consisted of the following: Millions of Yen |          | U.S. Dollars |             |
|-----------------|---|----------|--------------|-------------|
|                 |   | 2015     | 2016         | 2016        |
|                 | Loans principally from banks and insurance companies                        |          |              |             |
|                 | due within one year (Average rate 1.4%)                                     | ¥ 23,506 | ¥ 18,263     | \$ 162,078  |
|                 | Maturing through 2045 (Average rate 1.3%)                                   | 309,848  | 300,588      | 2,667,625   |
|                 | Total   | ¥333,354 | ¥318,852     | \$2,829,712 |
| Osaka Gas       | Unsecured bonds   |          |              |             |
| Osaka Gas       | 3.4% bonds payable due 2017   | 15,700   | 15,700       | 139,332     |
| Osaka Gas       | 1.47% bonds payable due 2022  | 19,989   | 19,990       | 177,405     |
| Osaka Gas       | 1.83% bonds payable due 2020  | 19,995   | 19,996       | 177,458     |
| Osaka Gas       | 1.79% bonds payable due 2020  | 19,991   | 19,992       | 177,422     |
| Osaka Gas       | 2.33% bonds payable due 2026  | 9,995    | 9,995        | 88,702      |
| Osaka Gas       | 1.79% bonds payable due 2016  | 19,997   | 19,998       | 177,476     |
| Osaka Gas       | 2.14% bonds payable due 2019  | 19,997   | —            | —           |
| Osaka Gas       | 1.21% bonds payable due 2015  | 30,000   | —            | —           |
| Osaka Gas       | 1.782% bonds payable due 2018   | 30,000   | 30,000       | 266,240     |
| Osaka Gas       | 1.345% bonds payable due 2021   | 10,000   | 10,000       | 88,746      |
| Osaka Gas       | 1.16% bonds payable due 2021  | 10,000   | 10,000       | 88,746      |
| Osaka Gas       | 0.759% bonds payable due 2022   | 10,000   | 10,000       | 88,746      |
| Osaka Gas       | 0.748% bonds payable due 2023   | 10,000   | 10,000       | 88,746      |
| Osaka Gas       | 1.606% bonds payable due 2034   | 15,000   | 15,000       | 133,120     |
| Osaka Gas       | 1.402% bonds payable due 2034   | 20,000   | 20,000       | 177,493     |
| Osaka Gas       | 1.685% bonds payable due 2045   | 10,000   | 10,000       | 88,746      |
| OGPA Funding,LL | C 7.73% bonds payable due 2015in U.S. dollars                               | 1,675    |              | _           |
|                 | Total   | ¥272,342 | ¥220,674     | \$1,958,413 |

The Company entered into debt assumption agreements with banks for 2.9% unsecured bonds due in 2018 in the amount of ¥29,000 million in the fiscal year ended March 31, 2007 and for 2.14% unsecured bonds due in 2019 in the amount of ¥20,000 million in the fiscal year ended March 31, 2016. The Company states obligations to be performed by the banks in the note as contingent liabilities.

The annual maturities of corporate bonds at March 31, 2016 were as follows:

| Years ending March 31,       | Millions of Yen | Thousands of<br>U.S. Dollars |
|------------------------------|-----------------|------------------------------|
| 2017                         | ¥ 35,700        | \$ 316,826                   |
| 2018                         | -               | -                            |
| 2019                         | 30,000          | 266,240                      |
| 2020                         | 20,000          | 177,493                      |
| 2021                         | 30,000          | 266,240                      |
| April 1, 2021 and thereafter | 105,000         | 931,842                      |
| Total                        | ¥220,700        | \$1,958,643                  |

The annual maturities of long-term debt at March 31, 2016 were as follows:

| Years ending March 31,       | Millions of Yen | Thousands of<br>U.S. Dollars |
|------------------------------|-----------------|------------------------------|
| 2017                         | ¥ 18,263        | \$ 162,078                   |
| 2018                         | 48,855          | 433,572                      |
| 2019                         | 36,520          | 324,103                      |
| 2020                         | 15,975          | 141,773                      |
| 2021                         | 13,560          | 120,340                      |
| April 1, 2021 and thereafter | 185,676         | 1,647,816                    |
| Total                        | ¥318,852        | \$2,829,712                  |

Thousands of

Assets pledged as collateral mainly for short-term loans and long-term debt totaling ¥43,868 million and ¥40,055 million (\$355,475 thousand) at March 31, 2015 and 2016, respectively, were as follows:

|                               |       |      | Millions of Yen | Thousands of<br>U.S. Dollars |
|-------------------------------|-------|------|-----------------|------------------------------|
|                               | 2     | 015  | 2016            | 2016                         |
| Property, plant and equipment | ¥ 127 | ,946 | ¥143,458        | \$1,273,145                  |
| Investment securities         | 14    | ,660 | 2,881           | 25,567                       |
| Cash and deposits             | 7     | ,279 | 2,194           | 19,471                       |
| Accounts receivable           | 1     | ,596 | 1,493           | 13,249                       |
| Inventories and other         | 8     | ,102 | 13,974          | 124,014                      |
| Total                         | ¥ 159 | ,585 | ¥164,001        | \$1,455,457                  |

In addition to the above, the amount of shares of consolidated subsidiaries and others of  $\pm$ 3,069 million (27,236 thousand) which were offset as a result of consolidation have been pledged as collateral.

### 9. Net Assets

Under Japanese Corporate Law ("the Law"), the entire amount paid for new shares is required to be designated as capital stock. However, a company may, by a resolution of the Board of Directors, designate an amount not exceeding one half of the price of the new shares as additional paid-in capital, which is included in capital surplus.

Under the Law, in cases in which a dividend distribution of surplus is made, the smaller of an amount equal to 10% of the dividend or the excess, if any, of 25% of capital stock over the total of additional paid-in capital and legal earnings reserve must be set aside as additional paid-in capital or legal earnings reserve. Legal earnings reserve is included in retained earnings in the accompanying consolidated balance sheets.

Additional paid-in capital and legal earnings reserve may not be distributed as dividends. Under the Law, however, all additional paid-in capital and all legal earnings reserve may be transferred to other capital surplus and retained earnings,

### 10. Treasury Shares

Changes in treasury shares were as follows:

|   | (Thousands of Shares) |          |                      |  |  |  |
|---|-----------------------|----------|----------------------|--|--|--|
| As of April 1, 2015   | Increase              | Decrease | As of March 31, 2016 |  |  |  |
| 2,532   | 778                   | 54 3,256 |                      |  |  |  |
| (Overview of reasons for change)<br>Overview of reasons for increase<br>Increase by repurchase of fractional shares 778 thousand shares |                       |          |                      |  |  |  |
| Overview of reasons for decrease<br>Decrease by disposal of fractional shares 54 thousand sh  |                       |          |                      |  |  |  |

### 12. Land Revaluation

Pursuant to the Law Concerning Land Revaluation and the Amended Land Revaluation Law, a consolidated subsidiary revalued its land used for business activities on March 31, 2002. The difference between the revalued amount and the book value before the revaluation was recorded in the consolidated balance sheets as "Deferred tax liabilities for land revaluation" in liabilities and "Revaluation reserve for land" in net assets. The

### 13. Impairment Loss

### (1) Grouping

①All fixed assets used in processes related to the gas business from production to sales of gas are categorized into one asset group because these assets generate cash flow from the gas business as one asset unit.

