

# 2013 OSAKA GAS GROUP ANNUAL REPORT

## WHO WE ARE

## The Osaka Gas Group's Growth and Business Expansion Trajectory

For over a century, the Osaka Gas Group has continued to provide the Kansai region with a reliable supply of gas. At the same time, we have built up a variety of business foundations by boldly taking up the challenge of entering peripheral areas. Today, as we work to further develop our energy businesses focusing on natural gas, we see huge potential for further growth.



Environment and Non-Energy Businesses

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The Osaka Gas Group is engaging in the stable development of business across three core fields: material solutions, which encompass the use of coal chemistry technologies; real estate, which draws on the development of its property holdings, and; IT, which entails systems development targeting the gas business. In recent years, the Group has also taken steps to pursue opportunities in the field of renewable energy.

## **Industry Position**

The Osaka Gas Group is ranked second in terms of the volume of gas sold, accounting for 24% of the nation's total.



#### Gas Sales Volume (2013.3)



Osaka Gas and Tokyo Gas: 45.0MJ/m<sup>3</sup> Toho Gas: 46.04655MJ/m<sup>3</sup>

## 2002 Electric Power Business







Wind Power Generation Business





IT Business





Overseas IPP Business

**Overseas Natural Gas Infrastructure Business** 

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## International Energy Businesses along the Energy Value Chain

The Osaka Gas Group's activities in this area began with efforts to procure a stable supply of price-competitive LNG. Taking full advantage of its know-how and network nurtured over many years, the Group is aggressively investing in upstream to downstream businesses along the natural gas value chain.

## **Earnings Structure**

The Osaka Gas Group plans to secure balanced growth across each of its three mainstay businesses. Currently, profits from outside the gas business account for more than half of the Group's total earnings.

Net Sales by Segment (2013.3)

Segment Income\* (2013.3)



Domestic Energy Businesses
Gas
LPG, electricity, and other energy
International Energy
Environment and Non-Energy
\* Segment Income =

Operating income + Equity in earnings of affiliates

## **Management Principle**

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Giving top priority to maximizing value for customers, the Osaka Gas Group pursues its management principle, Value Creation Management, to enhance value for all stakeholders, including shareholders, society, and employees through fair and transparent business activities.



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## **Unit Conversion List**

Weight				
	Metric	Imperial (short)	U.S. (long)	
kg	ton	ton	ton	
1	1×10 <sup>-3</sup>	0.984×10 <sup>-3</sup>	1.102×10 <sup>-3</sup>	
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 (Liqui	d)			
m <sup>3</sup> (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
1kl = 6.29 barrole	1 barrol (42 LLS	applane) = 0.159kl

Note on Heating Value Unless otherwise stated, gas sales volume is shown at the unit value of  $45 MJ/m^3$ .

Forward-Looking Statements Statements contained in this annual report with respect to the Osaka Gas Group's plans, strategies, and beliefs that are not historical facts are forward-looking statements about the future performance of the Osaka Gas Group which are based on management's assumptions and beliefs in light of the information currently available to it. These forward-looking statements involve known and unknown risks, uncertainties, and other factors that may cause the Osaka Gas Group's actual results, performance, or achievements to differ materially from the expectations expressed herein.

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Volume (Gas)			
m³ (N)	m³ (S)	SCF	
1	1.055	37.33	
0.9476	1	35.37	
0.0268	0.0283	1	
N: 0°C, S: 15°C, S	CF: 101.33kPa, 15.5°0	C (60°F)	
Energy			
kcal	Btu	MJ	kWh
1	3.969	4.186×10 <sup>-3</sup>	1.162×10 <sup>-3</sup>
0.2520	1	1.055×10 <sup>-3</sup>	0.2929×10 <sup>-3</sup>
238.9	948.2	1	0.2778
860.1	3,414	3.600	1
Heating Value	(Gas)		
kcal/m <sup>3</sup> (N)	Btu/SCF	MJ/m <sup>3</sup> (S)	
1	0.1063	3.97×10 <sup>-3</sup>	
9.406	1	3.73×10 <sup>-2</sup>	
252.1	26.81	1	
1 ton of LNG = 13	$\times 10^{6}$ kcal = 52 $\times 10^{6}$ Btu		



# Toward Growth Further Growth Development

The Osaka Gas Group is actively investing in areas aimed at expanding new businesses as part of efforts to realize its long-term management vision and mediumterm business plan, "Field of Dreams 2020." In this context, we are committed to ensuring further business growth and development. From the next page of this report, we provide details of our current focuses, which provide the platform and wellspring for our ability to move steadfastly forward.

# A Robust Earnings Platform

The Osaka Gas Group engages in unflagging efforts to meet the diverse needs of its customers. To this end, we continue to develop innovative technologies and services while honing our marketing skills. By adapting to changes in an appropriate and timely manner, we continue to supply gas to over seven million customers. Drawing on these collective efforts, we are putting in place a stable and robust operating platform in the Kansai region by consistently engaging in sound management practices and securing an appropriate level of earnings.

## **Trends in Consolidated Gas Sales Volume** Impacted by the negative ripple effects of the global economic crisis, gas

demand declined substantially during the fiscal years ended March 31, 2009 and March 31, 2010. Thereafter, conditions steadily improved resulting in an extended period of stable ongoing growth. (Million m<sup>9</sup>) 1, 2,580 1, 4,471 199.3 201.3 201.3 201.3 201.3 201.3 201.3 201.3 201.3 201.3 201.4 2

## Developing Business Activities in Japan's Second Largest Economic Zone

The Kansai region, the Osaka Gas Group's core area of operation, is an economic zone that accounts for approximately 16% of Japan's nominal GDP.

Share of Japan's Nominal GDP



\*Source: Prefectural Economic Calculations issued by the Cabinet Office of Japan Share of Nominal GDP in Japan in 2010

The Osaka Gas Group's Share of

24.0%

Gas Sales in Japan

## Initiatives Aimed at Further Growth and Development

## Expansion of Pipeline Network

In its supply of gas, Osaka Gas maintains a pipeline network that today reaches approximately 60,800 km in length.

To the east of its supply area, the Group plans to open the Mie-Shiga gas pipeline in January 2014 to further boost stable supply. To the west, the Himeji-Okayama gas pipeline is scheduled to open in April 2014 with the aim of stimulating demand along areas peripheral to the pipeline.



## **Expanding the Electric Power Business**

The Osaka Gas Group currently maintains a power generation capacity of approximately 3.2 GW in Japan and overseas. With an eye toward expanding this capacity to around 6.0 GW, we are looking at promoting a cogeneration-based power export business\* and constructing large-scale generation facilities.





Senboku Natural Gas Power Plant Total output: 1,109 MW (operations commenced in 2009)



Please refer to page 31 of this report for details on the cogeneration-based power export business.

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# 2. Advanced Use of Natural Gas

The government and public agencies also recognize the importance of energy sources that can help facilitate the early realization of a low-carbon society. As a result, policy trends lean heavily toward efforts aimed at promoting the switch of fuels to natural gas. In specific terms, policy objectives are focusing increasingly on expanding the ratio of gas fuel consumption as well as the increased use of cogeneration systems in the industrial sector and wider acceptance of highefficiency water heaters in the residential sector. Looking ahead, we anticipate the shift from other fuels to natural gas as well as the advanced use of natural gas becoming more prominent, reflecting the positive effects of policy objectives.

## Expanding Sales of Gas Cogeneration Systems for Commercial and Industrial Use

A cogeneration system is a system which, in addition to generating power using equipment that is installed at the customer's site, recovers the exhaust heat emitted during generation and uses it for air conditioning and heat treatment. As the power is generated at the customer's site, little is lost in energy transmission. Energy utilization efficiency is also enhanced to 70–90% through the efficient use of waste heat. As these features have become more widely appreciated, we have seen rapid growth in installations at manufacturing plants, commercial facilities, and stores. As interest in energy security increases in the aftermath of the Great East Japan Earthquake, cogeneration systems are again attracting favorable customer acclaim.



## **Expanding Sales of Gas Cogeneration Systems for Residential Use**

Thanks largely to technological development and advances in reducing size while enhancing power generation efficiency, cogeneration systems are attracting considerable interest in the residential sector. Since the release of our residential gas engine cogeneration system "ECOWILL" and residential fuel cell cogeneration system "ENE-FARM" in 2003 and 2009, respectively, we have witnessed a steady increase in sales reflecting high reputation for environmental friendliness and economic efficiency.

(Units)	ECOWIL	L ENE-FAR	M								
100,000											-12.119
80,000							1	.089 -/	.814	-6,007	
60,000											383
40,000					45 722	56,423	<b>64,368</b>	70,550	75,350		
20,000	3,181	10,730	21,338	33,840							
0	04.3	05.3	06.3	07.3	08.3	09.3	10.3	11.3	12.3	13	3.3

#### Trends in Cumulative Number of Units Sold

## Initiatives Aimed at Further Growth and Development

## **Developing Smart Energy Networks**

Smart energy networks are systems where several power sources, including renewable energy and cogeneration systems, are combined over a wide area to mutually accommodate electricity and heat. Information and communications technology (ICT) is used to optimally control the energy supply and demand.

We commenced business experimental operations of smart service provider from June 2012.

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 Please refer to page 41 of this report for details on smart energy networks.



## The Public and Private Sectors Working in Unison to Promote Increased Use of Natural Gas

The Japan Gas Association announced details of measures aimed at promoting the increased use of natural gas through to 2030 in October 2011. These measures took into consideration the direction of energy policies following the Great East Japan Earthquake and accordingly identified such ambitious quantitative objectives as lifting gas cogeneration capacity from its level of 4,600 MW in 2010 to 30,000 MW and increasing the number of residential fuel cells from 20,000 to 5,000,000 (including LPG). The nation as a whole is expected to promote the increased use of natural gas going forward.

Gas cogeneration		Gas air conditioning systems		Ratio of natural gas to total industrial- use heat demand			
<sup>2010</sup> 4,600 мw >> 30	,000 мw	3 million RT* ►►	2030 <b>26</b> million RT	2010 10.7% ►►	<sup>2030</sup> 25.0%		
Residential fuel cells	Na	atural gas vehicle	s (NGV)		ALL ALL		
-			2030 500,000 units				
* The cooling capacity required to Source: The "Approaches by the (				Gas Association in Octol	ber 2011		

10.00

# 3. Stable LNG Procurement

The Osaka Gas Group procures all of its natural gas from overseas sources. Natural gas reserves are spread across the length and breadth of the world and are abundant. Thanks to these features, natural gas is recognized as a superior energy source.

## **Diversifying Sources of Supply**

Osaka Gas Group began importing LNG from Brunei in 1972. Thereafter, the Company worked diligently to diversify its sources of supply. Currently, long-term LNG procurement agreements have been concluded with producers from seven countries comprising Brunei, Indonesia, Malaysia, Australia, Qatar, Oman, and Russia. Plans are in place to procure LNG from Papua New Guinea during the fiscal year ending March 31, 2015.



## Abundant Reserves of Natural Gas Worldwide

Abundant reserves of natural gas totaling 187 trillion m<sup>3</sup> have been confirmed worldwide. This volume is sufficient to meet global annual demand for a period of 55.7 years, which enables a stable supply.

Major Nations with Natural Gas Reserves and Proven Reserves

lran	33.6 🎿	Iraq	3.6
Russia	32.9	China	3.1
Qatar	25.1	Indonesia	2.9
Turkmenistan	17.5	Norway	2.1
U.S.A.	8.5 💌	Canada	2.0
Saudi Arabia	8.2	Egypt	2.0
UAE	6.1 🛄	Malaysia	1.3
Venezuela	5.6	Oman	0.9
Nigeria	5.2 🔀	Papua New Guinea	0.4
Algeria	4.5 🛰	Brunei	0.3
Australia	3.8		

Source: BP "Statistical Review of World Energy June 2013" (2013)

## Initiatives Aimed at Further Growth and Development

Liquefaction Tolling Agreement Concluded with a Subsidiary of U.S.-Based Freeport LNG Expansion, L.P.

Osaka Gas and Chubu Electric Power Co., Inc. executed a gas liquefaction tolling agreement with a subsidiary of U.S.-based Freeport LNG Expansion, L.P. in July 2012. With the support of the Japanese government, this became the first project involving Japanese companies to acquire authorization from the U.S. Department of Energy to export LNG to non-FTA countries in May 2013. Currently, activities are being undertaken with a view to the launch of a natural gas liquefaction business in 2017.

Through this project, the Osaka Gas Group will be able to obtain LNG sourced from U.S. natural gas fields including shale gas. Accordingly, Osaka Gas recognizes this initiative as an opportunity to diversify its sources of procurement and help achieve stable and economical LNG procurement.



Freeport LNG terminal (Houston, Texas, U.S.A.) Photograph courtesy of Freeport LNG Development, L.P.



# **4** Expanding New Businesses

The Osaka Gas Group has continued to develop opportunities outside its domestic energy businesses from early on, drawing on its robust management platform, know-how, and technological capabilities. Currently, over 50% of the Group's overall earnings are derived from outside the gas business. Thanks largely to these developments, the Group has successfully put in place a balanced portfolio.

## Changes in Composition of Segment Income\*

The Osaka Gas Group is endeavoring to expand its three core domestic energy business, international energy businesses along the energy value chain, and environment and non-energy businesses. In this manner, the Group is working to build a stable earnings portfolio.



- \* Segment income = Operating income + Equity in net earnings of affiliates
- \*\* After adjustment for the impact of profit and loss on fuel cost adjustment system

## Maintaining Sound Financial Position while Actively Engaging in New Investments

The Osaka Gas Group is endeavoring to maintain a sound financial position. In specific terms, the Group has targeted a shareholders' equity ratio of 40% or more and a debt equity ratio of approximately one over the medium-to-long term while actively engaging in new investments.





Shareholders' equity ratio (left)
Debt equity ratio (right)

## Initiatives Aimed at Further Growth and Development

## Participation in Condensate and Gas Development Project in Papua New Guinea

In May 2013, Osaka Gas reached an agreement with a subsidiary of Horizon Oil Limited to acquire a portion of the subsidiary's interests in resource development and exploration licenses. In specific terms, this acquisition allows, the Company to participate in a condensate\* and gas development project in Papua New Guinea. Steps are now being taken to progress activities through to condensate development.

In addition, the western region of Papua New Guinea has gained increasing attention for its prospect natural gas reserves. With the acquisition of the aforementioned licenses, Osaka Gas plans to participate in exploration activities with Horizon Oil and its joint venture partners and to also consider opportunities for developing an LNG project.

A type of ultra-light crude oil that exhibits similar characteristics to



## Participation in Natural Gas Retail Business in Singapore

In March 2013, Osaka Gas reached an agreement with City Gas Pte Ltd to participate in a natural gas retail business for industrial customers in Singapore. The jointly formed natural gas business will utilize the technological expertise in energy solutions of the Osaka Gas Group combined with the customer knowledge and network of City Gas to engage in a wide range of activities, from the development of natural gas demand to sales in the industrial energy market in Singapore.





## Message from Top Management

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# Osaka Gas Group: Taking Solid Steps Toward a Global Energy and Environment Businesses Group

To our shareholders and stakeholders:

Amid dramatic changes in the Japanese energy market brought about by the devastating natural disaster and the subsequent nuclear crisis in 2011, Osaka Gas Group has been working diligently to fulfill its responsibilities as an energy supplier. In the new market environment, requirements for energy supply by our customers and society at large have become more demanding with respect to safety, stability, economy and environmental friendliness.

As a leading supplier of natural gas in Japan, Osaka Gas recognises the greater role it has to play to meet the high expectations given to natural gas in achieving Japan's best energy mix and efficient energy utilisation. We are fully prepared to meet this challenge through extended and advanced use of this excellent fuel.

Taking advantage of skills and resources developed through the traditional energy business, the Osaka Gas Group continues to seek further growth in its core natural gas supply business and, at the same time, to diversify into environment and non-energy businesses as appropriate opportunities for growth are identified. Field of Dreams 2020, our long-term business vision, depicts us evolving into a group of companies operating in global energy and environment businesses in the future.

There is ample room for the Japanese energy business to grow both domestically and internationally, as Asian economies continue to drive the global economy and the Japanese economy appears to be moving out of a deflationary trend. On the other hand, we will face new challenges that arise from rapidly evolving and inter-dependent political systems and economies. Osaka Gas will continue to identify opportunities for growth in this uncertain business environment so that we can achieve our goals in our long-term business vision, Field of Dreams 2020. I firmly believe that our efforts will result in maximizing the value of the Osaka Gas Group for all our stakeholders.

Thank you for your continued support and encouragement.

July 2013

H. Gave

Hiroshi Ozaki President

## **Consolidated Financial Highlights**

Osaka Gas Co., Ltd. and Consolidated Subsidiaries

		Millions of yen	Thousands of U.S. dollars	
	2012.3	2013.3	2013.3	
Financial Data				
Net sales	¥1,294,781	¥1,380,060	\$14,673,684	1
Operating income	77,274	84,773	901,360	2
Income before income taxes and minority interests	75,694	84,630	899,840	
Net income	45,207	52,467	557,862	
Capital expenditure	87,171	112,987	1,201,350	3
Depreciation and amortization	93,624	82,818	880,574	4
R&D expenses	10,974	10,875	115,629	
Total assets	1,475,759	1,566,899	16,660,276	
Equity	684,584	747,802	7,951,111	5
Interest-bearing debt	541,349	540,199	5,743,742	
Net cash provided by operating activities	122,793	129,597	1,377,958	
Net cash used in investing activities	(107,764)	(116,791)	(1,241,796)	
Net cash used in financing activities	(8,279)	(27,897)	(296,618)	
Number of shares issued and outstanding (thousands)	2,083,400	2,083,400	-	
Per Share Data (yen and U.S. dollars)				
Earnings per share (EPS)	¥ 21.71	¥ 25.20	\$ 0.267	
Book value per share (BPS)	328.77	359.16	3.818	
Annual dividends	8.00	8.50	0.090	
Key Ratios				
Shareholders' equity ratio	46.4%	47.7%	_	
Debt equity ratio (times)	0.79	0.72	_	
Interest coverage ratio (times)	13.8	15.4	_	
Return on assets (ROA)	3.1%	3.4%	_	
Return on equity (ROE)	6.7%	7.3%	_	
<b>Gas sales volume</b> (million m³)	8,711	8,534	_	6
Number of meters installed (thousands)	7,074	7,114	_	
Number of employees	19,818	19,870	_	

Notes:

1. The translation of Japanese yen amounts into U.S. dollar amounts is based on the prevailing exchange rate at March 31, 2013, which was ¥94.05 to U.S.\$1.0.