②Fixed assets used for businesses other than those described above are generally categorized into groups based on business divisions controlling such fixed assets.

③Generally, other fixed assets are treated individually.

| 101 2013 Wittion    |                                  |                               |                 |  |
|---------------------|----------------------------------|-------------------------------|-----------------|--|
| Asset               | Location                         | Туре                          | Impairment Loss |  |
| Company owned house | Kyotanabe-city, Kyoto Prefecture | Land, etc. (other facilities) | ¥1,577          |  |

The recoverable value of this asset was assessed based on net sale value. The market price was based on appraisal by a real estate appraiser.

respectively, which are potentially available for dividends.

The maximum amount that the Company can distribute as dividends is calculated based on the non-consolidated financial statements of the Company in accordance with Japanese laws and regulations.

The appropriation of retained earnings of the Company proposed by the Board of Directors and approved at the General Meeting of Shareholders held on June 29, 2016 included cash dividends applicable to the year ended March 31, 2016 and the payment of cash dividends to shareholders of record at March 31, 2016 in the aggregate amount of ¥10,400 million (\$92,296 thousand) or ¥5.0 (\$0.044) per share (ordinary dividend ¥4.5 (\$0.039) and commemorative dividend ¥0.5 (\$0.004)). The appropriations have not been accrued in the consolidated financial statements for the year ended March 31, 2016. Such appropriations are recognized in the period in which they are approved by the shareholders.

### 11. Contingent Liabilities

At March 31, 2015 and 2016, the Companies were contingently liable as follows:

| _                           |           | Millions of Yen | Thousands of<br>U.S. Dollars |
|-----------------------------|-----------|-----------------|------------------------------|
|                             | 2015      | 2016            | 2016                         |
| As guarantor of indebtednes | ss of:    |                 |                              |
| Non-consolidated affiliates | ¥26,178   | ¥ 24,498        | \$217,412                    |
| Employees                   | 4         | 2               | 17                           |
| Debt assumption agreement   | ts 29,000 | 49,000          | 434,859                      |
| Total                       | ¥55,183   | ¥ 73,501        | \$652,298                    |

land prices used for the revaluation were based on prices in the official notice published by the Commissioner of the National Tax Agency in accordance with Article 2, Paragraph 4 of the Enforcement Ordinance Concerning Land Revaluation, after making reasonable adjustments. The fair value of the land was ¥1,142 million and ¥646 million (\$5,733 thousand) lower than the revalued book amount at March 31, 2015 and 2016, respectively.

### (2) Details of impairment loss

In accordance with the grouping described in (1) above, an impairment loss of ¥2,697 million and ¥14,588 million (\$129,463 thousand) was recognized in the years ended March 31, 2015 and March 31, 2016, respectively. Significant properties included in this loss are listed in the table below.

Millions of Von

This asset was appropriated for extraordinary loss and recorded as impairment loss due to estimates as idle assets and recognized declining market values at the end of the fiscal year ended March 31, 2015.

| For 2016     |   |  | Millions of Yen | Thousands of<br>U.S. Dollars |
|--------------|---|--|-----------------|------------------------------|
| Asset        | Location                                | Туре   | Impairm         | ient Loss                    |
|              |   | Property, plant and equipment (construction in progress) | ¥ 3,914         | \$ 34,735                    |
| Property for | Western Province of<br>Papua New Guinea | Intangible assets  | ¥ 3,355         | \$ 29,774                    |
| business use | Papua New Guinea                        | Total  | ¥ 7,269         | \$ 64,510                    |
| Western Au   | Western Australia                       | Intangible assets  | ¥ 5,538         | \$ 49,148                    |

The properties for enterprises in the Western Province of Papua New Guinea were acquired for the purpose of participating in a condensate and gas development business. The Company reassessed the business value, taking into account the effect of dropping crude oil prices and other matters, and accordingly the carrying amount of the assets was reduced to their recoverable amount, and the reduction was recorded as an impairment loss in the extraordinary losses.

The recoverable amount of these assets was measured at net sale value, and the net sale value was assessed by a reasonable estimation with consideration of transaction cases and other matters.

The properties for enterprises in Western Australia were acquired for a project in which natural gas produced in the area were to be purified and liquefied and then sold. The Company reassessed the business value, taking into account the effect of dropping crude oil prices and other matters. Accordingly, the carrying amount of the assets was reduced to their recoverable amount, and the reduction was recorded as an impairment loss in the extraordinary losses.

The recoverable amount of these assets is measured at value in use determined by discounting the future cash flows at 9.9%.

### 14. Research and Development Expenses

The Companies charge research and development expenses to selling, general and administrative expenses and manufacturing costs as incurred. Research and development expenses amounted to ¥11,434 million and ¥ 11,340 million (\$100,638 thousand) for the years ended March 31, 2015 and 2016, respectively.

### 15. Leases

### As lessee

### (1) Finance Lease Transactions

Finance leases which commenced before March 31, 2008 and did not transfer ownership of the leased assets to the lessee are not reported herein because their effect was insignificant. Thousands of

Millions of Yen

U.S. Dollars

Millions of Yen

### (2) Operating Lease Transactions

|  |                                 |         | Millions of Ten | 0.5. Dollars                 |
|--|---------------------------------|---------|-----------------|------------------------------|
| Obligations under non-cancelable operating leases at |                                 | 2015    | 2016            | 2016                         |
| March 31, 2015 and 2016 were as follows:             | Payments due within one year    | ¥ 1,023 | ¥ 1,105         | \$ 9,806                     |
|  | Payments due over one year      | 5,036   | 4,459           | 39,572                       |
|  | Total                           | ¥ 6,060 | ¥ 5,565         | \$ 49,387                    |
|  |                                 |         |                 |                              |
|  |                                 |         | Millions of Yen | Thousands of<br>U.S. Dollars |
| As lessor  |                                 | 2015    | 2016            | 2016                         |
| Operating Lease Transactions                         | Receivables due within one year | ¥ 1,208 | ¥1,502          | \$ 13,329                    |
| Obligations under non-cancelable operating leases at | Receivables due over one year   | 3,550   | 2,722           | 24,156                       |
| March 31, 2015 and 2016 were as follows:             | Total                           | ¥ 4,758 | ¥4,224          | \$ 37,486                    |
|  |                                 |         |                 |                              |

### 16. Derivative Transactions

Fair value information for derivative transactions to which hedge accounting was not applied in 2015 was as follows:

|          |   |          | Contract Amounts |                    |            | Profit or Loss |
|----------|---|----------|------------------|--------------------|------------|----------------|
| Туре     | Instruments   | Grouping |                  | More than One Year | Fair Value | from Valuation |
| Products | Swap transactions and option transactions of oil prices, etc. |          | ¥ 18,514         | ¥ 6,650            | ¥ 1,530    | ¥ 1,530        |
| Notes:   |   |          |                  |                    |            |                |

Fair values are calculated by using prices presented by major financial institutions.

2. Because some derivative transactions stopped satisfying the requirements for the application of hedge accounting, hedge accounting is no longer applied to these transactions.

|          | e information for the derivativ<br>ng was not applied in 2016 w |  | ich hedge            |                    |                       | Nillions of Yen/<br>of U.S Dollars |
|----------|---|--|----------------------|--------------------|-----------------------|------------------------------------|
|          |   | _  | Contract A           | mounts             |                       | Profit or Loss                     |
| Туре     | Instruments   | Grouping                                   |                      | More than One Year | Fair Value            | from Valuation                     |
| Products | Swap transactions and option transactions of oil prices, etc.   | Dealings other than<br>market transactions | ¥ 6,664<br>\$ 59,140 | ¥ 321<br>\$ 2,848  | ¥ (836)<br>\$ (7,419) | ¥ (836)<br>\$ (7,419)              |

Notes:

Fair values are calculated by using prices presented by major financial institutions.
 Because some derivative transactions stopped satisfying the requirements for the application of hedge accounting, hedge accounting is no longer applied to these transactions.

#### Fair value information for derivative transactions to which hedge accounting was applied in 2015 was as follows: Millions of Yen

|                    |  |  |   |            | 7011               | lions of ten |
|--------------------|--|--|---|------------|--------------------|--------------|
|                    |  |  |   | Contract . | Amounts            |              |
| Туре               | Instruments  | Hedge Accounting Method  | Hedged Items  |            | More than One Year | Fair Value   |
| (a) Interest rates | Interest rate swaps  | Exceptional accounting<br>of interest rate swaps   | Long-term loans payable                                     | ¥ 98,942   | ¥ 94,942           | (Notes 2)    |
|                    |  | Principal method of accounting   | Long-term loans payable and bonds payable                   | ¥110,479   | ¥106,739           | ¥(1,742)     |
| (b) Currencies     | Forward foreign currency<br>exchange contracts and<br>currency option transactions | Exceptional accounting such<br>as forward foreign currency<br>exchange contracts, etc., or<br>principal method of accounting | Anticipated foreign<br>currency denominated<br>transactions | ¥ 92,107   | ¥ 78,383           | ¥ 4,003      |
| (c) Products       | Swap transactions and option transactions of oil prices, etc.                      | Principal method of accounting   | Purchase prices of raw materials, etc.                      | ¥ 13,403   | ¥ 6,022            | ¥ (428)      |
| Total              |  |  |   | ¥314,934   | ¥286,089           | ¥ 1,832      |

Notes:

Fair values are calculated by using prices presented by major financial institutions.
 Fair values for interest rate swaps to which exceptional accounting is applied are included in those of the corresponding long-term loans payable. As such, values are accounted for together with hedged long-term loans payable.

|                    | information for derivation<br>nedge accounting was a                               |  | follows   |         |                      |         |                      | llions of Yen/<br>of U.S Dollars |
|--------------------|--|--|---|---------|----------------------|---------|----------------------|----------------------------------|
|                    | leuge accounting was a   | ipplied in 2010 was as   | 10110115.   |         | Contract /           | Amou    | ints                 |                                  |
| Туре               | Instruments  | Hedge Accounting Method  | Hedged Items  |         |                      | More    | than One Year        | Fair Value                       |
| (a) Interest rates | Interest rate swaps  | Exceptional accounting of interest rate swaps  | Long-term loans payable                                     | ¥<br>\$ | 91,208<br>809,442    | ¥<br>\$ | 82,208<br>729,570    | (Notes 2)                        |
|                    |  | Principal method of accounting   | Long-term loans payable<br>and bonds payable                | ¥<br>\$ | 111,845<br>992,589   | ¥<br>\$ | 88,734<br>787,486    | ¥ (3,373)<br>\$ (29,934)         |
| (b) Currencies     | Forward foreign currency<br>exchange contracts and<br>currency option transactions | Exceptional accounting such<br>as forward foreign currency<br>exchange contracts, etc., or<br>principal method of accounting | Anticipated foreign<br>currency denominated<br>transactions | ¥<br>\$ | 50,980<br>452,431    | ¥<br>\$ | 34,725<br>308,173    | ¥ 935<br>\$ 8,297                |
| (c) Products       | Swap transactions and option transactions of oil prices, etc.                      | Principal method of accounting   | Purchase prices of raw materials, etc.                      | ¥<br>\$ | 18,004<br>159,779    | ¥<br>\$ | 6,763<br>60,019      | ¥ (3,391)<br>\$ (30,094)         |
| Total              |  |  |   |         | 272,039<br>2,414,261 |         | 212,431<br>I,885,259 | ¥ (5,828)<br>\$ (51,721)         |

Notes: Fair values are calculated by using prices presented by major financial institutions.

A rain values for interest rate swaps to which exceptional accounting is applied are included in those of the corresponding long-term loans payable. As such, values are accounted for together with hedged long-term loans payable.

### 17. Retirement Benefits

For 2015 and 2016:

(1) Summary of the adopted retirement benefit scheme The Company and most consolidated subsidiaries provide a lump sum retirement allowance plan, and the Company and some consolidated subsidiaries have adopted a defined-benefit corporate pension plan system or an employee's pension fund system.

In addition, the Company has adopted a definedbenefit corporate pension plan system from August 1, 2006. Moreover, the defined contribution plan to which a part of the defined benefit plan shifted has been adopted from January 1, 2005.

The portion about multi-employer pension plans has been included below in the Note 17(2) "Defined benefit plans."

### (2) Defined benefit plans

①Retirement benefit obligations

|  |              | Millions of Yen | Thousands of<br>U.S. Dollars |
|--|--------------|-----------------|------------------------------|
|  | 2015         | 2016            | 2016                         |
| Balance at April 1, 2013 and 2014                | ¥276,140     | ¥284,695        | \$2,526,579                  |
| Cumulative effects of changes in accounting poli | cies (5,092) | _               | _                            |
| Restated balance                                 | 271,047      | 284,695         | 2,526,579                    |
| Service cost                                     | 7,818        | 8,134           | 72,186                       |
| Interest cost                                    | 3,629        | 2,980           | 26,446                       |
| Actuarial loss (gain)                            | 16,130       | 29,404          | 260,951                      |
| Benefits paid<br>Increase of consolidated        | (13,919)     | (14,269)        | (126,632)                    |
| subsidiaries                                     | _            | 3,140           | 27,866                       |
| Other  | (11)         | (98)            | (869)                        |
| Balance at March 31, 2015 and 2016               | ¥284,695     | ¥313,986        | \$2,786,528                  |

<sup>(2)</sup>Plan assets

| (2)Plan assets                        |          | Millions of Yen | Thousands of<br>U.S. Dollars |
|---------------------------------------|----------|-----------------|------------------------------|
|                                       | 2015     | 2016            | 2016                         |
| Balance at April 1, 2013 and 2014     | ≨290,228 | ¥323,547        | \$2,871,379                  |
| Expected return on plan assets        | 8,921    | 6,979           | 61,936                       |
| Actuarial loss (gain)                 | 32,897   | (2,675)         | (23,739)                     |
| Contributions paid by the employer    | 4,296    | 3,229           | 28,656                       |
| Benefits paid                         | (12,801) | (13,395)        | (118,876)                    |
| Increase of consolidated subsidiaries | _        | 3,318           | 29,446                       |
| Other                                 | 4        | (9)             | (79)                         |
| Balance at March 31, 2015 and 2016    | ≨323,547 | ¥320,995        | \$2,848,730                  |