2. Shareholders' equity ratio = Equity / Total assets (as of the end of the fiscal years ended March 31)

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

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

5. Return on assets (ROA) = Net income / Total assets (average)

6. Return on equity (ROE) = Net income / Average equity

7. Figures in the financial data are rounded down.

#### 1 Net Sales

Net sales increased compared with the previous period. This was largely attributable to the upswing in gas sales prices in line with higher LNG prices, and growth in the sales of gas appliances.

#### 2 Operating Income

Operating income improved compared with the previous period. In addition to successful efforts to narrow the time-lag loss, this improvement mainly reflected the increase in the gas sales gross margin, and higher contributions from the electric power business and consolidated subsidiaries.

### 3 Capital Expenditure

The Osaka Gas Group undertook increased year-on-year capital expenditure. Investments were largely directed toward acquiring and developing interests in upstream projects mainly in Australia and the U.S.

4 Depreciation and Amortization

Depreciation declined compared with the previous period owing mainly to the completion of depreciation of assets with a remaining book value of 5% as of the previous period using the straight-line method and a useful life of five years.

#### 5 Equity

Equity climbed compared with the previous period. This was primarily attributable to increases in retained earnings, unrealized gains on securities, and foreign currency translation adjustments.

#### 6 Gas Sales Volume

The gas sales volume for residential use was essentially unchanged from the previous period. Gas sales volume for commercial, public, and medical use, on the other hand, decreased year on year owing mainly to successful efforts to promote energy-saving measures among customers. The gas sales volume for industrial use also declined largely as a result of the downturn in operations at customers' facilities.

#### Net Sales



#### **Operating Income**



Net Income



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



## Earnings per Share (EPS)



## Annual Dividends per Share Payout Ratio



## Shareholders' Equity Ratio



## **Debt Equity Ratio**



## Credit Ratings

(As of March 31, 2013)

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

## An Interview with the President

## What were the performance highlights of the fiscal year ended March 31, 2013?

# In the fiscal year ended March 31, 2013, we finished on a strong note with year-on-year growth in both sales and profits.

In the fiscal year ended March 31, 2013, consolidated net sales increased by 6.6% year on year, to ¥1,380.0 billion, mainly on account of higher gas sales prices due to a rise in the cost of LNG. Other factors behind the increase included higher sales of commercial and industrial cogeneration systems and the residential fuel cell "ENE-FARM" on stronger customer needs for distributed power generation systems. Meanwhile, gas sales volume has continued to decline on a monthly year-to-year basis since August 2012, particularly in the industrial sector, as a result of the economic downturn.

Consolidated ordinary income climbed 19.1% to ¥90.1 billion, reflecting growth in income for the electric power business and profits at consolidated subsidiaries. The Fuel Cost Adjustment System causes a time lag before changes in LNG prices are reflected in gas unit prices, which results in subsequent time lag-related gains or losses. In the fiscal year under review we recorded time lag-related losses

totaling ¥20.7 billion, ¥9.9 billion lower than in the previous fiscal year. However, if the impacts of the time lag-related losses and other factors that cause short-term fluctuations in income are excluded, ordinary income would have been well over ¥100 billion in the fiscal year ended March 31, 2013. From this standpoint, I think we ended the year on a very strong note.

## Performance in Fiscal Year Ended March 31, 2013

(Consolidated)	2012.3	2013.3
Net sales (billions of yen)	1,294.7	1,380.0
Operating income (billions of yen)	77.2	84.7
Ordinary income (billions of yen)	75.6	90.1
Net income (billions of yen)	45.2	52.4
Profit / loss on Fuel Cost Adjustment System (billions of yen)	(30.7)	(20.7)
Exchange rate (yen/\$)	79.1	83.1
Crude oil price (\$/bbl)	114.2	113.9

#### Breakdown of Movements in Net Sales between Fiscal Years Ended March 31, 2012 and March 31, 2013



Breakdown of Movements in Ordinary Income between Fiscal Years Ended March 31, 2012 and March 31, 2013





## What is your view on gas industry reforms?

# I believe it is natural for the regulatory system governing public utilities to evolve in response to changes around the world.

Progress has been made on the debate about electricity industry reforms, and I think it would be beneficial if reforms were made to the public utility industry to reflect changes around the world.

The gas business faces tough competition from electricity, LPG, petroleum and other types of energy. Moreover, the gas business is unique in that heightened competition resulting from deregulation has already had a measurable impact, and that service networks are segregated into regional units. Going forward, in view of these unique characteristics of the gas business, we think the debate on reforms should center on giving customers more options by allowing new companies to enter the market, and on how customers will benefit from heightened competition, such as by having new services to choose from.

In preparing for these reforms, the Osaka Gas Group must position itself to take advantage of these changes as business opportunities, by reducing costs further and expanding its services to more closely match customer needs.

#### What impact will potential growth in unconventional natural gas supplies have on the operations of the Osaka Gas Group?

## We look toward shale gas as a promising source for natural gas procurement.

Interest in shale gas has risen considerably as technological advancement has enabled the extraction of natural gas contained within shale formations in North America. The Osaka Gas Group is also very interested in shale gas as a promising resource, and has acquired interests in upstream projects in Canada and the United States.

We also regard shale gas as a promising resource from the perspective of diversifying supplies and gas pricing.

In the fiscal year ended March 31, 2013, we concluded a gas liquefaction tolling agreement with a subsidiary of Freeport LNG Expansion, L.P. for the Freeport LNG Project. In May 2013, the U.S. Department of Energy authorized the export of LNG to non-FTA countries. Plans call for the construction of liquefaction facilities with the aim of commencing operations in 2017. The price of LNG currently procured by the Osaka Gas Group fluctuates in conjunction with the price of crude oil. However, if we are able to import LNG from shale gas into Japan at prices linked to a different formula, there are expectations that this could change LNG pricing mechanisms in the market.

Estimated Reserves of Conventional and Unconventional Gas



## What are the strengths of the electric power business, and what is the outlook?

## At the moment, including the Senboku Natural Gas Power Plant, we have in our power portfolio a total generation capacity of approximately 1.8 GW in Japan.

## Going forward, we will expand our power generation capacity through such means as the installation of power-export type cogeneration systems.

The Osaka Gas Group currently possesses a domestic generation capacity of approximately 1.8 GW, which includes such energy resources as the Senboku Natural Gas Power Plant, IPPs, wind power plants and solar power installations.

The Senboku Natural Gas Power Plant started operations in 2009 and features the latest in gas turbine combined-cycle facilities for highly efficient power generation. It is a competitive power station, having been built within the premises of an LNG terminal, allowing it to share infrastructure and operations personnel with the gas business. On the operational side, we are able to flexibly change conditions, such as power generation patterns, in tandem with the market environment.

Osaka Gas will encourage the spread of distributed power sources by installing gas cogeneration systems and other medium-scale power generation facilities on the premises of its customers. At the same time, the Company will also promote the cogeneration-based power export business\* whereby it buys any surplus electricity generated by these facilities and resells it on a retail basis. These activities help ease the balance of supply and demand for electricity.

In addition, we will work to appropriately expand the renewable energy business, including solar and wind power generation.

When commercial viability presents itself, we will expand power generation capacity and even consider the feasibility of constructing large-scale generation facilities. Taking into account the direction of discussions regarding government energy policy, we will carefully evaluate the lead times regarding construction and business risks of potential projects.

<sup>\*</sup> Please refer to page 31 of this report for details on the cogeneration-based power export business.

# We intend to seize opportunities overseas by leveraging our sound financial foundation and synergies with our domestic energy business, as well as with our strengths in technologies for the advanced utilization of natural gas.

Osaka Gas develops operations overseas focusing on the natural gas value chain. In upstream businesses, we are acquiring and developing upstream interests in countries and regions such as Australia, the North Sea, and North America. In procurement activities, we think it is meaningful to have a firm grasp of gas production costs and structures in addition to earning a stable return. Becoming a producer ourselves leads to a stronger negotiating position on procurement and adds flexibility to our response to changes in demand.

In mid- and downstream businesses, to accompany its IPP\* operations, Osaka Gas has launched gas distribution operations using its know-how in the gas business in Japan. In March 2013, Osaka Gas established a joint venture with City Gas Pte. Ltd. of Singapore to sell natural gas to industrial customers. In overseas development, our strengths are our sound financial foundation compared with rivals around the world, potential synergies with our domestic energy business, and technologies for value-added use of natural gas.

We think risks in overseas development include changes to laws and regulations (taxation for example) and government policies on the environment and energy, as well as a deterioration in the capital procurement environment owing to disarray in international financial markets. When deciding on an investment project, we make a concerted effort to minimize risk through the use of project financing if an investment decision is made, while taking into full consideration regional and local politics and systems where the investment project is located and undertaking a thoroughgoing analysis and assessment in each case both in Japan and overseas.

\* Independent Power Producer

Can you discuss your long-term management vision and medium-term business plan as well as the direction of the next medium-term business plan?

# Investments for expansion, greenfield projects, and M&A activities are proceeding smoothly.

In the fiscal year ending March 31, 2014, we expect to achieve the ROA and ROE targets set out in the medium-term business plan.

Our investments in future growth have also been proceeding according to plan. Osaka Gas plans to aggressively invest a total of ¥1.5 trillion over the 12-year period from the fiscal year ended March 31. 2010 to the fiscal year ending March 31, 2021. Of this amount, Osaka Gas plans to invest ¥800 billion in investments for expansion, greenfield projects, and M&A activities in Japan and abroad (of this, ¥400 billion by the fiscal year ending March 31, 2014). In the four years to the fiscal year ended March 31, 2013, a cumulative total of ¥332 billion in spending has been approved, an amount equivalent to 83% of our five-year plan.

After undertaking these investments, we are confident in our ability to achieve an ROA of 3.5% and ROE of 8.0% in the fiscal year ending March 31, 2014, the final-year targets of the current mediumterm business plan.





 Environment and Non-Energy Businesses
International Energy Businesses along the Energy Value Chain

Domestic Energy Businesses

Management is currently putting the final touches on its next medium-term business plan that begins in the fiscal year ending March 31, 2015, and plans to unveil it during the fiscal year ending March 31, 2014. Although the new plan does not represent a major change in direction, we wish to formulate a new plan that reflects new realities that were unanticipated back in 2009, namely the Great East Japan Earthquake and subsequent events surrounding the energy market in Japan.

	2014.3 (Planned) (Medium-Term	2014.3 (Planned) (Announced in
	Business Plan)	March 2013)
ROA	Approx. 3.5%	4.1%
ROE	Approx. 8.0%	8.6%



What are your capital and shareholder returns policies for the future?

# We aim for a consolidated payout ratio of 30% or higher while proactively investing in growth.

Osaka Gas' basic shareholder returns policy is to issue returns in the form of dividend payments, and we will continue to pay stable dividends while targeting a consolidated payout ratio of at least 30%, after eliminating the effects of external factors that cause profits to fluctuate in the short term. In addition, we acquire treasury stock on a flexible basis when there is leeway in our financial position and cash flow after investing for future growth.

The electric power business has generated steady profits, even with one-time factors arising from the suspension of nuclear power generation. Business profits at affiliates have also expanded steadily. In light of these conditions, Osaka Gas has decided to distribute an annual dividend of ¥8.5 per share for the fiscal year ended March 31, 2013, which is ¥0.5 per share higher than the previous fiscal year. For the fiscal year ending March 31, 2014, we aim to pay an annual dividend of ¥9.0 per share.

As we advance into the future, prioritizing investments in growth, we will continue to pursue higher profits in the three business areas described in "Field of Dreams 2020," our long-term management vision, in hopes of living up to the high expectations of our shareholders. We also aim to maintain a shareholders' equity ratio of at least 40% and a debt equity ratio of approximately one in accordance with our goal of keeping a sound financial position.

As of March 31, 2013, the shareholders' equity ratio was 47.7% and the debt equity ratio was 0.72. Since we have sufficient capital to maintain a sound financial position, we plan to leverage up for aggressive investments in the fiscal year ending March 31, 2014.



#### Annual Dividends per Share

## Can you describe the corporate culture and what is expected of employees? Osaka Gas aims for growth, bringing all of its employees together as one to take on new challenges.

We believe the willingness to move forward and take on new challenges without fear of failure is essential to the growth of a corporation. We want our employees to positively engage in business activities while they are assessed not only by the results but also the processes of their work with full respect for spirit of challenge. We think this will invigorate the entire organization.

The Osaka Gas Group has instilled a corporate culture of taking on challenges without shying away from new activities. This corporate culture is one that says you grow a little every time you fall down and get back up again, instead of trying to make the most of a bad situation after you take a fall. We firmly believe that this sort of character is at the foundation of our business activities, whether it be overseas expansion or technological development.

In order to realize our long-term management vision and medium-term business plan "Field of Dreams 2020," we must tear down the walls we build in our minds between domestic and overseas, as well as the gas business and non-gas businesses. I hope our employees find the strength to take on new challenges around world, forge across boundaries and successfully expand businesses in growth markets.

## Long-Term Management Vision and Medium-Term Business Plan

## Overview of "Field of Dreams 2020"

In March 2009, the Osaka Gas Group formulated the "Field of Dreams 2020" long-term management vision and medium-term business plan, which illustrate our vision for the Group in 2020. Leveraging the tangible and intangible assets accumulated throughout its long history spanning more than 100 years, the Group will act in accordance with this plan as it strives to innovate its business structure from a long-term perspective.

## Vision for the Osaka Gas Group in 2020

Osaka Gas aims to grow into a strong global energy and environmental businesses group with its operations based in three pivotal business fields: domestic energy businesses, international energy businesses along the energy value chain, and environment and non-energy businesses.



## Initiatives to Realize Our Vision for 2020

## 1. Broadening Business Domains

 Broaden business domains by reinforcing existing businesses and expanding new business fields and bases

Invest ¥1.5 trillion to solidify the three pivotal business fields

## 2. Fortifying Solid Business Foundations

- Maximize Group potential by creating synergies between the three business areas and dispersing risks
- Build solid business foundations resilient to external changes by optimizing the business portfolio

## Working toward a Balanced Earnings Structure



Millions of Yen

## Progress toward "Field of Dreams 2020"

						Willions of Terr	
						Field of Drea	ms 2020 Estimate
(Consolidated)	2010.3	2011.3	2012.3	2013.3	2014.3 (Estimate)	2014.3	2021.3
Net sales	¥1,096,628	¥1,187,142	¥1,294,781	¥1,380,060	¥1,508,000	¥1,600,000	¥2,000,000
Total assets (at the end of the fiscal year)	1,483,895	1,437,297	1,475,759	1,566,899	1,625,800	1,850,000	2,100,000
ROA	3.3%	3.1%	3.1%	3.4%	4.1%	Approx. 3.5%	Approx. 4.0%
ROE	7.6%	6.9%	6.7%	7.3%	8.6%	Approx. 8.0%	Approx. 9.0%
Shareholder returns		Consolidated payout ratio of 30% or higher after eliminating factors that cause short-term fluctuations in profit					
Maintenance of a sound financial position	Shareholders'	hareholders' equity ratio above 40% and debt equity ratio of approximately one					

## Progress of measures aimed at securing growth

### **Domestic Energy Business**

- Dispersed power: Cumulative ENE-FARM system sales of 12,119 units; cumulative commercial and industrial cogeneration system generation capacity of 1,486 MW (as of March 31, 2013)
- Pipelines: Construction of the Mie-Shiga Pipeline and the Himeji-Okayama Pipeline (to be completed in January 2014 and April 2014, respectively)
- LNG tanks: Construction of an LNG tank at the Senboku No. 1 Works (to be completed in 2015)
- LNG sales: Concluded LNG sales contracts with Okinawa Electric Power Company, Inc. (from the fiscal year ended March 31, 2013) and Shizuoka Gas Co., Ltd. (from the fiscal year ending March 31, 2015)
- Electric power business: The Senboku Natural Gas Power Plant, which commenced operations in the fiscal year ended March 31, 2010, served to mitigate the tight balance between the demand for and supply of electricity after the Great East Japan Earthquake

#### International Energy Business along the Value Chain

- Interests in upstream projects: Decided to acquire equity interests in the Gorgon and Ichthys LNG projects in Australia as well as a condensate and gas development project in Papua New Guinea
- Shale gas activities: Participated in shale gas projects in Canada and the U.S.; concluded a gas liquefaction tolling agreement with a subsidiary of Freeport
- Mid- and downstream businesses: Participated in an LNG terminal project in Spain and a power generation and water desalination project in the UAE; participated in a gas marketing business in Singapore

#### Environment and Non-Energy Business

- General: Steady gain in strength across existing businesses; substantial growth in segment profit
- Real estate business: Acquired income-generating real estate
- Renewable energy activities: Participated in megasolar projects at three sites in Japan and one site in Canada; newly acquired three wind power plants in Japan (for an aggregate total of five including previously acquired plants) and one in Australia

## Progress of investment aimed at securing growth

Progress of investments for expansion, greenfield projects, and M&A activities



Over the 12-year period from the fiscal year ended March 31, 2010 to the fiscal year ending March 31, 2021, the Osaka Gas Group plans to invest an amount totaling ¥1.5 trillion. In broad terms, this will encompass investments for expansion, greenfield projects, and M&A activities of ¥800 billion and investment for upgrading existing businesses of ¥700 billion.