③Reconciliation from retirement benefit obligations and plan assets to net defined benefit liability (asset)

|   |           | Millions of Yen | Thousands of<br>U.S. Dollars |
|---|-----------|-----------------|------------------------------|
|   | 2015      | 2016            | 2016                         |
| Funded retirement benefit obligations ¥                                     | 268,165   | ¥ 296,144       | \$2,628,186                  |
| Plan assets   | (323,547) | (320,995)       | (2,848,730)                  |
| Unfunded retirement benefit   | (55,381)  | (24,851)        | (220,544)                    |
| obligations   | 16,529    | 17,842          | 158,342                      |
| Total net defined benefit liability   |           |                 |                              |
| (asset) at March 31, 2015 and 2016  | (38,851)  | (7,008)         | (62,193)                     |
| Net defined benefit liability   | 16,484    | 18,145          | 161,031                      |
| Net defined benefit asset   | (55,336)  | (25,154)        | (223,233)                    |
| Total net defined benefit liability<br>(asset) at March 31, 2015 and 2016 ¥ | (38,851)  | ¥ (7,008)       | \$ (62,193)                  |

④Retirement benefit costs

| A Kethement benefit costs                        |         | Millions of Yen | Thousands of<br>U.S. Dollars |
|--|---------|-----------------|------------------------------|
|  | 2015    | 2016            | 2016                         |
| Service cost                                     | ¥ 7,818 | ¥ 8,134         | \$ 72,186                    |
| Interest cost                                    | 3,629   | 2,980           | 26,446                       |
| Expected return on plan assets                   | (8,921) | (6,979)         | (61,936)                     |
| Net actuarial loss amortization                  | 447     | 676             | 5,999                        |
| Past service costs amortization                  | (30)    | (30)            | (266)                        |
| Other  | 14      | 75              | 665                          |
| Total retirement benefit costs for               |         |                 |                              |
| the fiscal year ended<br>March 31, 2015 and 2016 | ¥ 2,956 | ¥ 4,855         | \$ 43,086                    |

⑤Adjustments for retirement benefits

|   |     |        | Millior   | ns of Yen |      | usands of<br>S. Dollars |
|---|-----|--------|-----------|-----------|------|-------------------------|
|   |     | 2015   |           | 2016      |      | 2016                    |
| Past service costs                          | ¥   | 30     | ¥         | 30        | \$   | 266                     |
| Actuarial gains (losses)                    | (1  | 7,214) | (31,403)  |           | (2   | 78,691)                 |
| Total balance at<br>March 31, 2015 and 2016 | ¥(1 | 7,183) | ¥(31,434) |           | \$(2 | 78,966)                 |

<sup>©</sup>Accumulated adjustments for retirement benefit

|   |           | Millions of Yen | Thousands of<br>U.S. Dollars |
|---|-----------|-----------------|------------------------------|
|   | 2015      | 2016            | 2016                         |
| Unrecognized past service cost              | ¥ (169)   | ¥ (138)         | \$ (1,224)                   |
| Unrecognized actuarial gains (losses)       | (8,332)   | 23,070          | 204,739                      |
| Total balance at<br>March 31, 2015 and 2016 | ¥ (8,502) | ¥22,931         | \$203,505                    |

⊘Plan assets

Plan assets comprise:

|                   | 2015    | 2016   |
|-------------------|---------|--------|
| Bonds             | 32.4 %  | 26.5 % |
| Stocks            | 35.5 %  | 31.0 % |
| Cash and deposits | 14.3 %  | 24.7 % |
| Other             | 17.8 %  | 17.8 % |
| Total             | 100.0 % | 100.0% |

Note 1: The main assets of "Other" are beneficiary securities in the real estate investment trust fund.

### Long-term expected rate of return

Current and target asset allocations, historical and expected returns on various categories of plan assets have been considered in determining the long-term expected rate of return.

|  | 2015        | 2016        |
|--|-------------|-------------|
| Discount rates                                       | Mainly 1.1% | Mainly 0.4% |
| The rate of long-term expected return on plan assets | Mainly 3.1% | Mainly 2.1% |

### (3) Defined contribution plan

The contribution required to the defined contribution plan of the Companies was  $\pm 1,027$  million and  $\pm 1,167$  million ( $\pm 10,356$  thousand) for the years ended March 31, 2015 and 2016, respectively.

### (4) Multi-employer pension plans

The contribution required to the employees' pension fund plan of the multi-employer pension plans which was treated with the same accounting method as the defined contribution plan was  $\pm 332$  million and  $\pm 187$  million (\$1,659 thousand) for the years ended March 31, 2015 and 2016, respectively.

### 18. Income Taxes

The Company is subject to a number of taxes based on income, which, in the aggregate, indicate a statutory rate in Japan of approximately 30.7% and 28.8% for the years ended March 31, 2015 and 2016, respectively.

The following table summarizes the significant differences between the Company's statutory tax rate and the Companies' effective tax rate for financial statement purposes for the years ended March 31, 2015 and 2016:

|                                      | 2015  | 2016  |
|--------------------------------------|-------|-------|
| Statutory tax rate                   | 30.7% | 28.8% |
| Valuation allowance                  | 6.4   | 3.2   |
| Effect of revised corporate tax rate | 0.5   | 0.3   |
| Other                                | (2.4) | (1.4) |
| Effective tax rate                   | 35.3% | 30.9% |

On March 29, 2016, amendments to the Japanese tax regulations were established on Japanese perliament. Based on the amendments, the statutory income tax rates utilized for the measurement of deferred tax assets and liabilities expected to be settled or realized from April 1, 2016 to March 31, 2018 and on or after April 1, 2018 were changed from 28.8% to 28.2% and 28.0%, respectively, as of March 31, 2016. Due to these changes in statutory income tax rates, net deferred tax assets (after deducting the deferred tax liabilities) decreased by ¥1 million (\$8 thousand) as of March 31, 2016, deferred income tax expense recognized for the fiscal year ended March 31, 2016 increased by ¥340 million (\$3,017 thousand) and accumulated other comprehensive income increased by ¥338 million (\$2,999 thousand).

### 19. Investment and Rental Property

The Company and several of its consolidated subsidiaries own office buildings and other real property for rent (including land) in Osaka Prefecture and other prefectures. In the year ended March 31, 2015, we reported gains of  $\pm$ 6,359 million from the rent of such real property (recorded mainly as operating income). In the year ended March 31, 2016, we reported gains of  $\pm$ 6,422 million ( $\pm$ 56,993 thousand) from the rent of such real property (recorded mainly as operating income) and profit on sales of  $\pm$ 929 million ( $\pm$ 8,244 thousand) (recorded as extraordinary income).

The book value and fair value of real properties for rent in the consolidated balance sheets for the years ended March 31, 2015 and 2016 were as follows:

Significant components of the Companies' deferred tax assets and liabilities as of March 31, 2015 and 2016 were as follows:

|  | Millions of Yen | Thousands of<br>U.S. Dollars |
|--|-----------------|------------------------------|
| 2015   | 2016            | 2016                         |
| Deferred tax assets:   |                 |                              |
| Tax loss carryforwards ¥ 11,422                                  | ¥ 17,840        | \$ 158,324                   |
| Impairment loss 11,814   | 10,762          | 95,509                       |
| Excess depreciation of depreciable assets 5,999                  | 6,006           | 53,301                       |
| Other 27,814   | 34,977          | 310,410                      |
| Subtotal deferred tax assets 57,050                              | 69,586          | 617,554                      |
| Valuation allowance (30,210)                                     | (36,243)        | (321,645)                    |
| Total deferred tax assets ¥ 26,840                               | ¥ 33,343        | \$ 295,908                   |
|  |                 |                              |
| Deferred tax liabilities:  |                 |                              |
| Valuation difference on ¥ (20,256) available-for-sale securities | ¥(16,444)       | \$(145,935)                  |
| Net defined benefit asset (15,947)                               | (7,057)         | (62,628)                     |
| Reserve defined under the special taxation measures law (7,740)  | (8,259)         | (73,296)                     |
| Other (2,385)  | (1,139)         | (10,108)                     |
| Total deferred tax liabilities (46,329)                          | (32,900)        | (291,977)                    |
| Net deferred tax assets (liabilities) ¥ (19,489)                 | ¥ 442           | \$ (3,922)                   |

Net deferred tax assets (liabilities) were included in the consolidated balance sheets as follows:

|   |            | Millions of Yer | Thousands of<br>U.S. Dollars |
|---|------------|-----------------|------------------------------|
|   | 2015       | 2016            | 2016                         |
| Current assets(included in "Other")                 | ¥ 10,870   | ¥ 12,389        | \$ 109,948                   |
| Investments and other asse<br>(included in "Other") | ets 6,635  | 9,919           | 88,028                       |
| Current liabilities(included in "Othe               | r") (13)   | (2)             | (17)                         |
| Non-current liabilities                             | (36,981)   | (21,864)        | (194,036)                    |
| Total   | ¥ (19,489) | ¥ 442           | \$ (3,922)                   |

|   |           | Millions of Yen | Thousands of<br>U.S. Dollars |
|---|-----------|-----------------|------------------------------|
|   | 2015      | 2016            | 2016                         |
| Book Value                                  |           |                 |                              |
| As of April 1, 2014 and 2015                | ¥ 106,027 | ¥ 105,714       | \$ 938,178                   |
| Increase (decrease)                         | (313)     | 3,727           | (33,075)                     |
| As of March 31, 2015 and 201                | 6 105,714 | 109,441         | 971,254                      |
| Fair value as of<br>March 31, 2015 and 2016 | ¥ 163,377 | ¥ 168,107       | \$1,491,897                  |

Notes:

 The book value stated in the consolidated balance sheets was the acquisition costs reduced by accumulated depreciation and accumulated impairment loss.

 The main factor contributing to the increase and decrease in the year ended March 31, 2015 was the acquisition of real property of ¥6,362 million, and the main factors in the year ended March 31, 2016 were the acquisition of real property of ¥7,968 million (\$70,713 thousand) and the sales of ¥2,219 million (\$19,692 thousand).

 The fair values as of end of the fiscal year were based mainly on the Real Estate Appraisal Standards in Japan or similar evaluation methods (including values adjusted using indicators).

### 20. Segment Information

### (1) Overview of Reportable Segments

The Company group' s two business areas, "Domestic and International Energy Service Businesses" and "Life and Business Solutions," are divided by product and service and organized into the four reporting segments of "Gas Businesses," "LPG, Electricity and Other Energies Businesses," "International Energies Businesses" and "Life and Business Solutions," considering the similarities between products and services and other relevant factors.

The "Gas Businesses" segment includes marketing of gas

and gas equipment, gas piping work and heat supply. The "LPG, Electricity and Other Energies Businesses" segment includes LPG marketing, LNG marketing, industrial gas marketing and electric power supply. The "International Energies Businesses" segment includes overseas energy supply, LNG vessel chartering businesses and oil and natural gas business development and investment. The "Life and Business Solutions" segment includes the real estate development and leasing, IT services, marketing of fine materials and carbon material products.

Millions of Yen

### (2) Methods used to calculate sales, income (loss), assets, liabilities and other items by reportable segment

The methods used to account for sales, income (loss), assets, liabilities and other items by reportable segment are consistent with the accounting principles described in Note 2, "Significant Accounting Policies." The pricing of intergroup transactions is based on values arising under arms-length market transactions.

|   |            |  |                                       |                             |            |                         | Millions of Yen          |
|---|------------|--|---------------------------------------|-----------------------------|------------|-------------------------|--------------------------|
| For 2015:   | Gas        | LPG, Electricity and<br>Other Energies | International<br>Energies             | Life & Business<br>Solution | Total      | Adjustments<br>(Note 1) | Consolidated<br>(Note 2) |
| Net sales   |            |  |                                       |                             |            |                         |                          |
| Outside customers                                     | ¥1,114,034 | ¥ 240,980                              | ¥ 12,565                              | ¥160,583                    | ¥1,528,164 | ¥ —                     | ¥1,528,164               |
| Inside group  | 22,941     | 2,765                                  | 1,148                                 | 46,937                      | 73,793     | (73,793)                | _                        |
| Total   | 1,136,975  | 243,746                                | 13,714                                | 207,521                     | 1,601,957  | (73,793)                | 1,528,164                |
| Segment income  |            |  |                                       |                             |            |                         |                          |
| Operating income (loss)                               | ¥ 50,542   | ¥ 42,267                               | ¥ (6,250)                             | ¥ 16,284                    | ¥ 102,843  | ¥ 2,221                 | ¥ 105,065                |
| Equity in earnings (loss) of affiliates               | (248)      | (570)                                  | 7,511                                 | 297                         | 6,990      | _                       | 6,990                    |
| Total   | 50,293     | 41,697                                 | 1,261                                 | 16,581                      | 109,834    | 2,221                   | 112,055                  |
| Segment assets  | ¥ 818,202  | ¥ 177,652                              | ¥368,002                              | ¥394,950                    | ¥1,758,807 | ¥103,393                | ¥1,862,201               |
| Depreciation  | 57,143     | 11,508                                 | 6,247                                 | 11,098                      | 85,999     | (788)                   | 85,210                   |
| Amortization of goodwill                              | —          | 235                                    | 333                                   | 2,005                       | 2,575      | —                       | 2,575                    |
| Investment in affiliates<br>reported by equity method | _          | 5,845                                  | 76,380                                | 8,509                       | 90,735     | —                       | 90,735                   |
| Increase in tangible and intangible fixed assets      | 49,222     | 15,326                                 | 38,525                                | 17,205                      | 120,279    | (881)                   | 119,398                  |
|   |            |  |                                       |                             |            |                         | Millions of Yen          |
| -   |            | LPG, Electricity and                   | International                         | Life & Business             | 5          | Adjustments             | Consolidated             |
| For 2016:   | Gas        | Other Energies                         | Energies                              | Solution                    | Total      | (Note 1)                | (Note 2)                 |
| Net sales   |            |  |                                       |                             |            |                         |                          |
| Outside customers                                     | ¥ 931,437  | ¥204,428                               | ¥ 16,796                              | ¥ 169,349                   | ¥1,322,012 | ¥ —                     | ¥1,322,012               |
| Inside group  | 17,064     | 2,004                                  | 1,905                                 | 52,352                      | 73,326     | (73,326)                | _                        |
| Total   | 948,501    | 206,433                                | 18,701                                | 221,702                     | 1,395,339  | (73,326)                | 1,322,012                |
| Segment income  |            |  | · · · · · · · · · · · · · · · · · · · |                             |            |                         |                          |
| Operating income (loss)                               | ¥ 95,679   | ¥ 29,757                               | ¥ 4,316                               | ¥ 17,918                    | ¥ 147,672  | ¥ (997)                 | ¥ 146,674                |
| Equity in earnings (loss) of affiliates               | 44         | (904)                                  | (4,594)                               | 916                         | (4,538)    | _                       | (4,538)                  |
| Total   | 95,724     | 28,852                                 | (277)                                 | 18,834                      | 143,133    | (997)                   | 142,136                  |
| Segment assets  | ¥ 772,825  | ¥172,223                               | ¥401,590                              | ¥ 411,459                   | ¥1,758,098 | ¥ 71,657                | ¥1,829,756               |
| Depreciation  | 56,396     | 10,042                                 | 6,662                                 | 11,886                      | 84,986     | (865)                   | 84,121                   |
| Amortization of goodwill                              | —          | 197                                    | 510                                   | 1,917                       | 2,625      | —                       | 2,625                    |
| Investment in affiliates reported by equity method    | _          | 4,698                                  | 98,314                                | 6,983                       | 109,997    | -                       | 109,997                  |
| Increase in tangible and intangible fixed assets      | 60,194     | 15,369                                 | 20,714                                | 19,934                      | 116,213    | (1,794)                 | 114,418                  |