# Domestic Energy **Businesses**

Having Japan's leading gas supply business at its core, the Osaka Gas Group is a provider of other energy services and is accordingly active in the electric power business, LPG and industrial gas businesses, and energy businesses in diverse locations. Backed by solid structures for reliable supply, safety and services, the Osaka Gas Group's multi-energy business contributes to the realization of abundant and comfortable lifestyles of its customers.

## **External Environment**

- Heightening concerns about energy security, the environment and the economy
- A declining population and greater awareness of energy conservation
- Volatility in crude oil prices and foreign exchange markets

## **Objectives and Issues to Address**

- Technological improvement and wider use of distributed power generation (gas cogeneration systems)
- Expansion of power generation capacity
- Stable procurement of competitive LNG

## **Business Structure**

#### Gas Business

The gas business is the core business of the Osaka Gas Group. In this business segment, we provide a wide array of services to promote the use of gas, ranging from the production, supply and marketing of gas to installing house pipes and selling gas appliances.

#### Electric Power Business

The electric power business is an integral part of the multi-energy services of the Osaka Gas Group. Positioned as our second core business, activities include IPP, power generation, and power marketing

#### LPG Businesses and Industrial Gas Businesses

The Osaka Gas Group's LPG business mainly serves customers outside the natural gas service area by providing retail and wholesale supplies of LPG. In addition, we operate industrial gas business that utilizes LNG cryogenics, and a low-temperature crushing business.

#### **Broad-Area Energy Business**

In its broad-area energy business, the Group sells LNG to large-scale customers outside its service area and to other utilities.

#### **Procurement of Energy Resources**

Amid changes in energy markets with worldwide growth of demand for energy, economic fluctuations and technological innovation, the Group procures energy resources to ensure stable supplies of energy.





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

#### Net Sales (Billions of yen)



#### Seament Income\*





Gas LPG, electricity, and other energy

Segment Income = Operating income + Equity in net earnings of affiliates



Procurement of Energy Resources

## The Advantages of Natural Gas

## **Environmental Friendliness**

- Natural gas consists primarily of methane, and, compared to other fossil fuels, the energy provided by this resource has the lowest environmental impact.
- Energy production using natural gas releases very little carbon dioxide (CO<sub>2</sub>), which contributes to global warming, and nitrogen oxide (NOx), which is an atmospheric pollutant. In addition, there are no emissions of sulfur oxide (SOx), which contributes to acid rain.

### Comparison of Emission Levels of Combustion Products of Fossil Fuels

(Coal=100)



Sources: (CO2 figures) The Institute of Applied Energy, "Report on Thermal Power Plant Atmospheric Impact Assessment Technology Demonstration Surveys" (March 1990) (SOx and NOx figures) International Energy Agency (IEA), "Natural Gas Prospects to 2010" (1986)

## **Future Potential**

Among the fossil fuels, natural gas is projected to see the strongest growth in consumption over the longer term.



Primary Energy Consumption Forecasts (Global)

## Sources: International Energy Agency (IEA), "New Policies Scenario Energy Demand, World Energy Outlook 2012" (2012)

## Stable Supply

The combined volume of the confirmed natural gas reserves around the world is estimated to be 187 trillion m<sup>3</sup>, sufficient for meeting the yearly natural gas demand for 55.7 years, meaning that a stable supply of this resource can be secured.



## Major Nations with Natural Gas Reserves

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## **Domestic Energy Businesses**

## Characteristics of the Gas Business in Japan

## **Regional Pipeline Establishment**

Regional pipeline networks are being established across Japan, but the country does not possess a nationwide pipeline network.

## City Gas Pipeline Network in Japan

Major pipelines
Pipelines under construction or scheduled for construction

## Transition to Gas Retail Liberalization

Ever since the liberalization of retail operations in the gas business was adopted in 1995, deregulation has progressed by expanding the scope of liberalization.

Con and



## Fuel Cost Adjustment System

The purchasing prices of LNG and LPG, both gas raw materials, fluctuate in accordance with movements in foreign currency exchange rates and the price of crude oil. In addition to reflecting these types of external factors in gas rates, steps have also been taken to apply a mechanism that clarifies the results of efforts to increase operating efficiency in areas other than raw material costs. This mechanism is referred to as the Fuel Cost Adjustment System. As this system causes a time lag before fluctuations in prices of raw materials can be reflected in gas rates, such price fluctuations can result in short-term impacts on the performance of gas suppliers on an individual fiscal-year basis. However, these impacts are neutralized over the medium to long term.





Time lag

# **()** Gas Business

In the gas business, we provide a wide range of services to encourage customers in the Kansai region to use gas. These include producing, supplying, and selling gas; installing house pipes; and selling gas appliances. The Group fulfills the energy needs of customers in the residential; commercial, public, and medical; and industrial sectors.

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

In the fiscal year ended March 31, 2013, gas sales volume declined 2.1% year on year, to 8,503 million  $m^3$ .

Even though we captured new gas demand, sales volume of gas to industrial customers decreased 3.1%, to 4,222 million m<sup>3</sup>, owing to lower utilization at customers' facilities in reaction to economic trends and other factors. Meanwhile, sales volume of gas to residential customers were largely unchanged from the previous fiscal year at 2,272 million m<sup>3</sup>, reflecting no year-on-year deviation from average temperatures and water temperatures for the service area. Sales volume of gas for commercial use decreased by 3.1%, to 898 million m<sup>3</sup>, and sales volume for public and medical use were down 0.9%, to 642 million m<sup>3</sup>. These declines can be attributed to the energy-saving initiatives implemented by customers. On a wholesale basis, the volume of gas sold to other gas providers was 469 million m<sup>3</sup>, down 2.3%.



Osaka Gas is currently constructing two pipeline extensions; the Mie-Shiga Line in the east to enhance security of supply, and the Himeji-Okayama Line to acquire gas demand along its route.





## Domestic Energy Businesses

## Residential Gas Sales

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. We engage in development of new gas appliances that better meet their needs and contribute to energy savings and CO<sub>2</sub> emission reductions. In addition, we propose more comfortable lifestyles utilizing gas appliances and are quick to respond should these appliances need maintenance or repairs. Recently, in the Kansai region, populations have been declining, and natural gas has been facing increased competition from rival energy sources. In this challenging environment, we are taking other steps to contribute to the realization of a low-carbon society through the efficient use of energy and by targeting higher levels of energy security through the increased usage of distributed power generation systems. In these ways, we are working to expand gas demand in the residential sector.

## Promoting the Spread of Residential Gas Cogeneration Systems

At Osaka Gas, we believe that residential gas cogeneration systems, a type of distributed power generation system, will be a cornerstone of next-generation. We have supported this vision with the development and launch of the "ECOWILL" gas engine cogeneration system in 2003, the "ENE-FARM" (PEFC<sup>\*1</sup>-type) fuel cell cogeneration system in 2009, and the "ENE-FARM" Type S (SOFC<sup>\*2</sup>-type) fuel cell cogeneration system in 2012.

Ever since the Great East Japan Earthquake, interest in distributed power generation systems has risen. In the fiscal year ended March 31, 2013, sales of ENE-FARM far exceeded our initial forecast. Cumulative sales volume since its launch has now exceeded 12,000 units.

With the goal of further improving energy security, in June 2012 we released a new version of ENE-FARM that can operate independently in the event of a power outage. We will continue to push forward with the development of new technologies.

Furthermore, we are stepping up our sales efforts proposing "hybrid generation" systems that realize even lower levels of CO<sub>2</sub> emissions by combining residential gas cogeneration systems with solar power generation systems, a source of renewable energy. Currently, more than 10,000 households are using such systems.

\*1 PEFC is the abbreviation for Polymer Electrolyte Fuel Cell

#### **Residential Cogeneration System Lineup**



Electricity demand

### Residential Gas Cogeneration System Units Sold (Cumulative Total)



ECOWILL (left scale) ENE-FARM (right scale) Hybrid power generation<sup>\*2</sup> (right scale) \*<sup>1</sup> Units sold up to December 31, 2012.

\*2 Sales volume for hybrid generation systems is included in figures for ECOWILL and ENE-FARM.

#### Energy Efficiency of ENE-FARM and Hybrid Power Generation





\* Estimates are for a four-person family living in detached housing and switching from a conventional system to a system using ENE-FARM (PEFC-type) and ENE-FARM (PEFC-type) with solar power generation.

<sup>\*2</sup> SOFC is the abbreviation for Solid Oxide Fuel Cell. SOFCs are fuel cells that use ceramics as an electrolyte. Compared to PEFCs, their power generation efficiency is higher and they can be made smaller. Electric current is generated when oxygen is ionized and reacts chemically with hydrogen and carbon monoxide as it passes through the electrolyte. The ability to use carbon monoxide is a significant feature.

that the cogeneration system will contribute to reducing CO<sub>2</sub> emissions in the residential sector. Osaka Gas is seeking ways to improve power generation efficiency even further

Warranties for Water Heaters through Water Heater Insurance Service "RAKU-TOKU"

Striving to be the fuel of choice, we are practicing community based marketing and developing new services. As one such service, the Water Heater Insurance Service "RAKU-TOKU" offers customers repair services if their gas water heater experiences difficulties and periodic inspections free of charge for up to 10 years after purchase. Customers only have to pay a set monthly fee. This service is available even for customers using gas heaters made by other companies and can be subscribed to at the time of purchase or after. As of March 31, 2013, the number of contracts for this convenient service was up to 103,000. Moreover, we plan to further develop the service and consistently provide high-guality service in order to remain the preferred choice of customers.

# Commercial and Industrial Gas Sales

In the business-use sectors, which include industrial facilities, commercial facilities and public and medical institutions, customers continue to use gas for various applications, such as a heat source for production activities, gas cogeneration systems, gas heating and cooling systems, and gas kitchen equipment. Osaka Gas promotes the greater utilization of natural gas by working to create new sources of demand through proposals tailored to customers in various sectors with appliances and services that meet their needs. Osaka Gas focuses on engineering solutions and developing gas appliances that help conserve energy in order for its customers to use natural gas more efficiently as a core source of environmentally friendly energy. Furthermore, to offer more convenience and economic viability to its customers, Osaka Gas strives to expand its business of providing a broad range of services that go beyond energy supply as an energy service provider. These services include energy services for managing utilities, such as water treatment systems and lighting facilities, and financing for installing gas equipment as well as IT monitoring systems.

## Self-Sufficient Gas Engine Heat Pump GHP Excel Plus that Can Operate During Power Outages

After the Great East Japan Earthquake, there was a rapid rise in the number of customer requests for means of using air conditioning and lighting at minimal levels during power outages. In response to this demand, the Company developed the self-sufficient gas engine heat pump "GHP Excel Plus" that can be used even during power outages. Sales commenced from April 2012. This product was developed by attaching a start-up battery to our gas engine heat pump air conditioner High Power EXCEL. As "GHP Excel Plus" features an electricity generator, the battery allows the gas engine to start up during power outages, enabling customers to use air conditioning and lighting to a certain degree.

While developing new technologies, we will work to expand usage of gas air conditioning systems that help reduce power usage during peak hours and lower energy consumption and CO<sub>2</sub> emissions.

Masakazu Yoda Residential Energy System Development Dept. Osaka Gas Co., I td

Osaka Gas has been researching and developing the SOFC-type cogeneration system for more than two decades. When R&D first began, it was unthinkable to install fuel cells next to private homes, but after finding solutions to a long list of issues, such as durability and cost, we were able to commercialize and release the ENE-FARM Type S

in April 2012. Boasting a high power generation efficiency of 46.5%, we are confident

while reducing costs by optimizing the materials used in parts and their design. Looking to the future, we aim to develop a system that is compact enough to install in apartment buildings, which should spread their use even further.

## Domestic Energy Businesses > Gas Business > Residential Gas Sales > Commercial and Industrial Gas Sales







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## **Domestic Energy Businesses**

## Spreading Usage of Gas Cogeneration Systems

When gas cogeneration systems started to proliferate in the 1980s, they primarily consisted of large-scale facilities. However, technologies have continued to advance since then, leading to the creation of smaller and more efficient facilities. Today, Osaka Gas possesses a diverse lineup of gas cogeneration systems, and has supplied them to a wide variety of customers, ranging from factories and large-scale commercial facilities, to hospitals, hotels, and small retail stores.

Following the Great East Japan Earthquake, the need for secure power sources began to rise rapidly. A result of this shift would be the growing importance of cogeneration systems, which serve as a backup source for electricity and other forms of energy and can provide customers with a stable supply of energy even during power outages.

### Differences between Conventional Generation Systems and Cogeneration Systems



### Gas Cogeneration System Lineup

Residential Commercial Industrial Restaurants and stores Electric appliances and foods Public baths Hospitals and hotels Chemical and steel **Detached homes** Apartments ENE-FARM Type S (SOFC) Efficiency (LHV): Waste heat recovery ratio: Primarily 47% 43% electric Total efficiency 90% energy Miller-Cycle Gas Engine (1MW) Miller-Cycle Gas Engine (400kW) use Efficiency (LHV): 42% ECOWILL Efficiency (LHV): 40% Waste heat recovery ratio: 32% Efficiency (LHV): 26% Waste heat recovery ratio: 32% Total efficiency 74% Genelight (35kW) Total efficiency: 72% Waste heat recovery ratio: 66% Efficiency (LHV): 34% Primarily Genelight (5kW) Total efficiency 92% Waste heat recovery ratio 51% thermal ENE-FARM (PEFC) Efficiency (LHV): 29% Gas Turbine (7 24MW) Total efficiency: 85% Waste heat recovery Efficiency (LHV): 39% Efficiency (LHV): 33% energy ny ratio: 55% 51% Waste heat reco ratio Waste heat recovery 47% use Total efficiency: 85% Total efficiency 94% Total efficiency: 80%

Note: Representative examples are listed

## Further Development and Expansion of Commercial and Industrial-Use Sectors

As Osaka Gas continues to market its products and services to customers in commercial and industrial-use sectors, it will deepen its engagement with customers and expand sales channels through collaborations with air conditioning dealerships, subcontractors and manufacturers. Moreover, Osaka Gas will start selling gas over a wider service area as it seeks out demand along its Himeji-Okayama gas pipeline, which is scheduled to open in April 2014.

# **Electric Power Business**

## **Business Overview and Characteristics**

As of March 31, 2013, the total power generation capacity of our domestic power resources amounted to approximately 1.8 GW, with our flagship power plant being the Senboku Natural Gas Power Plant (approximately 1.1 GW), which commenced operation in 2009. The electric power business can fully leverage the Group's strengths in infrastructure, solution-based marketing techniques, and customer network nurtured through city gas operations. The Company positions this business as its second core business after city gas operations.

The electric power business consists of three domains: IPP operations. power generation, and power marketing. Power generation is primarily conducted using natural gas thermal power plants. However, in an effort to contribute to environmental preservation, the Company is also actively engaged in expanding the supply of renewable energies such as CO<sub>2</sub> emission-free wind power generation and solar power generation. In power marketing, we sell our electricity through the joint venture ENNET Corporation, our wholesale power to Japan Electric Power Exchange (JEPX), and have thus managed to establish a wellbalanced optimal marketing portfolio.

## Efforts to Expand the Electric Power Business

In response to the incidents at a nuclear power station that was damaged during the Great East Japan Earthquake, and the subsequent electricity shortages, there has been much debate in Japan about expanding the scope of regional electrical power system operators and the full liberalization of the retail electricity sector.

The Osaka Gas Group is closely monitoring the direction of these discussions on energy policy and trends in the supply and demand balance for electricity, and is seriously considering the possibility of introducing gas cogeneration systems with capacities ranging from 10 to 100 MW or large-scale natural gas thermal power plants with the goal of contributing to the creation of stable power supplies and furthering the growth of its electric power business. Osaka Gas plans to increase its total power generation capacity (in Japan and abroad) from the present level of approximately 3.2 GW to around 6.0 GW in the future.

## Cogeneration-Based Power Export Business Plays Social Role in Energy Mix

Looking to strengthen its electric power business, the Osaka Gas Group installs cogeneration systems and other medium-scale power generation facilities at the properties of customers that require large amounts of heat for their factories, for example. The cogeneration-based power export business promotes the proliferation of distributed power sources and creates a channel for Osaka Gas to purchase any surplus electricity generated by its customers and resell it on the retail electricity market. As such, Osaka Gas contributes to improving the balance of supply and demand for electrical power.



Senboku Natural Gas Power Plant

#### Electricity Sales Volume (Consolidated)



#### Power Sources Owned by the Osaka Gas Group (As of March 2013)

Domestic power plant	Capacity
Torishima Energy Center	150MW
Nakayama Joint Power Generation	142MW*
Nakayama Nagoya Joint Power Generation	142MW*
Himeji Power Plant	55MW
Senboku Natural Gas Power Plant	1,109MW
Hayama Wind Farm Power Plant	20MW
Hirogawa Myojin-yama Wind Power Plant	16MW
Yura Wind Power Plant	10MW
Hizen Wind Power Plant	30MW
Hirao Wind Power Plant	9MW
Others	116MW*
Total	1,799MW*

\*Company share of capacity

In addition to the above, 1.4 GW (Group stake) is sourced abroad. For more details, please refer to page 36.



## Example of a Cogeneration Plant's Schemes

## LPG Businesses and Industrial Gas Businesses

## **Business Overview and Characteristics**

### LPG Business Leveraging the Group's Network

The Osaka Gas Group's LPG business mainly serves customers outside the natural gas service area by providing retail and wholesale supplies of LPG. The Group takes full advantage of its nationwide network, as well as its marketing and technical knowledge from the natural gas supply business, to enhance its competitiveness in LPG. The LPG business is a part of the Company's multi-energy services combining gas and electricity supplied to a range of users from residential to industrial.