### (3) Sales, income (loss), assets, liabilities and other items by reportable segment

|   |              |  |                           |                            |              |                         | Thousands of<br>U.S. Dollars |
|---|--------------|--|---------------------------|----------------------------|--------------|-------------------------|------------------------------|
| For 2016:   | Gas          | LPG, Electricity and<br>Other Energies | International<br>Energies | Life & Busines<br>Solution | s<br>Total   | Adjustments<br>(Note 1) | Consolidated<br>(Note 2)     |
| Net sales   |              |  | ·                         |                            |              |                         |                              |
| Outside customers                                     | \$ 8,266,214 | \$1,814,235                            | \$ 149,059                | \$1,502,919                | \$11,732,445 | \$ —                    | \$11,732,445                 |
| Inside group  | 151,437      | 17,784                                 | 16,906                    | 464,607                    | 650,745      | (650,745)               | _                            |
| Total   | 8,417,651    | 1,832,028                              | 165,965                   | 1,967,536                  | 12,383,200   | (650,745)               | 11,732,445                   |
| Segment income  |              |  |                           |                            |              |                         |                              |
| Operating income (loss)                               | \$ 849,121   | \$ 264,084                             | \$ 38,303                 | \$ 159,016                 | \$ 1,310,543 | \$ (8,848)              | \$ 1,301,686                 |
| Equity in earnings (loss) of affiliates               | 390          | (8,022)                                | (40,770)                  | 8,129                      | (40,273)     | _                       | (40,273)                     |
| Total   | 849,520      | 256,052                                | (2,458)                   | 167,145                    | 1,270,260    | (8,848)                 | 1,261,412                    |
| Segment assets  | \$ 6,858,581 | \$1,528,425                            | \$3,563,986               | \$3,651,570                | \$15,602,573 | \$ 635,933              | \$16,238,516                 |
| Depreciation  | 500,496      | 89,119                                 | 59,123                    | 105,484                    | 754,224      | (7,676)                 | 746,547                      |
| Amortization of goodwill                              | _            | 1,748                                  | 4,526                     | 17,012                     | 23,296       | —                       | 23,296                       |
| Investment in affiliates<br>reported by equity method | -            | 41,693                                 | 872,506                   | 61,971                     | 976,189      | _                       | 976,189                      |
| Increase in tangible and<br>intangible fixed assets   | 534,203      | 136,395                                | 183,830                   | 176,908                    | 1,031,354    | (15,921)                | 1,015,424                    |

Note 1. Adjustments are as follows:

(1)Å major adjustment in segment income is the elimination of intersegment transactions.

(2)A major adjustment in segment assets is for investment securities possessed by the Company.2.Segment income (loss) is adjusted by adding or subtracting equity in earnings (loss) of affiliates to or from operating income (loss).

### (4) Information about impairment loss for non-current assets by reportable segment

|                 |    |       |  |                           |                             |           |                             | Millions of Yen              |
|-----------------|----|-------|--|---------------------------|-----------------------------|-----------|-----------------------------|------------------------------|
| For 2015:       |    | Gas   | LPG, Electricity and<br>Other Energies | International<br>Energies | Life & Business<br>Solution | Subtotal  | Elimination<br>or corporate | Total                        |
| Impairment loss | ¥  | 2,278 | ¥ 203                                  | ¥ —                       | ¥ 216                       | ¥ 2,697   | ¥ —                         | ¥ 2,697                      |
|                 |    |       |  |                           |                             |           |                             | Millions of Yen              |
| For 2016:       |    | Gas   | LPG, Electricity and<br>Other Energies | International<br>Energies | Life & Business<br>Solution | Subtotal  | Elimination<br>or corporate | Total                        |
| Impairment loss | ¥  | _     | ¥ 81                                   | ¥ 12,807                  | ¥ 1,698                     | ¥ 14,588  | ¥ —                         | ¥ 14,588                     |
|                 |    |       |  |                           |                             |           |                             | Thousands of<br>U.S. Dollars |
| For 2016:       |    | Gas   | LPG, Electricity and<br>Other Energies | International<br>Energies | Life & Business<br>Solution | Subtotal  | Elimination<br>or corporate | Total                        |
| Impairment loss | \$ | _     | \$ 718                                 | \$ 113,658                | \$15,069                    | \$129,463 | \$ —                        | \$129,463                    |

### (5) Information about amount depreciated and the undepreciated balance of goodwill by reportable segment

|  |      |  |                           |                             |           |                             | Millions of Yen              |
|--|------|--|---------------------------|-----------------------------|-----------|-----------------------------|------------------------------|
| -<br>For 2015:                           | Gas  | LPG, Electricity and<br>Other Energies | International<br>Energies | Life & Business<br>Solution | Subtotal  | Elimination<br>or corporate | Total                        |
| Amount depreciated in 2015               | ¥ —  | ¥ 235                                  | ¥ 333                     | ¥ 2,005                     | ¥ 2,575   | ¥ —                         | ¥ 2,575                      |
| Undepreciated balance at fiscal year end | —    | 1,116                                  | 2,038                     | 18,029                      | 21,183    | —                           | 21,183                       |
|  |      |  |                           |                             |           |                             | Millions of Yen              |
| For 2016:                                | Gas  | LPG, Electricity and<br>Other Energies | International<br>Energies | Life & Business<br>Solution | Subtotal  | Elimination<br>or corporate | Total                        |
| Amount depreciated in 2016               | ¥ —  | ¥ 197                                  | ¥ 510                     | ¥ 1,917                     | ¥ 2,625   | ¥ —                         | ¥ 2,625                      |
| Undepreciated balance at fiscal year end | —    | 919                                    | 1,530                     | 15,172                      | 17,622    | —                           | 17,622                       |
|  |      |  |                           |                             |           |                             | Thousands of<br>U.S. Dollars |
| -<br>For 2016:                           | Gas  | LPG, Electricity and<br>Other Energies | International<br>Energies | Life & Business<br>Solution | Subtotal  | Elimination<br>or corporate | Total                        |
| Amount depreciated in 2016               | \$ — | \$1,748                                | \$ 4,526                  | \$ 17,012                   | \$ 23,296 | \$ —                        | \$ 23,296                    |
| Undepreciated balance at fiscal year end | _    | 8,155                                  | 13,578                    | 134,646                     | 156,389   |                             | 156,389                      |