## Industrial Gas and Other Business that Effectively Employ LNG Cryogenics\*

Utilizing the cryogenic technologies for LNG, Osaka Gas is involved in businesses such as air separation, the manufacturing and marketing of liquefied carbon dioxide and dry ice, high-purity methane-related businesses, and the on-site supply of hydrogen from the hydrogen generator "HYSERVE." Additionally, we are expanding businesses using our proprietary cryogenic crushing technologies.

\* LNG cryogenics is the thermal energy released when LNG cooled to -160°C evaporates back into room-temperature natural gas. This energy can be used for power generation and freezing materials.

#### Significantly Lower CO<sub>2</sub> Emissions from Industrial Gas Production with LNG Cryogenics

When producing industrial gases such as liquid oxygen, LNG cryogenics can be used to improve the efficiency of air separation processes. The production processes at highly efficient, energy-saving plants that employ these technologies emit 55% less CO2 than conventional plants using electrical processes.



## **Business Overview and Characteristics**

The Osaka Gas Group does not merely supply natural gas to customers within its service area. The Group also sells part of the LNG that it procures to large-scale customers outside its service area, and to other utilities, by transporting the gas by truck, train, or ship. In addition to the LNG already being supplied to Nippon Gas Co., Ltd. by LNG tanker, the Group began providing LNG to Okinawa Electric Power Company, Inc. from the fiscal year ended March 31, 2013. From the fiscal year ending March 31, 2015, Osaka Gas plans to supply LNG to Shizuoka Gas Co., Ltd. Going forward, we will expand the volume of LNG we deal in with the aim of enhancing competitiveness from a resource procurement standpoint, and will continue to pursue alliances with regional utilities to provide various energy solutions.



(Supply to commence in the fiscal year ending March 31, 2015.)

Sales to large-scale customers outside the Company's service area and to other utilities

Domestic Energy Businesses > LPG Businesses and Industrial Gas Businesses

> Broad-Area Energy Business

Procurement of Energy Resources

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# Procurement of Energy Resources

## **Business Overview and Characteristics**

The LNG currently consumed by the Osaka Gas Group is entirely imported from abroad. Due to the changes in energy market conditions accompanying expansion of global energy demand, economic fluctuations and technological innovation, securing a long-term stable and competitive supply of LNG is a key management issue for the Osaka Gas Group. In the fiscal year under review, we procured LNG by concluding long-term contracts with producers in seven countries: Brunei, Indonesia, Malaysia, Australia, Qatar, Oman and Russia. In this manner, we are diversifying sources of supply.

In the future, we plan to procure LNG from new projects in Papua New Guinea and Australia. We also plan to initiate procurement of shale gas, a new resource for natural gas, going forward.

## Efforts to Procure LNG from the United States

In July 2012, Osaka Gas and Chubu Electric Power Co., Inc. executed binding natural gas liquefaction tolling agreements with FLNG Liquefaction, LLC, an affiliate of Freeport LNG Expansion, L.P. Pursuant to the agreements, Osaka Gas will acquire a 2.2 million ton per year production capacity for natural gas liquefaction around 2017. Osaka Gas plans to secure LNG by liquefying natural gas it procures on its own from shale gas and other resources within the United States.

The acquisition of LNG made in the United States will help diversify supply sources and procurement methods. Osaka Gas will continue efforts to procure energy resources that are stable and competitive.

## LNG Transportation

The Osaka Gas Group is continuing to acquire new LNG carriers. This is consistent with the Group's efforts to expand its network of LNG suppliers and entails joint ownership with other companies with respect to a number of projects, including those in Papua New Guinea and Australia.

By engaging in LNG transportation using its own fleet, the Group is better positioned to reduce transportation costs. Ownership also affords the Group the opportunity to expand its business through the leasing of carriers to other companies as well as LNG trading.

#### Unconventional Gas Resources



Conventional Gas Field

#### 1 Coal-Bed Methane (CBM)

CBM is a natural gas that consists mainly of methane and is found in coal beds. Reserves of this resource are thought to be plentiful.

#### **2** Tight Sand Gas

Tight sand gas is natural gas that is trapped within tightly compressed rock and sand formations with low permeability. Commercial production of this resource is conducted mainly in the United States.

#### **3** Shale Gas

Shale gas is a natural gas collected from cracks in shale formations that have become buried in sedimentary rock. Substantial reserves of this resource are believed to exist, and shale gas production is rising significantly in the United States, Currently, shale gas is gaining a great deal of attention on a global scale



Freeport LNG terminal Photograph courtesy of Freeport LNG Development, L.P.



I NG carrier under construction

Osaka Gas Group Annual Report 2013

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# International Energy Businesses along the Energy Value Chain

The Osaka Gas Group strives for stable and flexible procurement of highly competitive supplies of LNG. In the field of international energy businesses along the energy value chain, we are constructing a natural gas value chain that extends from upstream to mid- and downstream businesses by utilizing the knowledge, expertise, and networks cultivated through our operations. In this endeavor, we intend to maximize synergies across the entire value chain.

In addition to pushing ahead with the development of natural gas fields, oil fields, and other energy resources in the upstream area, we also promote the development of mid- and downstream operations in LNG terminals, pipelines, gas distribution, and IPP projects. In the future, we plan to leverage our LNG terminals and LNG carriers to develop global operations, including possible engagement in global energy trading businesses, in our goal to offer a variety of energy solutions.

## **External Environment**

- Growing demand for natural gas around the world
- Increasing needs in emerging countries for environmental friendliness and combustion technology
- Fluctuations in crude oil prices and foreign currency markets

## **Objectives and Issues to Address**

- Acquisition of gas field interests
- Broaden gas business from upstream to mid- and downstream areas

## **Overseas Business Development**

While gas suppliers in Japan conventionally engage in range of activities gas production, supply, and the sale of gas, the Osaka Gas Group pays particular attention to the natural gas value chain and is active across a broader spectrum of areas from the overseas production of natural gas through liquefaction facility businesses to the transportation of resources using LNG tankers.

Natural Gas Value Chain		
Natural gas production Liquefaction Transportation by LNG tankers	City gas production Pipeline construction Customers	
Procurement	Production, Supply Sales	
	Conventional gas suppliers	
Certain suppliers including Osaka Gas		

#### Segment Income\* (2013.3)



 International Energy
\* Segment Income = Operating income + Equity in net earnings of affiliates





Segment Income\*


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# Upstream Businesses

The resource development business conducted as part of upstream business activities not only enables us to gain valuable experience in the field of LNG procurement but also helps raise profits while serving as a natural hedging mechanism against fluctuations in crude oil prices and exchange rates, which stabilizes profits. Accordingly, we will continue to acquire interests in promising upstream projects in the future.

#### Participation in Condensate<sup>1</sup> and Gas Development Business in Papua New Guinea

In order for Osaka Gas to participate with a subsidiary of Horizon Oil Limited in condensate and gas development operations in Papua New Guinea, Osaka Gas acquired<sup>\*2</sup> a portion of interests held by Horizon Oil Limited for resource development and exploration/production. Through this acquisition, we are proceeding in stages to develop condensate resources with the objective of starting production around 2015.

\*1 Condensate is a type of ultra-light crude oil that has characteristics that are similar to naphtha and gasoline.

\*2 The official decision on acquisition of interests and development pending subject to government approvals and the satisfaction of contractual condition precedents.

In line with the "Field of Dreams 2020" plan, the Osaka Gas Group aims to expand the international energy businesses along the energy value chain, and has focused on developing gas and oil fields in various parts of the world as well as acquiring new projects in upstream business.

The condensate and gas development business we acquired in Papua New Guinea is likely to not only start generating business profits in the relatively near future, but through exploration of nearby fields, it could also possibly develop into an LNG project in the future, one of our loftiest ambitions.

We are committed to making this project a success by cooperating closely with project partners and applying the Osaka Gas Group's gas- and LNG-related technology and knowledge. We look forward to the day that LNG shipments start to flow from this project and contribute to the growth and development of the Osaka Gas Group.



Takeshi Shinohara Dispatched to Osaka Gas Australia Pty Ltd

# Mid- and Downstream Businesses

The Osaka Gas Group has actively participated in LNG terminal as well as pipeline operations and IPP projects as part of its efforts to channel the know-how accumulated through its domestic energy business toward the development of business opportunities overseas and to secure a stable stream of earnings. Looking ahead, the Group will work diligently to further expand its business and to aggressively consider participating in gas distribution projects in new regions.

#### Osaka Gas Participates in Natural Gas Retail Business in Singapore

In March 2013, Osaka Gas reached an agreement with City Gas Pte. Ltd. to participate in a joint natural gas retail business for industrial customers in Singapore. On this basis, the Company concluded a purchase and sale agreement to acquire shares of City-OG Gas Energy Services Pte. Ltd. ("City-OG"), an industrial-use natural gas retail company newly established by City Gas.

While utilizing the natural gas retail business infrastructure held by City Gas, City-OG plans to contribute to customers by using technological and proposal capabilities of the Osaka Gas Group related to cogeneration system and industrial furnace.

In specific terms, particular emphasis will be placed on servicing the needs of customers in the chemical and food industries. In addition to making full use of the Company's strengths in energy solutions, every effort will be made to promote the advanced use of natural gas by promoting a variety of initiatives, including the effective application of gas cogeneration exhaust heat and the implementation of highly efficient burner proposals that address the individual needs of customers.

Moving forward, the Osaka Gas Group will not only look to develop its business in Singapore, but also to further harness its know-how to expand the natural gas retail business to other countries, focusing mainly on Southeast Asia.



Masahiro Kuwahara (Back row, second from the left) dispatched to Osaka Gas Singapore Pte. Ltd. with members of City-OG Gas Energy Services.



#### Participation in Upstream Projects (LNG, gas fields, etc.)

1 Idemitsu Snorre Oil Development Co., Ltd. Stake since 2005: 34.65%



Galhat LNG
 Stake since 2006: 3.00%
 Liquefaction capacity:
 3.3 million tons/year

G Gorgon Project Gas Field Stake since 2009: 1.25% Projected LNG output: 15 million tons/year (planned) (Start of production scheduled for 2015)

Universe Gas & Oil Company, Inc. (Sanga Sanga Gas Field)
Stake since 1990: 33.43%

**3 Japan CBM Limited** Stake since 2011: 40.12%

Orux Gas and Condensate Field Stake since 2007: 3%

Sunrise LNG Project Stake since 2000: 10% Projected LNG output: about 4 million tons/year (planned)

11 Evans Shoal Gas Field Stake since 2000: 10%

#### 12 Ichthys LNG Project Stake since 2012: 1.2%

Projected LNG output: 8.4 million tons/year (planned) (Start of production scheduled for 2016)



Cordova Shale Gas Development Project Stake since 2011: 3.75%

B Pearsall Shale Gas and Liquids Development Project Stake since 2012: 35%

2 Western Papua New Guinea Gas and Condensate Field\* Stake since 2013: 10-20%

(ratio depends on field)

\* The official decision on acquisition of interests and development pending subject to government approvals and the satisfaction of contractual condition precedents



#### Participation in Mid- and Downstream Projects (LNG receiving terminal, IPP, etc.)

2 Amorebieta IPP Ownership interest since 2005: 50% Power generation capacity: 378 MW

Sagunto LNG Terminal Ownership interest since 2010: 20% Vaporization capacity: 6.4 million tons/year



#### O Shuweihat S2 IWPP

Ownership interest since 2011: 10% (25% equity interest in the operation and maintenance company) Power generation capacity: 151 MW Freshwater processing capacity: 10 million gallons/day

#### 🚯 Ell

Ownership interest since 2008: 30.2% Four pipelines, two gas-refining facilities, two power plants, two interconnected power lines

#### Image: Marianas Energy IPP

Ownership interest since 2005: 100% Power generation capacity: 87 MW

#### 🔟 Osaka Gas Power America

Ownership interest since 2005: 8 projects Power generation capacity: 403 MW Includes 50% interest in 87 MW generation capacity of Marianas Energy IPP Tenaska Gateway IPP Ownership interest since 2004: 40%

# Power generation capacity: 338 MW

Preeport LNG Terminal Ownership interest since 2008: 10% Vaporization capacity: 13 million tons/year



Photograph courtesy of Freeport LNG Development, L.P

3 Singapore Gas Sales Stake since 2013: 49%

#### Participation in Renewable Energy IPP Projects

Hallett 4 Wind Farm Project Ownership interest since 2009: 39.9% Power generation capacity: 53 MW

(2) Ontario Solar Power Generation Project Ownership interest since 2012: 50% Power generation capacity: about 50MW



# Environment and Non-Energy Businesses

The Osaka Gas Group's environment and non-energy businesses, centered on the real estate business, IT business, and material solutions business, are being developed with technologies and expertise gained from the gas business. We are also investing in renewable energy, including solar and wind power generation. We aim to secure a stable source of earnings in the business through selection and concentration based on strategic considerations of spurring growth in existing businesses and current business conditions.

## **External Environment**

- Changes in the economic environment
- Growing social interest in renewable energy

## **Objectives and Issues to Address**

We aim to diversify the business risk of the Osaka Gas Group by seeking to expand the scope of operations through the provision of services that utilize the brand awareness and technological capabilities from the gas business. Osaka Gas hopes to establish new businesses that will support the earnings foundation of the entire Group.

- Real Estate Business (Osaka Gas Urban Development Group)
   Aiming to grow into a top-class comprehensive real estate business in the Kansai region by steadily expanding the property leasing and selling businesses
- IT Business (OGIS-RI Group)
   Eyeing growth fields, including cloud-based services and datacenters
- Material Solutions Business (Osaka Gas Chemicals Group) Growing operations through sales of chemical materials and environmentally friendly materials
- Environment-Related Businesses
   Planning to establish businesses through strategic investments and by utilizing technologies held by the Osaka Gas Group
- Life Service and Outsourcing Services Businesses
   Promoting operations that enhance the brand value of the Osaka Gas Group and contribute to efficient and effective Group management

Segment Income\* (2013.3)



 Environment and Non-Energy
 \*Segment Income = Operating income + Equity in net earnings of affiliates



Segment Income\*

(Billions of yen)



\* Segment Income = Operating income + Equity in net income of affiliates 38

# Real Estate Business (Osaka Gas Urban Development Group)

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

In the real estate business field, the Osaka Gas Group develops, leases, and sells office buildings, housing, and other properties, and also engages in the condominium business. Through these business activities, the Osaka Gas Group strives to effectively use its real estate holdings and acquire new prime real estate assets. We also offer services for the efficient management and maintenance of office buildings and other commercial facilities while looking to pursue business opportunities in the research park field for use as bases for the creation of new industries as well as private, academic, and public sector collaboration.

#### Initiatives in the Fiscal Year under Review

In the real estate leasing business, the Osaka Gas Group provides high value-added residences. In addition to rental properties that are outfitted with solar power generation and energy conservation equipment, the Group works diligently to deliver properties that take into consideration environmental concerns. As one example, steps are taken to landscape the areas surrounding properties with endangered species of plants. Thanks largely to successful efforts to further enhance the satisfaction of customers toward existing properties, the Group maintained high rates of occupancy.

# IT Business (OGIS-RI Group)

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

Having started with system development for its own gas operations, the Osaka Gas Group's IT businesses, led by OGIS-RI Co., Ltd., offer a wide range of services to customers, including the design, development, operation, and maintenance of core IT systems. Centered on the OGIS-RI Group's proprietary technologies and customer base, the IT business currently provides a comprehensive suite of IT services that precisely match the diversifying and increasingly sophisticated IT requirements of corporations. These services range from cutting-edge systems development to cloud-based services, datacenters and IT support for Japanese companies expanding overseas.

#### Initiatives in the Fiscal Year under Review

The OGIS-RI Group has been expanding its datacenter operations, demand for which has been rising rapidly in line with advances in cloud-based services, requirements for information security, and the need for backup systems during disasters. The OGIS-RI Group commenced operations at its Osaka No. 2 Datacenter in April 2013 and its Tokyo No. 2 Datacenter in July 2013. While In condominium sales, the company sold five properties, and was the lead manager for most of the properties, thereby providing a lift to earnings.

Going forward, we will continue to expand the real estate business by developing and acquiring quality real estate assets. At the same time, we will pursue synergies with our energy businesses by providing properties that enable customers to

experience the benefits of gas, such as by installing gas appliances like mist saunas, glass-top gas stoves, and floor heating systems.





#### Osaka Gas Urban Development Group Net Sales / Net Income



fortifying the datacenter business foundation and integrating our datacenters in Osaka and Tokyo, we aim

to provide safety and security for corporate IT environments through services ranging from monitoring, maintenance and operations to security countermeasures.







Environment and Non-Energy Businesses > Real Estate Business

> IT Business

- > Material Solutions Business

# Material Solutions Business (Osaka Gas Chemicals Group)

#### Business Overview and Characteristics

This business domain draws on the coal chemical technology of Osaka Gas accumulated through the production of coal gas, to operate a variety of businesses ranging in application from electronics to the environment. In the fine materials field, the group manufactures and sells fluorine derivatives with excellent optical properties and outstanding heat resistance. These derivatives are used as materials in fabricating film materials for LCDs and resins for optical lenses used in mobile phones and other devices. The company boasts the highest share of the world market for fluorine derivatives. We also manufacture and market products in the carbon materials field, including molded carbon-fiber insulation for use in fusion furnaces that process polysilicon to be used in photovoltaic cells, activated charcoal for various applications, and residential products that use activated carbon such as water purifier cartridges and air purifying filters. Also produced are preservatives, including a widely recognized brand of wood protective paints.

#### Initiatives in the Fiscal Year under Review

In the fiscal year under review, earnings continued to worsen in the carbon fiber business due to weak market conditions, and performance was worsen throughout the Group. In the fine materials and activated charcoal businesses, however, earnings were favorable owing to the development of new products and unearthing of new demand.

The company concentrated on the development of new applications, expansion of sales channels, and improvement

Environment-Related Businesses

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

The Osaka Gas Group encourages the widespread use of energy that is easy on the global environment in order to take one step closer to the realization of a low-carbon society. This entails deepening its knowledge of renewable energy while engaging in solar and wind power generation operations in Japan and overseas.

#### Initiatives in the Fiscal Year under Review

During the fiscal year under review. Osaka Gas Group commenced operations of large-scale solar power generation plants in three locations (Torishima, Konohana Ward, Osaka City; Shoo Town, Katsuta-gun, Okayama Prefecture; Hirogawa Town, Arida-gun, Wakayama Prefecture) for a total output capacity of 3.5 MW.

of profit margins in all business fields with the objective of achieving sustainable growth amid challenging business conditions. In the fiscal year ended March 31, 2013, the company established a local subsidiary in China to strengthen marketing in China. In Japan, the Company has established the Frontier Materials Laboratories as a new R&D base for inventing new materials for primarily the opto-electronics, environment and biotechnology fields. The Osaka Gas Chemicals Group aims to grow into a world-class chemicals

company by continuing to implement aggressive growth strategies.

Frontier Materials Laboratories





In addition to existing wind power generation installations in Kochi Prefecture and Wakayama Prefecture, in November 2012 Osaka Gas Group acquired shares in Hizen Wind Power Co., Ltd. in Saga Prefecture and Hirao Wind Power Co., Ltd. in Yamaguchi Prefecture. The combined output from our five wind power sites in Japan now stands at 85 MW.

Overseas, Osaka Gas Group is investing in a major new solar power generation project in Canada composed of nine sites for a total output of about 100 MW.



Hirogawa Myojin-yama Wind Power Plant



Osaka Gas Group Annual Report 2013



# **Technological Development**

# Technological Development Is Crucial to Further Strengthen Competitiveness

The Osaka Gas Group views R&D as the most effective means to differentiate itself from competitors and to strengthen its competitiveness. With this aim, the Group is strategically investing resources in fields such as energy and the environment.

# Priority Field in Technological Development

#### **Decentralized Energy Systems**

The Osaka Gas Group is stepping up its commitment to maximizing efficiencies in power supply from fuel cells\* and gas-engine cogeneration and in low-cost energy supply to help achieve energy security, energy conservation, and peak-saving power demand, which have become leading social priorities since the earthquake disaster in Japan. We are promoting technological development for the commercialization of "smart energy houses" that feature residential fuel cells, solar cells, and rechargeable batteries as well as "smart energy networks" that make the best possible use of decentralized energy systems.



For information on the development of the ENE-FARM residential fuel cell system, please refer to pages 28 and 29.

#### Technological Development for Low-Carbon Society

Osaka Gas Group recognizes the important role it plays in preventing global warming through its focus on advancing energy businesses. We are working diligently to promote advanced use of natural gas through means such as increasing the efficiency of gas appliances, optimizing renewable energy and gas systems, and the visualization of energy consumption using information and communications technology (ICT) for energy-saving controls.

#### Examples of initiatives Smart Energy Houses

The Osaka Gas Group is working to develop "smart energy houses" that combine comfort and environmentally friendly living. The houses employ three types of batteries (residential fuel cells, solar cells, and rechargeable batteries) and IT to facilitate "smart" production, storage, and utilization of electricity and thermal energy. The Group began testing with a view to practical application from February 2011.

Impressed with the Group's endeavors, the Institute for Building Environmental and Energy Conservation (IBEC) certified it's "Experimental Home Residence," as a Lifecycle Carbon Minus (LCMM) home<sup>\*1</sup> in January 2012. This was the first time this designation was accredited in Japan. In addition, steps were taken to determine the installation effects of the "Experimental Home Residence" under actual living conditions over a full year (July 2011 to June 2012). Tests clearly demonstrated wide-ranging benefits in the areas of energy consumption, CO<sub>2</sub> emissions, and utility costs, with reductions of 88%, 103%<sup>\*2</sup>, and ¥310,000, respectively.

# Developing Technologies That Contribute to Environmental Preservation

By expanding upon its catalyst, bio, carbon material, and other core technologies, the Osaka Gas Group is contributing to environmental preservation, including wastewater treatment technology and methane fermentation technology for raw garbage.

#### **Research and Development Expenses (Consolidated)**



<sup>11</sup> LCCM homes achieve negative CO<sub>2</sub> balances in their overall lifecycles through the use of solar cells and other renewable energy resources and minimal CO<sub>2</sub> emissions in home construction, installation, and waste disposal.

<sup>\*2</sup> The net balance of reductions in the volume of CO<sub>2</sub> emissions through the use of batteries together with reductions in thermal power plant CO<sub>2</sub> emissions attributable to the electricity sales portion of solar cells exceeds zero with a further reduction of 3%.

# Conceptual Diagram of a Smart Energy House Image: Conceptual Diagram of a Smart Energy House Image:

#### Examples of initiatives Smart Energy Network

A "smart energy network" is essentially an energy community that is composed of gas cogeneration systems, renewable energy, and information and communication technology (ICT). Far more than providing energy flexibility, "smart energy networks" are next-generation energy systems that create new value by combining distributed energy sources through a process of integrated control. In specific terms, this new value is derived from (1) the pursuit of further reductions in energy consumption and CO<sub>2</sub> emissions, (2) efforts to enhance energy security, and (3) the growing use of renewable energy. Osaka Gas jointly with Tokyo Gas participated in the pilot project funded by Japan's Ministry of Economy, Trade and Industry, collecting smart energy network data in conjunction with nine customers from the fiscal year ended March 31, 2011. On the results of this project, Osaka Gas commenced smart service provider business demonstrations from June 2012. Furthermore, and from June 2013, Osaka Gas took steps to build a smart energy network for a redevelopment project that includes such participants as AEON Co., Ltd. in the Iwasaki area of Nishi-ku in Osaka. The Company has commenced the supply of electric power\* as a designated electricity supplier.

\*The supply of electric power represents the first designated electricity supplier applied in Japan since the relaxation of requirements following revisions to Japan's Electric Utilities Industry Law in the fiscal year ended March 31, 2012.



#### Examples of initiatives Energy-Creating Wastewater Treatment Process

Osaka Gas has developed a method to rapidly decompose and process organic wastewater produced at semiconductor, chemical, and other plants using catalyst technologies. The process creates a flammable gas composed primarily of methane that can be effectively recycled inside factories as fuel for boilers or other purposes. This reduces CO<sub>2</sub> emissions by roughly 110%<sup>\*</sup> and wastewater treatment costs by about 40% compared with conventional combustion processes.

Verification operations began at customers' plants from the fiscal year ended March 31, 2011. In recognition of its successive results, Osaka Gas received the Special Engineering Promotion Award from the Engineering Advancement Association of Japan in June 2012 and the Progress Award from the Japan Institute of Energy in February 2013.

#### Diagram of the Energy-Creating Wastewater Management Process



(Operating conditions) Temperature: 200–300°C, Pressure: 5–10MPaG, LHSV: 1–10hr-1

<sup>\*</sup> Figure includes benefits of introducing the treatment process, which cuts emissions by 85%, and the flammable gas produced, which allows fuel used by boilers or other equipment to be reduced by 25%.

# **Intellectual Property Activities**

# **Intellectual Property Activities**

The Osaka Gas Group positions intellectual property 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

The Osaka Gas Group has been developing strong rights coverage centered on technologies of strategic importance to business and R&D and placing priority on filing applications for their patents, particularly in areas deemed key for acquiring intellectual property rights. To this end, we have employed a range of methods including patent portfolio management. In particular, we are strategically filing patent applications in technologies related to residential gas cogeneration systems such as fuel cells.

In the fiscal year ended March 31, 2013, the Group submitted 461 applications.

#### Effective Utilization of Intellectual Property Rights

Osaka Gas has focused on boosting its competitiveness by considerably increasing the number of patents it holds in areas of strategic importance, including cogeneration systems for residential use. It also holds patents on mist-sauna applications for residential use, gas air conditioning systems for nonresidential use, and LNG tank technology and non-excavation pipeline methods in the areas of production, transport and supply. The Company also owns patents on fine materials and other materials technologies. Its intellectual property rights are used broadly throughout the Group's businesses, and patents are actively licensed to other companies. Group patents numbered 2,861 as of March 31, 2013, an increase of 166 from March 31, 2012.

#### 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. As of March 31, 2013, the Group had 915 registered trademarks.

# Strengthening Intellectual Property throughout the Group

A variety of educational and instructional tools are used to further improve the 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 rank. E-mail magazines are also distributed with the latest news on intellectual property and explanations of important items to be observed when conducting business activities.

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.



#### Patent Applications by the Group





Commercial and industrial energy Cogeneration Materials technology Others

# Examples of registered trademarks in the fiscal year ended March 31, 2013



(GaSmart) New concept logo for the Osaka Gas Group Rights jointly owned by Tokyo Gas Co., Ltd. Trademark #: 5499764 and 5487229



Smart Energy House Trademark #: 5522063



New kind of rice cooker Rights jointly owned by Rinnai Corporation, Tokyo Gas Co., Ltd. and Toho Gas Co., Ltd. Trademark #: 5557848 The Osaka Gas Group CSR Charter was enacted as the guiding principle for the management and the employees of the Group to observe in their business conduct and to ensure that the Company fulfills its corporate social responsibility (CSR). As part of efforts to implement the Charter, the Company has set up the CSR Promotion Council under the president to plan, report, and discuss the CSR-related activities among directors and members of the management. The Company has also established the CSR Committee under the CSR Executive, who oversees the CSR activities of the Group; these comprise leaders of organizational units to coordinate and promote CSR in a cross-organizational manner. Moreover, steps have been taken to put in place specific CSR indicators that are meant to help visualize the Group's CSR performance. Through the use of these CSR indicators and a complementary follow-up system, every effort is being made to ensure that the Osaka Gas Group is engaging in appropriate and proactive CSR activities.



For information on organization, please refer page 45.

## **Osaka Gas Group New CSR Indicators**

CSR Charter	New CSR Indicators (2013.3–2014.3)	2013.3 Result
Creating value for customers	Customer satisfaction level Seven Customer Service Duties Overall satisfaction rate 85% or more 82% or more in all satisfaction rates	Customer satisfaction level Seven Customer Service Duties Overall satisfaction rate 90.6% Achieve over 82% in all satisfaction rates
<ul> <li>Harmonizing with the environment and contributing to realizing a sustainable society</li> </ul>	Environmental Management Indicator Environmental Management Efficiency 68 yen / 1,000 m <sup>3</sup> or less	Environmental Management Indicator Environmental Management Efficiency 59 yen / 1,000 m³
Being a good corporate citizen contributing to society	Number of contacts and communication events Number of events held (on-site dietary and energy/environment seminars, etc.): 1,000 times Number of contacts (visitors to permanent facilities including Gas Science Museum): 70,000 people or more Social contribution activities: Number of activities implemented: 600 times or more	Number of contacts and communication events Number of communication events held: 2,004 times Visitors to permanent facilities: 70,865 people Number of social contribution activities implemented: 632 times
Complying with laws and regulations and respect for human rights	Compliance awareness survey scores (Individual) Level of understanding of the Code of Conduct: Higher than the previous year (Organization) Degree of penetration of compliance: Higher than the previous year Percentage of employees receiving compliance training: 100%	Compliance awareness survey scores Level of understanding of the Code of Conduct: 1.8p decreased Degree of penetration of compliance: 1.3p increased Percentage of employees receiving compliance training: 100%
<ul> <li>Management policy for human growth</li> </ul>	Employee opinion survey Maintaining sufficient levels in job satisfaction and sense of attachment to the company	Employee opinion survey Job satisfaction: 3.89 out of 5 Sense of attachment to the company: 4.38 out of 5

## The Osaka Gas Group Code of Conduct — Our Pledge

- 1 Respect human rights and create a pleasant and secure work environment.
- 2 Comply with laws and regulations and perform work in accordance with common sense.
- 3 In global business activities, respect country and regional laws as well as international standards such as those related to human rights.
- 4 Consideration for the environment
- 5 Comply with fair trade and competitive practices.

- 6 Provide safe and high-quality products and services at reasonable prices and work to enhance customer satisfaction.
  7 In interactions with associates and business partners, abide by a good code of conduct.
- 8 Properly recognize the value and importance of information and handle and disclose it fairly.
- 9 Prohibit association with anti-social elements.
- 10 Use proper tax and accounting practices.

#### Inclusion in Various Social Responsibility Investment (SRI) Indices

As of March 31, 2013, Osaka Gas has been accepted into the following SRI indices:



Dow Jones Sustainability Indexes

Dow Jones Sustainability Asia Pacific Index



FTSE4Good Index Series



MSCI Member of the MSCI ESG Indices 2012-2013

MSCI ESG Indices



-

ECPI Ethical Index Global (E.Capital Partners Indices)

Morningstar Socially Responsible Investment Index (MS-SRI)



## **Corporate Governance**

Guided by the principles of good corporate governance, the Osaka Gas Group is committed to practicing sound and transparent management while maximizing corporate value.



Directors and Corporate Auditors

(As of June 27, 2013)

resi	IU	

Hiroshi Ozaki

Representative Directors Masato Kitamae Takehiro Honjo Hirofumi Kyutoku

## Directors

Takahiko Kawagishi Hidetaka Matsuzaka Yoichiro Ozaki Kenji Ikejima Masaki Fujita Yasuo Ryoki Tetsuo Setoguchi

#### Outside

Directors Shunzo Morishita Hideo Miyahara

#### Corporate Auditors

Shingo Kamei Shiro Takenaka Outside Corporate Auditors

Toshihiko Hayashi Atsushi Hayashi

#### **Basic Stance toward Corporate Governance**

The Osaka Gas Group, seeking to maximize corporate value, operates in accordance with its "Value Creation Management" philosophy, which stipulates that value should be raised for all stakeholders including customers, shareholders, society, and employees through fair and transparent business practices.

Guided by this management philosophy, the Group is working to further improve the soundness of management. At the same time, we are endeavoring to not only maintain the current status of our corporate governance system, but also to enhance and strengthen its content and quality. In this manner, every effort is being made to ensure that business is executed in an efficient and appropriate manner and that the Group responds swiftly and precisely to changes in its business environment.

#### **Corporate Governance Structure and Systems**

Following the internal regulations stipulated by such internal organizations as the Board of Directors, Osaka Gas thoroughly deliberates and makes decisions upon relevant issues after careful scrutiny from a technical perspective conducted by the Executive Board, which is composed of executive directors and senior executive officers. The Board of Directors consists of 13 directors (including two outside directors). Its mission is to make swift and appropriate decisions concerning important matters that affect the Group as a whole, including subsidiary and other companies. The Company has adopted an executive officer system, under which executive officers perform duties determined by the Board of Directors, while some representative directors and directors concurrently serve as executive officers. This serves to further strengthen the supervisory functions of the Board of Directors and enhance their performance in the execution of their duties. Matters pertaining to the appointment of directors and corporate auditors as well as remuneration paid to directors are determined after taking into consideration deliberations by the Management Advisory Committee. As a part of efforts to ensure transparency and objectivity, the Management Advisory Committee is composed of a majority of outside directors.

#### Audit Structure and Systems

Osaka Gas has adopted the corporate auditor system. The Board of Corporate Auditors is comprised of four members, including two outside corporate auditors, who monitor and audit the duties and performance of directors. The Corporate Auditors' Office, consisting of four full-time staff operating outside the directors' chain of command, has been established to strengthen the role played by corporate auditors. It assists in investigations of corporate auditors to further ensure that their duties are fully and properly executed.

In addition, corporate auditors, accounting auditors, and auditing departments meet on a regular basis to discuss annual audit plans and audit reports, and also convene as required to exchange audit information to ensure the effectiveness of the auditing activities.

For its accounting audit, the Company has concluded a contract agreement with KPMG AZSA LLC.

#### **Corporate Governance Organization** (As of June 27, 2013)



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#### The Functions and Roles of Outside Directors and Outside Corporate Auditors

Osaka Gas appoints two outside directors and two outside corporate auditors. Outside directors participate in the decisionmaking process as members of the Board of Directors and are expected to undertake auditing and monitoring duties. Outside corporate auditors are expected to fulfill their duties as auditors by monitoring the execution of operations by directors from a strictly independent standpoint.

The concrete roles of outside directors and outside corporate auditors include verifying the state of the internal governance system in accordance with Japan's Companies Act, evaluating internal governance related to financial reporting in compliance with the Japanese Financial Instruments and Exchange Law, and holding hearings on the status of internal audits and the state of CSR in relation to the Board of Directors or other parties. They also confirm the content of audit reports compiled by the independent auditor of accounts.

#### Reasons for Appointing Outside Directors and Outside Corporate Auditors

Osaka Gas has appointed two outside directors and two outside corporate auditors. In determining a particular appointment, the Company maintains specific predetermined criteria to ensure an appropriate level of independence. Outside directors and outside auditors are not major trading partners of or major shareholders in the Osaka Gas Group, are not nor have they been executives or employees at other companies that are major trading partners of or major shareholders.

The reasons for the appointment of individual outside directors and outside corporate auditors are presented as follows.