### 21. Consolidated Statements of Comprehensive Income

### For 2015 and 2016:

Amounts reclassified to net income (loss) in the current period that were recognized in other comprehensive income in the current or previous periods and the tax effects for each component of other comprehensive income were as follows:

|   |          | Millions of Yen | Thousands of<br>U. S. Dollars |
|---|----------|-----------------|-------------------------------|
| -   | 2015     | 2016            | 2016                          |
| Valuation difference on<br>available-for-sale securities<br>Incurred in the fiscal year ¥ | 22,105   | ¥ (10,548)      | \$(93,610)                    |
| Reclassification adjustments  | (745)    | (0)             | (0)                           |
| Before tax effect adjustments   | 21,359   | (10,548)        | (93,610)                      |
| Tax effect  | (5,314)  | 3,812           | 33,830                        |
| Valuation difference on available-for-sale securities                                     | 16,045   | (6,736)         | (59,779)                      |
| Deferred gains and losses on hedges   |          |                 |                               |
| Incurred in the fiscal year   | (4,451)  | (6,528)         | (57,933)                      |
| Reclassification adjustments  | 467      | 1,020           | 9,052                         |
| Before tax effect adjustments   | (3,984)  | (5,508)         | (48,881)                      |
| Tax effect  | 751      | 1,581           | 14,030                        |
| Deferred gains and losses on hedges   | (3,232)  | (3,926)         | (34,842)                      |
| Foreign currency translation adjustments  |          |                 |                               |
| Incurred in the fiscal year   | 10,241   | (4,078)         | (36,190)                      |
| Reclassification adjustments  | —        | _               |                               |
| Before tax effect adjustments   | 10,241   | (4,078)         | (36,190)                      |
| Tax effect  | —        | _               |                               |
| Foreign currency translation  |          | (               | (                             |
| adjustments   | 10,241   | (4,078)         | (36,190)                      |
| Adjustments for retirement benefit  |          | ()              | ()                            |
| Incurred in the fiscal year   | 16,771   | (32,075)        | (284,655)                     |
| Reclassification adjustments  | 412      | 641             | 5,688                         |
| Before tax effect adjustments   | 17,183   | (31,434)        | (278,966)                     |
| Tax effect  | (5,165)  | 8,905           | 79,029                        |
| Adjustments for retirement benefits   | 12,018   | (22,528)        | (199,929)                     |
| Share of other comprehensive income of affiliate accounted for using equity method        |          |                 |                               |
| Incurred in the fiscal year   | (10,431) | (11,418)        | (101,331)                     |
| Reclassification adjustments  | 2,823    | 1,995           | 17,705                        |
| Share of other comprehensive<br>income of affiliate accounted for<br>using equity method  | (7.00)   | (0.422)         | (92.617)                      |
|   | (7,608)  | (9,422)         | (83,617)                      |
| Iotal other comprehensive income ¥  | 27,464   | ¥(46,692)       | \$(414,376)                   |

## Independent Auditor's Report

To the Board of Directors of Osaka Gas Co., Ltd.:

We have audited the accompanying consolidated financial statements of Osaka Gas Co., Ltd. and its consolidated subsidiaries, which comprise the consolidated balance sheets as of March 31, 2016 and 2015, and the consolidated statements of income, statements of comprehensive income, statements of changes in net assets and statements of cash flows for the years then ended, and a summary of significant accounting policies and other explanatory information.

### Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in Japan, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

### Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in Japan. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgement, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements and the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, while the objective of the financial statement audit is not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of Osaka Gas Co., Ltd. and its consolidated subsidiaries as of March 31, 2016 and 2015, and their financial performance and cash flows for the years then ended in accordance with accounting principles generally accepted in Japan.

### **Convenience Translation**

The U.S. dollar amounts in the accompanying consolidated financial statements with respect to the year ended March 31, 2016 are presented solely for convenience. Our audit also included the translation of yen amounts into U.S. dollar amounts and, in our opinion, such translation has been made on the basis described in Note 1 to the consolidated financial statements.

KPMG AZSA LLC

July 20, 2016 Osaka, Japan

# Major Consolidated Subsidiaries As of March 31, 2016

| Segment                                     | Name of subsidiary                               | Main business Capital<br>(million yen)  | Osaka Ga<br>shareholding (9 |
|---|--|---|-----------------------------|
| Gas   | Nabari Kintetsu Gas Co., Ltd.                    | Production, supply, and sales of gas 100  | 85.0                        |
|   | Osaka Gas Housing & Equipment Co., Ltd.          | Sales of gas appliances /<br>Sales of housing equipment and appliances450   | 100.0                       |
|   | Osaka Gas Customer Relations Co., Ltd.           | Maintenance checks on gas equipment and appliances /<br>Checking gas meters / Collection of gas bills, and others | 100.0                       |
|   | Osaka Gas Security Service Co., Ltd.             | Provision of security and disaster protection services / 100<br>Sales of home security systems                    | 100.0                       |
|   | Kansai Business Information Inc.                 | Contracting and staffing of call center operations /<br>Various research services and consulting                  | 100.0                       |
|   | Kinpai Co., Ltd.                                 | Gas piping works / Sales of gas appliances,<br>and housing equipment and appliances 300                           | 100.0                       |
|   | OGCTS Co., Ltd                                   | Sales and construction of energy equipment,<br>heating system supplies, etc. 1,150                                | 100.0                       |
| LPG, Electricity<br>and Other Energy        | Osaka Gas LPG Co., Ltd.                          | Sales of LPG and other products100  | 100.0                       |
| and Other Energy                            | Nissho Petroleum Gas Corporation                 | Sales of LPG and other products 1,726   | 52.5                        |
|   | Nissho Propane Sekiyu Co., Ltd.                  | Sales of LPG and other products 60  | 100.0                       |
|   | Gas and Power Co., Ltd.                          | Electric power supply 1,368   | 100.0                       |
|   | Senboku Natural Gas Power Generation Co., Ltd.   | Electric power supply 2,000   | 90.0                        |
|   | Nakayama Nagoya Joint Power Generation Co., Ltd. | Electric power supply 450   | 95.0                        |
| -<br>L                                      | Liquid Gas Co., Ltd.                             | Sales of industrial gas, LNG, LPG, and other products 1,110   | 100.0                       |
| International Energy (                      | Osaka Gas International Transport Inc.           | LNG vessel leasing 3,190  | 100.0                       |
|   | Osaka Gas Australia Pty. Ltd.*                   | Development and investment of petroleum and natural gas US\$1,208 million   | 100.0                       |
|   | Osaka Gas Gorgon Pty. Ltd.*                      | Development and investment of petroleum and natural gas US\$322 million   | 100.0                       |
|   | Osaka Gas Ichthys Pty. Ltd.*                     | Development and investment of petroleum and natural gas US\$152 million   | 100.0                       |
|   | Osaka Gas Ichthys<br>Development Pty. Ltd.*      | Research and investment relating to energy US\$149 million  | 100.0                       |
|   | Osaka Gas UK, Ltd.*                              | Research and investment relating to energy €134 million   | 100.0                       |
|   | Osaka Gas USA Corporation                        | Development and investment of petroleum and natural gas US\$1   | 100.0                       |
| Life & Business<br>Solutions<br>(Non-Energy | Osaka Gas Chemicals Co., Ltd.                    | Manufacture and sales of fine materials,<br>carbon material products, and others 14,231                           | 100.0                       |
| Business)                                   | Osaka Gas Urban Development Co., Ltd.            | Development, leasing, management, and sales of real estate 1,570  | 100.0                       |
|   | Osaka Gas Finance Co., Ltd.                      | Leasing, credit, insurance agency business, and others 600  | 100.0                       |
|   | OG Sports Co., Ltd.                              | Management and contract operation of sports facilities 100  | 100.0                       |
|   | OGIS-RI Co., Ltd.                                | Software development /<br>Computer-based data processing services400  | 100.0                       |
|   | Sakura Information Systems Co., Ltd.             | Software development /<br>Computer-based data processing services600  | 51.0                        |
|   | Jacobi Carbons AB                                | Manufacture and sales of activated carbon 549,000 Swedish Kronor  | 100.0                       |
|   | Total 149 companies                              |   |                             |

\* Specified subsidiary

### Company Data

As of June 29, 2016

### Directory

**Head Office** 4-1-2, Hiranomachi, Chuo-ku, Osaka 541-0046, Japan Tel: (+81) 6-6205-4715 (IR Team, Corporate Strategy Dept.)