Outside Director	Individual Reason for Appointment	Concurrent Positions Held
Shunzo Morishita           2004         Representative Director and President of NIPPON TELEGRAPH AND TELEPHONE WEST CORPORATION           2008         Director and Executive Advisor of NIPPON TELEGRAPH AND TELEPHONE WEST CORPORATION           2009         Director of the Company (current)           2010         Executive Advisor of NIPPON TELEGRAPH AND TELEPHONE WEST CORPORATION (current)           2012         Chairman of the Board of Directors of Hanshin Expressway Company Limited (current)	Mr. Morishita's suitability and appointment as an outside director is based on his wealth of experience and wide- ranging business insight as former CEO of NIPPON TELEGRAPH AND TELEPHONE WEST CORPORATION.	Yes
Outside Director	Individual Reason for Appointment	Concurrent Positions Held
<ul> <li>Hideo Miyahara</li> <li>2002 Dean of the Graduate School of Information Science and Technology, Osaka University</li> <li>2003 President of Osaka University</li> <li>2007 President of the National Institute of Information and Communications Technology</li> <li>2013 Specially Appointed Professor, Osaka University Graduate School of Information Science and Technology (current)</li> <li>2013 Director of the Company (current)</li> </ul>	Mr. Miyahara's suitability and appointment as an outside director is based on his excellent achievements in the field of information engineering as well as his extensive experience and knowledge in organizational management as President of Osaka University.	Yes
Outside Corporate Auditor	Individual Reason for Appointment	Concurrent Positions Held
Toshihiko Hayashi1994Professor of the Graduate School of International Public Policy, Osaka University2002Professor of the Open University of Japan2006Corporate Auditor of the Company (current)2010Professor Emeritus of the Graduate School of Policy and Management, Doshisha University	Mr. Hayashi's suitability and appointment as an outside corporate auditor is based on his considerable expertise and knowledge in the management field.	No
Outside Corporate Auditor	Individual Reason for Appointment	Concurrent Positions Held
Atsushi Hayashi2008President of the Takamatsu High Court2010Professor of the Graduate School of Law, Kyoto University (current)2012Corporate Auditor of the Company (current)	Mr. Hayashi's suitability and appointment as an outside corporate auditor is based on his wealth of experience and specialist insight as a legal professional gained across a variety of positions, including President of the Takamatsu High Court.	No

#### **Director and Corporate Auditor Remuneration**

In order to ensure transparency and objectivity, the amount of remuneration paid to each director is determined by a resolution of the Board of Directors after taking into consideration deliberations by the Management Advisory Committee, which is composed of a majority of outside directors. The amount falls within the scope (up to a maximum of ¥63 million per month) approved at the Annual Meeting of Shareholders and reflects the position and responsibilities of each director as well as the level of contribution to the Company's performance. The amount of remuneration paid to outside directors is fixed taking into consideration their independence from the business execution function.

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 Annual Meeting of Shareholders and reflects the position of each corporate director.

The system of paying retirement benefits to directors and corporate auditors has been abolished.

Classification	Total amount of remuneration (millions of yen)	Number of payees
Directors (excluding Outside Directors)	512	13
Corporate Auditors (excluding Outside Corporate Auditors)	64	3
Outside Directors and Outside Corporate Auditors	42	5

#### **Risk Management Structure and Systems**

The Osaka Gas Group has developed and used the Gas Group Risk Management System (G-RIMS) as a self-assessment risk management mechanism since the fiscal year ended March 31, 2007. Following an annual self-assessment by each division, the secretariat (Auditing Department, Compliance Department, Corporate Strategy Department, and Affiliated Business Department) holds discussions with each division to exchange opinions and monitor implementation. Depending on the assessment and concerning issues of particular importance that have been identified, steps are taken to ensure that pertinent information is commonly shared through reports presented to management. Each division head and manager is responsible for taking action to resolve any issues that have been identified. At the same time, steps are taken to secure an effective PDCA cycle through these risk management activities across the entire Group.

#### Internal Control

Osaka Gas has established the Auditing Department (with a staff of 20) that functions as an internal auditing division and, based on a yearly auditing plan, monitors the appropriateness and efficiency of business activities and provides internal organizations with advice and recommendations. For business units, core Group companies, and other sections, the Group is working to enhance and strengthen the auditing and internal control functions. For example, basic rules for affiliated companies and selfauditing regulations commonly shared by Group companies more clearly define the roles and duties of internal auditors. Moreover, auditors evaluate internal controls over financial reporting based on the Japanese Financial Instruments and Exchange Law and report to management.

#### **Investor Relations Activities**

Osaka Gas takes the opinions and proposals of shareholders and investors with the utmost seriousness and recognizes the importance of incorporating this feedback into its ongoing management. Accordingly, the Company focuses on activities that facilitate proactive communication with shareholders and investors.

#### **Investor Relations Activities**

The establishment and announcement of a disclosure policy	Osaka Gas has put in place a disclosure policy. Details are posted on the Company's website. (http://www.osakagas.co.jp/en/ir/disclosure-policy/)
Regular briefings for individual investors	Osaka Gas conducts briefings for individual investors through a variety of channels, including equity investment seminars organized by securities firms.
Regular briefings for analysts and institutional investors	Osaka Gas holds briefings for analysts and institutional investors twice each year on the occasion of announcements of financial results for the second and fourth quarters, respectively.
Disclosure of IR materials on the Company's website	Osaka Gas posts details of term-end results, financial information, business reports, fact books, and other corporate data on its website. (http://www.osakagas.co.jp/en/ir/index.html)
Establishment of IR units (appointment of IR officers)	<ul> <li>Units responsible for IR: Corporate Strategy Department, Corporate Planning HQ</li> <li>Director responsible for IR: Masato Kitamae (Representative Director)</li> <li>IR liaison officer: Megumu Tsuda (IR General Manager, Corporate Planning HQ)</li> </ul>
Other	While the Company does not hold overseas briefing sessions on a regular basis, representative directors and other officers periodically call on overseas investors. On each occasion, steps are taken to provide wide-ranging information, including details of the Company's management strategies.

Osaka Gas Group Annual Report 2013

# **Osaka Gas Group Organization**

As of April 1, 2013



# Financial Section

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# Summary of Consolidated Operating Results Osaka Gas Co., Ltd. and Consolidated Subsidiaries Fiscal years ended March 31, 2003 through 2013

	2003.3	2004.3	2005.3	2006.3	
Financial Data					
Net sales	¥ 947,977	7 ¥ 951,324	¥ 975,340	¥1,065,961	
Operating income	85,974	92,096	95,992	100,657	
Income before income taxes and minority interests	51,025	5 78,161	83,904	132,393	
Net income	29,685	47,065	50,683	80,710	
Capital expenditure	67,107	69,779	65,517	117,455	
Depreciation and amortization	82,805	5 89,564	86,858	84,250	
R&D expenses	13,725	5 12,379	11,404	11,324	
Total assets	1,209,627	7 1,199,228	1,217,463	1,398,692	
Equity	453,284	495,635	530,862	628,510	
Interest-bearing debt	494,535	455,700	448,521	487,509	
Net cash provided by operating activities	92,573	3 132,891	116,902	152,935	
Net cash used in investing activities	(49,629	9) (67,877)	(65,679)	(162,989)	
Net cash used in financing activities	(30,093	3) (75,930)	(23,912)	13,245	
Number of shares issued and outstanding (thousands)	2,369,011	2,369,011	2,369,011	2,235,669	
Per Share Data (yen and U.S. dollars)					
Earnings per share (EPS)	¥ 12.56	6 ¥ 20.56	¥ 22.69	¥ 36.18	
Book value per share (BPS)	197.28	3 222.15	238.15	282.12	
Annual dividends	6.00	6.00	6.00	7.00	
Key Ratios					
Shareholders' equity ratio	37.5%	41.3%	43.6%	44.9%	
Debt equity ratio (times)	1.09	0.92	0.84	0.78	
Interest coverage ratio (times)	14.2	2 12.9	16.1	23.6	
Return on assets (ROA)	2.4%	3.9%	4.2%	6.2%	
Return on equity (ROE)	6.4%	9.9%	9.9%	13.9%	
Gas sales volume (million m <sup>3</sup> )	7,701	7,779	8,072	8,469	
Number of meters installed (thousands)	6,579	6,650	6,725	6,785	
Number of employees	15,020	) 15,276	15,992	16,077	

Notes:

1. The translation of Japanese yen amounts into U.S. dollar amounts is based on the prevailing exchange rate at March 31, 2013, which was ¥94.05 to U.S.\$1.0.

The transition of separate year and that into 0.5, doing another is based on the prevaiing exchange.
 Shareholders' equity ratio = Equity / Total assets (as of the end of the fiscal years ended March 31)
 Debt equity ratio = Interest-bearing debt / Equity (as of the end of the fiscal years ended March 31)

4. Interest coverage ratio = Cash flows from operating activities / Interest expense
5. Return on assets (ROA) = 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 U.S. dollars
	2007.3	2008.3	2009.3	2010	0.3 2011.3	2012.3	2013.3	2013.3
¥	1,174,456	¥1,238,145	¥1,326,785	¥1,096,6	28 ¥1,187,142	¥1,294,781	¥1,380,060	\$14,673,684
	93,729	75,611	66,932	91,1	40 88,584	77,274	84,773	901,360
	88,078	72,478	64,510	82,5	72 81,587	75,694	84,630	899,840
	52,929	40,283	36,041	48,3	84 45,968	45,207	52,467	557,862
	95,267	111,087	106,087	98,2	46 69,600	87,171	112,987	1,201,350
	84,031	95,253	86,549	95,4	02 97,569	93,624	82,818	880,574
	9,906	10,178	9,603	10,6	70 10,918	10,974	10,875	115,629
	1,405,682	1,467,934	1,452,457	1,483,8	95 1,437,297	1,475,759	1,566,899	16,660,276
	668,887	648,592	612,566	666,6	664,959	684,584	747,802	7,951,111
	487,827	566,441	573,483	539,0	81 532,493	541,349	540,199	5,743,742
	98,354	134,282	120,691	229,7	14 126,399	122,793	129,597	1,377,958
	(99,765)	(132,029)	(108,102)	(111,2	65) (82,408)	) (107,764)	(116,791)	(1,241,796)
	(22,009)	12,495	(3,438)	(49,5	53) (41,257)	(8,279)	(27,897)	(296,618)
	2,235,669	2,158,383	2,158,383	2,158,3	83 2,083,400	2,083,400	2,083,400	_
¥	23.77	¥ 18.27	¥ 16.72	¥ 22.	50 ¥ 21.62	¥ 21.71	¥ 25.20	\$ 0.267
	300.61	300.76	284.21	310.3	39 319.33	328.77	359.16	3.818
	7.00	7.00	7.00	7.	00 8.00	8.00	8.50	0.090
	47.6%	44.2%	42.2%	44.9	% 46.3%	46.4%	47.7%	_
	0.73	0.87	0.94	0.3	81 0.80	0.79	0.72	_
	10.3	13.6	11.5	23		13.8	15.4	
	3.8%	2.8%	2.5%	3.3		3.1%	3.4%	_
	8.1%	6.1%	5.7%	7.6		6.7%	7.3%	
	0.170	0.170	0.770	7.0		0.770	7.070	
	8,764	8,917	8,416	8,1	50 8,560	8,711	8,534	_
	6,848	6,913	6,971	7,0		7,074	7,114	
	0,848 16,435							_
	10,435	16,682	19,009	19,2	68 19,684	19,818	19,870	

## Management's Discussion and Analysis

#### 1. Operating Environment

In the fiscal year ended March 31, 2013, the Japanese economy experienced a modest recovery. In addition to such factors as the steady improvement in economic conditions in the U.S., the absence of any major downturn in China and Europe, and an increase in reconstruction demand following the earthquake disaster, this moderate pickup was largely attributable to the ambitious pump-priming policies put forward by the newly elected administration, which triggered a drop in the value of the yen, an upswing in stock market prices, and a positive turnaround in business confidence. In overall terms, the fiscal year under review generated expectations of growth going forward.

#### 2. An Overview of the Fiscal Year Ended March 31, 2013

Consolidated net sales for the fiscal year ended March 31, 2013 increased by ¥85.2 billion (6.6%) year on year to ¥1,380.0 billion, primarily because gas unit prices remained high under the Fuel Cost Adjustment System. Meanwhile, consolidated operating income came to ¥84.7 billion, up ¥7.4 billion (9.7%). This largely reflected the increase in earnings in the gas as well as electric power businesses. Likewise, consolidated net income climbed by ¥7.2 billion (16.1%) to ¥52.4 billion.

As of March 31, 2013, the Company had 130 consolidated subsidiaries. During the fiscal year, seven companies were excluded, and four companies were included in the scope of consolidation. In addition, there were nine affiliates reported by the equity method as of the end of the fiscal year under review, unchanged from the end of the previous fiscal year.







#### 3. Non-Consolidated Gas Sales

In the fiscal year ended March 31, 2013, overall gas sales volume for Osaka Gas declined by 2.1% from the previous fiscal year, to 8,503 million m<sup>3</sup>. Included in this amount, residential gas sales volume were relatively unchanged from the previous fiscal year at 2,272 million m<sup>3</sup>. Industrial gas sales volume contracted 3.1%, to 4,222 million m<sup>3</sup>, as a result of the drop in operating activity by existing customers. Commercial gas sales and gas sales for public and medical uses were impacted by the energy-saving efforts of customers. This led to a decline by 2.2%, to 1,540 million m<sup>3</sup>. Wholesale gas sales decreased by 2.3%, to 469 million m<sup>3</sup>.

#### Non-Consolidated Gas Sales

	2012.3	2013.3	Change	Change (%)
e per customer (m³/month)	32.6	32.5	-0.1	-0.3
Residential	2,271	2,272	+1	+0.1
Commercial and industrial	5,930	5,761	–168	-2.8
Industrial	4,355	4,222	-134	-3.1
Commercial, public, and medical	1,575	1,540	-35	-2.2
Wholesale	480	469	-11	-2.3
Total	8,681	8,503	-178	-2.1
	Commercial and industrial Industrial Commercial, public, and medical Wholesale	Residential2,271Commercial and industrial5,930Industrial4,355Commercial, public, and medical1,575Wholesale480	e per customer (m³/month)         32.6         32.5           Residential         2,271         2,272           Commercial and industrial         5,930         5,761           Industrial         4,355         4,222           Commercial, public, and medical         1,575         1,540           Wholesale         480         469	e per customer (m³/month)         32.6         32.5         -0.1           Residential         2,271         2,272         +1           Commercial and industrial         5,930         5,761         -168           Industrial         4,355         4,222         -134           Commercial, public, and medical         1,575         1,540         -35           Wholesale         480         469         -11

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#### 4. Overview by Business Segment

#### Gas

Net sales for the gas business segment were up  $\pm$ 62.0 billion (6.4%) year on year, to  $\pm$ 1,038.5 billion, because gas unit prices remained high under the Fuel Cost Adjustment System. Segment income also climbed  $\pm$ 2.3 billion (11.4%), to  $\pm$ 23.3 billion.

#### LPG, Electricity and Other Energy

Net sales from this segment increased by ¥17.4 billion (8.8%), to ¥215.5 billion, owing mainly to higher revenues from the electric power business and LNG sales growth. Segment income was up ¥5.8 billion (18.0%), to ¥38.2 billion, reflecting the increase in electric power business profits.

#### International Energy

Net sales from the international energy businesses segment declined by ¥0.3 billion (3.5%), to ¥10.7 billion. Segment income fell by ¥1.0 billion (11.7%), to ¥7.6 billion, largely due to the downturn in income from LNG terminal operations in Spain and independent power producer (IPP) projects in the U.S.

#### **Environment and Non-Energy**

Net sales from the environment and non-energy businesses segment edged up ¥1.0 billion (0.6%), from the previous fiscal year, to ¥185.6 billion. This was largely attributable to the increase in material solutions business sales. Segment income increased by ¥0.5 billion (2.8%), to ¥19.0 billion, following higher income from the sports facilities business.

#### Net Sales and Segment Income\* for the Fiscal Year Ended March 31, 2013

						(Billions of yen)
	Gas	LPG, Electricity and Other Energy	International Energy	Environment and Non-Energy	Adjustments	Total
Net sales	1,038.5	215.5	10.7	185.6	-70.4	1,380.0
Year-on-year change (%)	+6.4%	+8.8%	-3.5%	+0.6%	—	+6.6%
Year-on-year change	+62.0	+17.4	-0.3	+1.0	—	+85.2
Segment income*	23.3	38.2	7.6	19.0	2.7	91.1
Year-on-year change (%)	+11.4%	+18.0%	-11.7%	+2.8%	—	+9.9%
Year-on-year change	+2.3	+5.8	-1.0	+0.5	—	+8.1

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

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

#### **Asset Management Policies**

The Osaka Gas Group plans to reduce assets in unprofitable business fields and day-to-day operations and intends to aggressively expand its operations in growth fields, especially domestic energy services, international energy businesses along the energy value chain, and environment and non-energy businesses. 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. When considering the optimal balance between debt capital and equity capital, the Company looks at factors such as related capital costs and the need to maintain a sound financial position. Based on these considerations, we strive to maintain a consolidated ratio of interest-bearing debt to equity of approximately one and a consolidated shareholders' equity ratio of 40% or more as we aim to maximize capital efficiency. In this pursuit, we employ a number of measures, including cash flow management 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 debt and buy back its 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.

As the shareholders' equity ratio is now well above 40%, we intend to invest in our growth by raising funds through new interest-bearing debt in line with the growth in shareholders' equity that accompanies higher income.

#### 54 Capital Expenditure

In the fiscal year ended March 31, 2013, non-consolidated capital expenditure totaled ¥60.1 billion, up ¥1.5 billion year on year, due mainly to the ongoing construction of the Himeji-Okayama Line. Consolidated capital expenditure rose by ¥25.8 billion, to ¥112.9 billion, on the back of such factors as the acquisition of overseas gas field interests by a consolidated subsidiary and investments in a wind power generation business.