### **Tokyo Office**

Shin-Otemachi Building 6F, 2-2-1, Otemachi, Chiyoda-ku, Tokyo 100-0004, Japan Tel: (+81) 3-3211-2551

### Osaka Gas UK, Ltd.

1st Floor, Carrington House, 126-130 Regent Street, London W1B 5SE, U.K. (+44) 20-7851-7483

### **Osaka Gas USA Corporation (Houston)**

2200 Post Oak Blvd., Suite 1500, Houston, TX 77056, U.S.A. (+1) 713-354-9100

### Osaka Gas USA Corporation (NY)

One North Lexington Avenue, Suite 504, White Plains, NY 10601, U.S.A. (+1) 914-253-5500

#### Osaka Gas Australia Pty. Ltd.

Level 16, 108 St George's Terrace, Perth, WA 6000, Australia (+61) 8-6188-0450

### Osaka Gas Singapore Pte. Ltd.

80 Robinson Road #10-01A, Singapore 068898 (+65) 6420-6384

### Osaka Gas (Thailand) Co., Ltd.

18th Floor, Wave Place Building, 55 Wireless Road, Lumpini, Pathumwan, Bangkok 10330, Thailand (+66) 2-255-7550

### Investor Information

### Date of Establishment April 10, 1897

Regular General Meeting Held in June each year

(The 2016 regular general meeting was held on June 29.) Common Stock

Authorized: 3,707,506,909 shares Issued: 2,083,400,000 shares

Listing of Shares Number of Shareholders (As of March 31, 2016) Stock Transaction Units 1,000 shares **Independent Certified Public Accountants** Transfer Agent

Stock Transfer Agency Business

Planning Department

Contact

Note: Total number of shares issued includes 3,256,640 shares of treasury stock. Tokyo Stock Exchange and Nagoya Stock Exchange 120,797 KPMG AZSA LLC Mitsui Sumitomo Trust Bank, Limited

Mitsui Sumitomo Trust Bank, Limited 2-8-4 Izumi, Suginami-ku, Tokyo 168-0063, Japan Tel: (+81) 120-782-031

The Osaka Gas Co., Ltd. website contains information provided for all investors and is constantly updated.

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- For inquiries about this report or requests for other materials, please contact: E-mail: keiri@osakagas.co.jp
- Please note that we do not accept files attached to e-mails, such as image files.

#### Major Shareholders (As of March 31, 2016) Number of shares held Shareholding

| Shareholders                                     | (Thousands) | ratio (%) |
|--|-------------|-----------|
| Nippon Life Insurance Company                    | 96,212      | 4.62      |
| Japan Trustee Services Bank, Ltd. (Trust a/c)    | 92,770      | 4.45      |
| The Master Trust Bank of Japan, Ltd. (Trust a/c) | 89,666      | 4.30      |
| The Bank of Tokyo-Mitsubishi UFJ, Ltd.           | 69,929      | 3.36      |
| Resona Bank, Ltd.                                | 52,777      | 2.53      |
| STATE STREET BANK WEST CLIENT-TREATY 505234      | 33,327      | 1.60      |
| Aioi Nissay Dowa Insurance Co., Ltd.             | 29,865      | 1.43      |
| Japan Trustee Services Bank, Ltd. (Trust a/c 9)  | 29,266      | 1.40      |
| Meiji Yasuda Life Insurance Company              | 29,191      | 1.40      |
| Japan Trustee Services Bank, Ltd. (Trust a/c 7)  | 26,423      | 1.27      |
|  |             |           |

Note: The share ratio is the percentage in respect to the number of shares issued and outstanding (2,083,400,000 shares).

#### Stock Price Range



### Unit Conversion List

| Weight                |                    |                       |                         |
|-----------------------|--------------------|-----------------------|-------------------------|
| kg                    | Metric ton         | Imperial (short) ton  | U.S. (long) ton         |
| 1                     | 1×10-3             | 0.984×10-3            | 1.102×10-3              |
| 1,000                 | 1                  | 0.9842                | 1.1023                  |
| 1,016.0               | 1.0160             | 1                     | 1.1200                  |
| 907.19                | 0.9072             | 0.8927                | 1                       |
| Length                |                    |                       |                         |
| m                     | ft                 | yard                  | mile                    |
| 1                     | 3.2808             | 1.0936                | 0.622 ×10 <sup>-3</sup> |
| 0.3048                | 1                  | 0.333                 | 0.189×10 <sup>-3</sup>  |
| 0.9144                | 3                  | 1                     | 0.568×10 <sup>-3</sup>  |
| 1,609                 | 5,280              | 1,760                 | 1                       |
| Volume (Liq           | uid)               |                       |                         |
| m³ (kl)               | ft <sup>3</sup>    | Imperial gallon       | U.S. gallon             |
| 1                     | 35.315             | 219.97                | 264.17                  |
| 28.32×10-3            | 1                  | 6.288                 | 7.481                   |
| 4.55×10 <sup>-3</sup> | 0.1606             | 1                     | 1.2011                  |
| 3.78×10 <sup>-3</sup> | 0.1337             | 0.8327                | 1                       |
| 1 kl = 6.29 bai       | rels, 1 barrel (42 | U.S. gallons) = 0.159 | kl                      |

| Volume (Ga              | ·               |                        |              |
|-------------------------|-----------------|------------------------|--------------|
| m³ (N)                  | m³ (S)          | SCF                    |              |
| 1                       | 1.055           | 37.33                  |              |
| 0.9476                  | 1               | 35.37                  |              |
| 0.0268                  | 0.0283          | 1                      |              |
| N: 0℃、S: 15℃            | C、SCF: 101.33kF | Pa, 15.5℃ (60°F)       |              |
| Energy                  |                 |                        |              |
| kcal                    | Btu             | MJ                     | kWh          |
| 1                       | 3.969           | 4.186×10-3             | 1.162×10 -3  |
| 0.2520                  | 1               | 1.055×10 <sup>-3</sup> | 0.2929×10 -3 |
| 238.9                   | 948.2           | 1                      | 0.2778       |
| 860.1                   | 3,414           | 3.600                  | 1            |
| Heating Val             | ue (Gas)        |                        |              |
| kcal/m <sup>3</sup> (N) | Btu/SCF         | MJ/m <sup>3</sup> (S)  |              |
| 1                       | 0.1063          | 3.97×10-3              |              |
| 9.406                   | 1               | 3.73×10 <sup>-2</sup>  |              |
| 252.1                   | 26.81           | 1                      |              |



### Osaka Gas Co., Ltd.

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