The Osaka Gas Group is aggressively investing in both domestic and overseas businesses as potential future growth drivers. In addition to interests in conventional natural gas fields potential investments include those used to acquire unconventional gas field interests such as shale gas and other investments in upstream businesses, as well as investments in IPPs and other electric power businesses. During the fiscal year under review, we made investments for expansion, greenfield projects, and M&A activities totaling ¥85.7 billion in the Mie-Shiga Line, Himeji-Okayama Line, the Gorgon and Ichthys projects in Australia, the Pearsall shale gas and liquids development project in the U.S., and wind power plants in Japan. However, we have decided to

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

Total assets on March 31, 2013 stood at ¥1,566.8 billion, up ¥91.1 billion from the previous fiscal year-end, mainly due to an increase in noncurrent assets in line with the upswing in construction in progress. Total liabilities increased by ¥25.7 billion, to ¥792.5 billion, due to the increase in current liabilities. Net assets climbed by ¥65.4 billion, to ¥774.3 billion on the back of increases mainly in total accumulated other comprehensive income due to foreign currency translation adjustment.

#### Total Assets / Net Assets / Shareholders' Equity Ratio



Shareholders' equity ratio (right)

conduct investments totaling ¥332.0 billion over the four-year period that began with the fiscal year ended March 31, 2010 (83% of the amount planned for the five-year period from the fiscal year ended March 31, 2010 to the fiscal year ending March 31, 2014).

#### **Consolidated Capital Expenditure**



Consequently, the shareholders' equity ratio increased by 1.3 percentage points from the previous fiscal year-end, to 47.7%. Return on assets (ROA) was up 0.3 of a percentage point, to 3.4%, while return on equity (ROE) improved 0.6 of a percentage point, to 7.3%.



# Return on Equity (ROE)

#### 6. Overview of Cash Flows

Net cash provided by operating activities during the fiscal year ended March 31, 2013, increased ¥6.8 billion, to ¥129.5 billion. This was largely attributable to the increases in income before income taxes and minority interests from the previous fiscal year.

Net cash used in investing activities increased by ¥9.0 billion, to ¥116.7 billion, primarily because of the year-on-year upswing in purchase of intangible assets.

Net cash used in financing activities climbed by ¥19.6 billion, to ¥27.8 billion largely on the back of the increase in redemption of bonds from the previous fiscal year.

As a result, the net decrease in cash and cash equivalents in the fiscal year ended March 31, 2013, totaled ¥12.9 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, 2013, decreased by ¥12.9 billion, to ¥109.4 billion.

			(Billions of yen)
	2012.3	2013.3	Change
Net cash provided by operating activities	122.7	129.5	+6.8
Net cash used in investing activities	-107.7	-116.7	-9.0
Net cash used in financing activities	-8.2	-27.8	-19.6
Net increase (decrease) in cash and cash equivalents	6.2	-12.9	-19.2
Cash and cash equivalents at the end of the year	122.4	109.4	-12.9
Interest-bearing debt at the end of the year	541.3	540.1	-1.1

#### Use of Free Cash Flows

Consolidated free cash flows for the fiscal year ended March 31, 2013, increased by ¥6.0 billion, to ¥85.0 billion. Uses of these free cash flows included investments of ¥85.7 billion for expansion, greenfield projects, and M&A activities as well as dividend payments of ¥16.6 billion.

#### Consolidated Free Cash Flows for the Fiscal Year Ended March 31, 2013

Investments for upgrading



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 will endeavor to attain the following financial soundness indicators: (1) a shareholders' equity ratio of 40% or more, and (2) a ratio of consolidated interest-bearing debt to equity of about one, while maintaining the existing balance with shareholders' value added (SVA), free cash flow, interest-bearing debt, 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, 2013)

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 aimed at bolstering its financial constitution, 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.

For the fiscal year ended March 31, 2013, the Company issued dividend payments totaling ¥8.5 per share, including an interim dividend of ¥4 per share, after taking into consideration such factors as steady contributions to profit from strategic investments in the fields outside the gas business. This represents a year-on-year increase of ¥0.5 per share. Turning to the fiscal year ending March 31, 2014, the Company intends to pay a dividend of ¥9 per share.

#### 9. Outlook for the Fiscal Year Ending March 31, 2014

We project that net sales in the fiscal year ending March 31, 2014 will increase by  $\pm$ 127.9 billion (9.3%) year on year, to  $\pm$ 1,508.0 billion. This is largely because LNG prices are expected to be higher in the next fiscal year than in the fiscal year under review, and gas sales unit prices are anticipated to remain high due to the Fuel Cost Adjustment System.

Operating income is expected to rise by ¥15.2 billion (18.0%) year on year, to ¥100.0 billion, due primarily to the decrease in labor costs and miscellaneous expenses as well as the increase in profits at affiliates. In addition, net income in the fiscal year ending March 31, 2014 is forecast to increase by ¥12.0 billion (22.9%), to ¥64.5 billion.

(Rillions of yen)



#### Net Sales and Segment Income\* for the Fiscal Year Ending March 31, 2014 (Outlook)

						(Billions of yen)
	Gas	LPG, Electricity and Other Energy	International Energy	Environment and Non-Energy	Adjustments	Total
Net sales	1,084.0	258.0	17.5	199.5	-51.0	1,508.0
Year-on-year change (%)	+4.4%	+19.7%	+62.6%	+7.5%	—	+9.3%
Year-on-year change	+45.4	+42.4	+6.7	+13.8	—	+127.9
Segment income*	34.3	38.9	9.4	20.1	2.9	105.6
Year-on-year change (%)	+46.8%	+1.6%	+22.9%	+5.4%	—	+15.9%
Year-on-year change	+10.9	+0.6	+1.7	+1.0		+14.4

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

#### 10. Business Risks

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

#### Risks Related to All Businesses

#### within the Osaka Gas Group

a. Worsening of economic, financial, and social conditions, 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 business and other business areas related to the Group

#### f. Breakdown of malfunction of critical IT systems Breakdown or malfunction of critical IT systems, such as

systems related to gas production/supply billing

#### g.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

#### h. Non-compliance with laws and regulations

Expenditures to correct such a non-complying act or damage to its 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) Gas business

a. Impact of fluctuations in temperature / water temperature on gas demand

#### b. Changes in fuel costs

Fluctuation in LNG prices due to changes in crude oil prices, foreign exchange rates, and other relevant factors\* Settlement of fuel costs arising from renewal of contracts or price negotiations with fuel suppliers

\* 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 materials

Problems with the facilities or operations of an LNG supplier

#### d. Production and supply difficulties

Disruption of the production or supply of gas due to catastrophic natural disaster or accidents

#### e. Gas equipment and facility issues

Serious problems with gas equipment or appliances

#### 2) Electric power business

Any interruption in the operation of any electric power plant due to a natural disaster, accident, trouble in fuel purchasing, or other incident

#### 3) International energy businesses

Changes in the operating environment such as a delay or cancellation in projects as a result of the implementation or changes in public policies as well as regulations or deterioration in economic or social conditions in the countries in which the Osaka 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 subsidiaries' 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, 2012 and 2013

			Thousand
	2012	Millions of Yen 2013	U.S. Dollars (Not 2013
Assets			
Fixed Assets			
Property, plant and equipment (Note 8)			
Production facilities	¥ 80,220	¥ 78,533	\$ 835,01
Distribution facilities	278,844	276,132	2,936,01
Service and maintenance facilities	69,280	66,204	703,92
Other facilities	313,655	300,149	3,191,37
Construction in progress	72,398	108,916	1,158,06
Total property, plant and equipment	814,400	829,936	8,824,41
Intangible assets	38,107	58,579	622,84
Investments and other assets			
Investment in securities (Notes 7 and 8)	136,838	164,302	1,746,96
Others (Note 17)	82,137	85,245	906,37
Allowance for doubtful accounts	(2,015)	(1,925)	(20,46
Total investments and other assets	216,960	247,622	2,632,87
Total fixed assets	1,069,469	1,136,138	12,080,14
Current Assets			
Cash and deposits (Notes 4 and 8)	107,239	91,323	971,00
Notes and trade accounts receivable (Note 8)	159,472	168,198	1,788,38
Securities (Notes 4 and 7)	22,909	21,712	230,85
Inventories (Notes 5 and 8)	60,740	84,242	895,71
Others (Note 17)	57,347	66,519	707,27
Allowance for doubtful accounts	(1,419)	(1,236)	(13,14
Total current assets	406,290	430,760	4,580,11
otal assets	¥1,475,759	¥1,566,899	\$16,660,27

		Millions of Yen	Thousands U.S. Dollars (Note
	2012	2013	2013
Liabilities and Net Assets			
Liabilities			
Long-term liabilities			
Bonds (Note 8)	¥ 258,863	¥ 238,157	\$ 2,532,238
Long-term loans payable (Note 8)	200,722	186,766	1,985,816
Deferred tax liabilities (Note 17)	9,801	14,631	155,566
Deferred tax liabilities related to land revaluation difference (Note 12)	139	_	_
Employees' severance and retirement benefits (Note 16)	15,496	15,972	169,824
Reserve for gas holder repairs	1,679	1,621	17,235
Reserve for safety measures	6,990	13,418	142,668
Reserve for investment loss	6,999	6,999	74,417
Others	17,468	19,269	204,880
Total long-term liabilities	518,160	496,836	5,282,679
Current liabilities			
Long-term debt due within one year (Note 8)	32,663	67,135	713,822
Notes and trade accounts payable	46,978	55,520	590,324
Short-term loans payable (Note 8)	48,104	47,106	500,861
Income taxes payable	27,768	25,603	272,227
Others (Note 17)	93,178	100,378	1,067,283
Total current liabilities	248,694	295,745	3,144,550
Total liabilities	766,855	792,581	8,427,230
Net Assets (Note 9)			
Shareholders' equity			
Common stock	132,166	132,166	1,405,273
Authorized – 3,707,506,909 shares			
Issued – 2,083,400,000 shares in 2013 and in 2012			
Capital surplus	19,482	19,482	207,145
Retained earnings	528,318	564,356	6,000,595
Treasury stock (Note 10)			
1,298,619 shares in 2013 and 1,146,823 shares in 2012	(361)	(413)	(4,391)
Total shareholders' equity	679,605	715,592	7,608,633
Accumulated other comprehensive income			
Unrealized gains (losses) on securities	19,710	31,526	335,204
Deferred gains and losses on hedges	(494)	(2,271)	(24,146
Land revaluation difference (Note 12)	(510)	(737)	(7,836
Foreign currency translation adjustments	(13,727)	3,693	39,266
Total accumulated other comprehensive income	4,978	32,210	342,477
Minority interests	24,320	26,514	281,913
Total net assets	708,904	774,317	8,233,035
Total liabilities and net assets	¥1,475,759	¥1,566,899	\$16,660,276

# **Consolidated Statements of Income**

Osaka Gas Co., Ltd. and Consolidated Subsidiaries Years ended March 31, 2012 and 2013

		Millions of Yen		
	2012	2013	2013	
Net sales	¥1,294,781	¥1,380,060	\$14,673,684	
Cost of sales (Note 13)	868,358	943,688	10,033,896	
Gross profit on sales	426,423	436,371	4,639,776	
Selling, general and administrative expenses (Note 13)	349,148	351,598	3,738,415	
Operating income	77,274	84,773	901,360	
Nonoperating income				
Interest income	753	617	6,560	
Dividend income	2,106	3,217	34,205	
Equity in earnings of affiliates	5,637	6,335	67,357	
Other income	6,024	7,512	79,872	
Total nonoperating income	14,521	17,682	188,006	
Nonoperating expenses				
Interest expenses	8,909	8,431	89,643	
Provision of reserve for investment loss	3,719	_	_	
Other expenses	3,472	3,898	41,446	
Total nonoperating expenses	16,101	12,330	131,100	
Ordinary income	75,694	90,125	958,266	
Extraordinary losses				
Loss from impairment of fixed assets		5,495	58,426	
Total extraordinary losses		5,495	58,426	
Income before income taxes and minority interests	75,694	84,630	899,840	
Income taxes				
Current	26,301	29,989	318,862	
Deferred	2,077	(273)	(2,902)	
Total income taxes (Note 17)	28,378	29,715	315,948	
Income before minority interests	47,315	54,915	583,891	
Minority interests	2,108	2,447	26,018	
Net income	¥ 45,207	¥ 52,467	\$ 557,862	

Thousands of

		Yen	U.S. Dollars (Note 1)
	2012	2013	2013
Amounts per Share of Common Stock (Note 2)	¥21.71	¥25.20	\$0.267
Net income			
Cash dividends applicable to the year	8.00	8.50	0.090

# Consolidated Statements of Comprehensive Income Osaka Gas Co., Ltd. and Consolidated Subsidiaries

Years ended March 31, 2012 and 2013

		Millions of Yen	Thousands o U.S. Dollars (Note
	2012	2013	2013
Income before minority interests	¥ 47,315	¥ 54,915	\$583,891
Other comprehensive income (Note 20)			
Unrealized gains (losses) on securities	1,676	11,824	125,720
Deferred gains and losses on hedges	(148)	168	1,786
Land revaluation difference	9	—	—
Foreign currency translation adjustments	(5,514)	14,100	149,920
Share of other comprehensive income of associates accounted for using equity method	(3,636)	2,836	30,154
Total other comprehensive income	(7,613)	28,929	307,591
Comprehensive income	¥ 39,702	¥ 83,844	\$891,483
Attributable to:			
Owners of the parent	¥ 38,098	¥ 79,927	\$849,835
Minority interests	¥ 1,604	¥ 3,917	\$ 41,648

# Consolidated Statements of Changes in Net Assets Osaka Gas Co., Ltd. and Consolidated Subsidiaries Years ended March 31, 2012 and 2013

		Millions of Yen		
	2012	2013	2013	
Shareholders' equity				
Common stock				
Balance at the beginning of the year	¥132,166	¥132,166	\$1,405,273	
Balance at the end of the year	132,166	132,166	1,405,273	
Capital surplus				
Balance at the beginning of the year	19,482	19,482	207,145	
Balance at the end of the year	19,482	19,482	207,145	
Retained earnings				
Balance at the beginning of the year	499,366	528,318	5,617,416	
Changes from:				
Cash dividends paid	(16,658)	(16,657)	(177,107)	
Net income	45,207	52,467	557,862	
Change in scope of equity method	403	_	_	
Disposal of treasury stock	(0)	_	_	
Reversal of land revaluation difference	—	227	2,413	
Total changes during the year	28,952	36,037	383,168	
Balance at the end of the year	528,318	564,356	6,000,595	
Treasury stock				
Balance at the beginning of the year	(323)	(361)	(3,838)	
Changes from:				
Purchase of treasury stock	(47)	(56)	(595)	
Disposal of treasury stock	8	4	42	
Total changes during the year	(38)	(51)	(542)	
Balance at the end of the year	(361)	(413)	(4,391)	
Total shareholders' equity				
Balance at the beginning of the year	650,692	679,605	7,225,996	
Changes from:				
Cash dividends paid	(16,658)	(16,657)	(177,107)	
Net income	45,207	52,467	557,862	
Change in scope of equity method	403	_	_	
Purchase of treasury stock	(47)	(56)	(595)	
Disposal of treasury stock	8	4	42	
Reversal of land revaluation difference	_	227	2,413	
Total changes during the year	28,913	35,986	382,626	
Balance at the end of the year	¥679,605	¥715,592	\$7,608,633	

Thousands of

		Millions of Yen	Thousands o U.S. Dollars (Note 1
-	2012	2013	2013
Accumulated other comprehensive income			
Unrealized gains (losses) on securities			
Balance at the beginning of the year	¥ 18,037	¥ 19,710	\$ 209,569
Net changes in net assets other than shareholders' equity during the year	1,673	11,815	125,624
Total changes during the year	1,673	11,815	125,624
Balance at the end of the year	19,710	31,526	335,204
Deferred gains and losses on hedges			
Balance at the beginning of the year	4,116	(494)	(5,252)
Net changes in net assets other than shareholders' equity during the year	(4,611)	(1,777)	(18,894)
Total changes during the year	(4,611)	(1,777)	(18,894)
Balance at the end of the year	(494)	(2,271)	(24,146)
Land revaluation difference			
Balance at the beginning of the year	(519)	(510)	(5,422)
Net changes in net assets other than shareholders' equity during the year	9	(227)	(2,413)
Total changes during the year	9	(227)	(2,413)
Balance at the end of the year	(510)	(737)	(7,836)
Foreign currency translation adjustments			
Balance at the beginning of the year	(7,367)	(13,727)	(145,954)
Net changes in net assets other than shareholders' equity during the year	(6,360)	17,420	185,220
Total changes during the year	(6,360)	17,420	185,220
Balance at the end of the year	(13,727)	3,693	39,266
Total accumulated other comprehensive income			,
Balance at the beginning of the year	14,267	4,978	52,929
Net changes in net assets other than shareholders' equity during the year	(9,289)	27,231	289,537
Total changes during the year	(9,289)	27,231	289,537
Balance at the end of the year	4,978	32,210	342,477
Minority interests			
Balance at the beginning of the year	23,735	24,320	258,585
Net changes in net assets other than shareholders' equity during the year	584	2,194	23,328
Total changes during the year	584	2,194	23,328
Balance at the end of the year	24,320	26,514	281,913
Total net assets			
Balance at the beginning of the year	688,695	708,904	7,537,522
Changes from:			
Cash dividends paid	(16,658)	(16,657)	(177,107)
Net income	45,207	52,467	557,862
Change in scope of equity method	403	_	_
Purchase of treasury stock	(47)	(56)	(595)
Disposal of treasury stock	8	4	42
Reversal of land revaluation difference	_	227	2,413
Net changes in net assets other than shareholders' equity during the year	(8,704)	29,426	312,876
Total changes during the year	20,208	65,413	695,513
Balance at the end of the year	¥708,904	¥774,317	\$8,233,035

# **Consolidated Statements of Cash Flows**

Osaka Gas Co., Ltd. and Consolidated Subsidiaries Years ended March 31, 2012 and 2013

		Millions of Yen	Thousan U.S. Dollars (No
-	2012	2013	201
Cash Flows from Operating Activities			
Income before income taxes and minority interests	¥ 75,694	¥ 84,630	\$ 899,84
Depreciation and amortization	93,624	82,818	880,57
Amortization of long-term prepaid expenses	4,270	5,966	63,43
Loss from impairment of fixed assets		5,495	58,42
Increase (decrease) in reserve for safety measures	(2,517)	6,428	68,34
Increase (decrease) in reserve for investment loss	3,719	_	-
Interest and dividend income	(2,860)	(3,834)	(40,76
Interest expenses	8,909	8,431	89,64
Equity in (earnings) losses of affiliates, net	(5,637)	(6,335)	(67,35
(Increase) decrease in notes and trade accounts receivable	(22,507)	(8,514)	(90,52
(Increase) decrease in inventories	(11,483)	(23,419)	(249,00
Increase (decrease) in notes and trade accounts payable	8,968	8,542	90,82
Increase (decrease) in accrued expenses	4,717	814	8,65
Others	4,589	(338)	(3,59
Subtotal	159,489	160,684	1,708,49
Interest and dividends income received	4,708	9,425	100,21
Interest expenses paid	(8,915)	(8,453)	(89,87
Income taxes paid	(32,488)	(32,058)	(340,86
Net cash provided by operating activities	122,793	129,597	1,377,95
ash Flows from Investing Activities	, ,		1,077,00
Proceeds from sales of securities	400	1,900	20,20
Purchase of property, plant and equipment	(93,308)	(91,884)	(976,96
Purchase of intangible assets	(2,727)	(17,942)	(190,77
Purchase of long-term prepaid expenses	(5,053)	(5,074)	(53,95
Purchase of investment in securities	(2,262)	(2,490)	(26,47
Proceeds from sales of investment securities	281	1,535	16,32
Purchase of affiliates' shares	(5,590)	(4,344)	(46,18
Proceeds from sales of stocks of subsidiaries and affiliates	(0,000)	2,676	28,45
Purchase of investments in subsidiaries resulting in change in scope of consolidation	(425)	(2,375)	(25,25
Payment of long-term loans receivable	(423)	(2,840)	(25,25)
Payment of time deposits	(3,945)	(3,630)	
Proceeds from withdrawal of time deposits	2,894	6,817	(38,59
Others	2,034	862	72,48
Net cash used in investing activities	(107,764)	(116,791)	9,16
ash Flows from Financing Activities	(107,704)	(110,731)	(1,241,79
Net increase (decrease) in short-term loans payable	7,194	(2,289)	(24,33
Proceeds from long-term loans payable	23,009	20,475	217,70
Repayment of long-term loans payable	(29,789)	(16,641)	(176,93
Proceeds from issuance of bonds	10,000	10,000	106,32
Redemption of bonds	(460)	(20,707)	(220,17
Cash dividends paid	(16,652)	(16,656)	(220,17
Others	(1,580)	(2,078)	(177,03) (22,09
Net cash used in financing activities	(8,279)	(27,897)	(296,61
ffect of Exchange Rate Changes on Cash and Cash Equivalents	(530)	2,100	22,32
let Increase (Decrease) in Cash and Cash Equivalents	6,218	(12,992)	(138,13
ash and Cash Equivalents at the Beginning of the Year	116,230	122,448	1,301,94
Cash and Cash Equivalents at the End of the Year (Note 4)	¥122,448	¥109,456	\$1,163,80

# Notes to Consolidated Financial Statements

Osaka Gas Co., Ltd. and Consolidated Subsidiaries Years ended March 31, 2012 and 2013

#### 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 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 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 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, 2013 which was ¥94.05 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 2012 and 2013. 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.

#### 2. Significant Accounting Policies

#### (1) Consolidation

The consolidated financial statements include the accounts of the Company and those of its consolidated subsidiaries. For purpose of the consolidated financial statements, companies which are owned 40% or more and substantially controlled by the Company are considered subsidiaries and included in the consolidation.

The consolidated financial statements for the years ended March 31, 2012 and 2013 included the accounts of the Company and its 133 and 130 subsidiaries, respectively. For the year ended March 31, 2013, 4 subsidiaries were newly consolidated and 7 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 49 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 of the Company (March 31). For these 49 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.

The difference between the Company's cost of investment in a consolidated subsidiary and the equity in the net assets at the date of acquisition is amortized within 20 years on a straight-line basis. If the difference 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, 2012 and 2013, 9 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 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 minority 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.

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Repair and maintenance expenditures, excluding those for gas holders, are charged to income when incurred, and major improvements are capitalized.

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, 2012 and 2013 was ¥259,775 million and ¥260,759 million (\$2,772,557 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, 2012 and 2013 was ¥144 million and ¥360 million (\$3,827 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) Employees' Severance and Retirement Benefits

The Companies provide two types of post-employment benefit plans, unfunded lump-sum payment plans and funded contributory pension plans, under which all eligible employees are entitled to benefits based on the level of wages and salary at the time of retirement or termination, length of service and certain other factors. A portion of the benefits previously paid by the defined benefits plan is now covered by a defined contribution plan.

The Companies provide for employees' severance and retirement benefits based on the estimated amounts of projected benefit obligation and the fair value of plan assets.

Generally, prior service costs are recognized in expenses when they arise, and actuarial gains and losses are recognized in expenses over 10 years commencing with the following period.

#### (10) Reserve 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) Reserve 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) Reserve for Investment Loss

The Company provides for future payments for potential losses on the

business of affiliates by estimating the expected losses.

#### (13) Income Taxes

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

The Companies recognize the tax effects of loss carry forwards 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.

#### (14) 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 minority interests and as foreign currency translation adjustments in net assets.

#### (15) 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 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 where 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 for in the following manner:

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.

#### (16) Net Income Per Share

The computation of net income per share of common 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 common stock for the years ended March 31, 2012 and 2013 was not shown since there were no outstanding convertible bonds or other common stock equivalents.

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

#### <Unadopted Accounting Standard>

- Accounting Standard for Retirement Benefits (ASBJ Statement No. 26, May 17, 2012)
- Guidance on Accounting Standard for Retirement Benefits (ASBJ Guidance No. 25, May 17, 2012)

(Refer also to the ASBJ homepage, which has a summary in English of the accounting standard.)

#### (1) Summary

Under the amended rule, actuarial gains and losses and past service costs that are yet to be recognized in profit or loss would be recognized within the net asset section, after adjusting for tax effects, and the deficit or the surplus would be recognized as a liability or asset without any adjustments. For determining the method for attributing expected benefit to specific periods, the standard now allows the choice between benefit formula basis the straight-line basis. The method for determining the discount rate has also been amended.

#### (2) Effective dates

Effective for the end of annual periods ending on or after March 31,

2014, amendments relating to the determination of retirement benefit obligations and current service costs are effective from the beginning of annual periods ending on or after March 31, 2015.

#### (3) Effect of application of the standard

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

#### <Change in accounting policies with amendment to respective laws and regulations that are not distinguishable from changes in accounting estimates>

From the year ended March 31, 2013, in accordance with the amendment in the corporate tax law, the Company and its domestic subsidiaries have changed their depreciation method for property, plant and equipment. Assets acquired on or after April 1, 2012 are depreciated using the method prescribed in the amended corporate tax law. This change in depreciation method has had no significant effect on operating income, ordinary income or income before taxes.

#### 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	
	2012	2013	2013
Cash and deposits on the consolidated balance sheets	¥107,239	¥ 91,323	\$ 971,004
Time deposits with more than 3 months to maturity	(5,790)	(2,866)	(30,473)
Short-term investments with an original maturity of three months or less, presenting negligible risk of change in value and			
included in current assets	20,999	20,999	223,274
Cash and cash equivalents on the consolidated statements of cash flows	¥122,448	¥109,456	\$1,163,806

#### 5. Inventories

Inventories at March 31, 2012 and 2013 consisted of the following:

_		Millions of Yen	Thousands of U.S. Dollars
	2012	2013	2013
Merchandises and finished products	¥12,586	¥13,213	\$140,489
Work-in-process	7,887	12,615	134,130
Raw materials and supplies	40,266	58,413	621,084
Total	¥60,740	¥84,242	\$895,715

#### 6. Financial Instruments

Book value, fair value and any difference as of March 31, 2012 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 Fair Value		Difference		
(1) Cash and deposits	¥107,239	¥107,239	¥ —		
(2) Notes and trade accounts receivable	159,472	159,472	_		
(3) Marketable securities and investment in securities	76,931	76,931			
Total assets	¥343,642	¥343,642	¥ —		
(1) Notes and trade accounts payable	¥ 46,978	¥ 46,978	¥ —		
(2) Short-term loans payable	48,104	48,104	—		
(3) Bonds (*1)	279,551	294,421	14,869		
(4) Long-term loans payable (*1)	212,080	224,420	12,339		
Total liabilities	¥586,715	¥613,925	¥27,209		
Derivative transactions (*2)	¥ 5,407	¥ 5,407	¥ —		

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

(\*2) Assets and liabilities arising from derivative transactions were offset and indicated by parenthesis () when the offset amount was a liability. Book value, fair value and any difference as of March 31, 2013 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		Fair Value			Di	ifference
	Millions of Yen	Thousands of U.S. Dollars	Millions of Yen	Thousands of U.S. Dollars	Millio	ns of Yen		usands of S. Dollars
(1) Cash and deposits	¥ 91,323	\$ 971,004	¥ 91,323	\$ 971,004	¥	_	\$	_
(2) Notes and trade accounts receivable	168,198	1,788,389	168,198	1,788,389		—		_
(3) Marketable securities and investment in securities	92,613	984,720	92,613	984,720		_		-
Total assets	¥352,135	\$3,744,125	¥352,135	\$3,744,125	¥	_	\$	_
(1) Notes and trade accounts payable	¥ 55,520	\$ 590,324	¥ 55,520	\$ 590,324	¥	_	\$	_
(2) Short-term loans payable	47,106	500,861	47,106	500,861		_		_
(3) Bonds (*1)	269,235	2,862,679	287,394	3,055,757	1	8,158	19	3,067
(4) Long-term loans payable (*1)	222,158	2,362,126	235,766	2,506,815	1	3,607	14	4,678
Total liabilities	¥594,021	\$6,316,012	¥625,787	\$6,653,769	¥3	1,766	\$33	87,756
Derivative transactions (*2)	¥ 6,551	\$ 69,654	¥ 6,551	\$ 69,654	¥	_	\$	_

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

(\*2) Assets and liabilities arising from derivative transactions were offset and indicated by parenthesis ( ) when the offset amount 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 trade accounts receivable The fair value is determined by the book value, which is almost equivalent to the fair value due to the short-time nature of the financial transaction.

(3) Marketable securities and investment in 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 for information about securities classified by the purpose for which they are held.

#### Liabilities

(1) Notes and trade accounts payable 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-time nature of the financial transaction.

#### (3) Bonds

The market price of the bonds issued by Osaka Gas and each of its group companies is the fair value 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 reasonably estimated rate of a new loan which is similar to the long-term loans.

#### Derivative transactions

Refer to notes on derivative transactions.

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

		Millions of Yen	U.S. Dollars
Book Value	2012	2013	2013
Affiliated company securities	¥69,065	¥77,254	\$821,414
Non-listed equity securities	¥13,751	¥16,147	\$171,685

The expected redemption amounts of moneta	ry receivables and securities with maturities after t	the consolidated fiscal year-end were as follows:
---	---	---

				Millions of Yen
For 2012	One Year or Less	One to Five Years	Five to Ten Years	More than Ten Years
Cash and deposits	¥107,239	¥ —	¥ —	¥ —
Notes and trade accounts receivable	159,472	_	_	_
Marketable securities and investment in securities				
Held-to-maturity debt securities (corporate bonds)	12	50	12	—
Available-for-sale securities with maturities				
(Government bonds and municipal bonds)	—	9	_	98
(Negotiable certificate of deposits)	20,700	_	—	—
(Commercial paper)	2,197	_	—	—
(Other)	_	_	200	—
Total	¥289,621	¥59	¥212	¥98

#### Millions of Yen

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		Millions of Yen
s One to Five Years	r or Less One to Five Years Five to Ten Years	More than Ten Years
23 ¥ —	91,323 ¥— ¥—	¥ —
18 —	168,198 — —	_
2 50	12 50 —	_
- 10	— 10 —	98
i0 —	20,700 — —	_
19 —	999 — —	_
	— — 200	_
84 ¥60	281,234 ¥60 ¥200	¥98
4	281,234	¥60 ¥200

Thousands of U.S. Do				
For 2013	One Year or Less	One to Five Years	Five to Ten Years	More than Ten Years
Cash and deposits	\$ 971,004	\$ —	\$ —	\$ —
Notes and trade accounts receivable	1,788,389	_	_	_
Marketable securities and investment in securities				
Held-to-maturity debt securities (corporate bonds)	127	531	_	_
Available-for-sale securities with maturities				
(Government bonds and municipal bonds)		106	_	1,041
(Negotiable certificate of deposits)	220,095	—	_	_
(Commercial paper)	10,622	—	_	_
(Other)		_	2,126	_
Total	\$2,990,260	\$637	\$2,126	\$1,041

#### 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, 2012 and 2013:

Securities with available fair value (book value) that exceeded acquisi-	
tion cost were as follows:	

			Millions of Yen
	Acquisition Cost	Book Value	Difference
For 2012:			
Equity securities	¥22,146	¥51,331	¥29,185
Bonds	10	10	0
Total	¥22,156	¥51,341	¥29,185
			Millions of Yen
	Acquisition Cost	Book Value	Difference
For 2013:			
Equity securities	¥23,829	¥69,778	¥45,949
Bonds	10	10	0
Total	¥23,839	¥69,788	¥45,949
		Thousa	nds of U.S. Dollars
	Acquisition Cost	Book Value	Difference
For 2013:			
Equity securities	\$253,365	\$741,924	\$488,559
Bonds	106	106	0
Total	\$253,471	\$742,030	\$488,559

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

			Millions of Yen
	Acquisition Cost	Book Value	Difference
For 2012:			
Equity securities	¥ 3,157	¥ 2,594	¥(563)
Bonds	22,995	22,995	—
Total	¥26,152	¥25,589	¥(563)

			Millions of Yen
	Acquisition Cost	Book Value	Difference
For 2013:			
Equity securities	¥ 1,141	¥ 1,026	¥(114)
Bonds	21,798	21,798	—
Total	¥22,939	¥22,824	¥(114)
		Thousa	nds of U.S. Dollars
	Acquisition Cost	Book Value	Difference
For 2013:			
Equity securities	\$ 12,131	\$ 10,909	\$(1,212)
Bonds	231,770	231,770	_
Total	\$243,902	\$242,679	\$(1,212)

(2) Total sales of available-for-sale securities in the years ended March 31, 2012 and 2013 amounted to ¥468 million and ¥1,535 million (\$16,321 thousand), respectively. The related gains and losses amounted to ¥96 million and ¥1 million, respectively, for the year ended March 31, 2012. The related gains and losses amounted to ¥728 million (\$7,740 thousand) and ¥9 million (\$95 thousand), respectively for the year ended March 31, 2013.

(3) For "Available-for-sale securities," impairment losses of ¥93 million and ¥80 million (\$850 thousand) were recorded for the years ended March 31, 2012 and 2013, respectively. Short-term loans consisted of short-term notes payable bearing interest at an annual average rate of 0.4% and 0.3% at March 31, 2012 and 2013, respectively.

Long-term debt at March 31, 2012 and 2013 consisted of the following:

	Millions of Yen		Thousands of U.S. Dollars	
	2012	2013	2013	
Loans principally from banks and insurance companies due within one year (Average rate 1.5%)	¥ 11,358	¥ 35,392	\$ 376,310	
Maturing through 2031 (Average rate 1.9%)	200,722	186,766	1,985,816	
Total	¥212,080	¥222,158	\$2,362,126	
Domestic unsecured bonds				
3.4% bonds payable due 2017	¥ 15,700	¥ 15,700	\$ 166,932	
1.46% bonds payable due 2012	19,999	—	_	
1.47% bonds payable due 2022	19,984	19,986	212,503	
1.83% bonds payable due 2020	19,992	19,993	212,578	
1.79% bonds payable due 2020	19,986	19,988	212,525	
2.33% bonds payable due 2026	9,994	9,994	106,262	
1.79% bonds payable due 2016	19,992	19,994	212,589	
2.14% bonds payable due 2019	19,996	19,996	212,610	
1.59% bonds payable due 2014	19,998	19,999	212,642	
1.21% bonds payable due 2015	30,000	30,000	318,979	
1.782% bonds payable due 2018	30,000	30,000	318,979	
1.199% bonds payable due 2013	30,000	30,000	318,979	
1.345% bonds payable due 2021	10,000	10,000	106,326	
1.16% bonds payable due 2021	10,000	10,000	106,326	
0.759% bonds payable due 2022	_	10,000	106,326	
Bonds payable in U.S. dollars 7.73% bonds payable due 2015	3,906	3,583	38,096	
Total	¥279,551	¥269,235	\$2,862,679	

In the year ended March 31, 2007, the Company entered into debt assumption agreements with banks for 2.9% notes payable due in 2018 in the amount of ¥29,000 million.

The Company remains contingently liable on the amounts assumed by the banks.

The annual maturities of corporate bonds at March 31, 2013 were as follows:

Years ending March 31,	Millions of Yen	Thousands of U.S. Dollars
2014	¥ 31,078	\$ 330,441
2015	21,301	226,485
2016	31,203	331,770
2017	35,700	379,585
2018	_	_
April 1, 2018 and thereafter	150,000	1,594,896
Total	¥269,282	\$2,863,179

The annual maturities of long-term debt at March 31, 2013 were as follows:

Years ending March 31,	Millions of Yen		Thousands of U.S. Dollars
2014	¥ 35,392	\$	376,310
2015	16,071		170,877
2016	22,253		236,608
2017	15,142		160,999
2018	43,132		458,607
April 1, 2018 and thereafter	90,165		958,692
Total	¥222,158	\$2	2,362,126

Assets pledged as collateral mainly for short-term loans and long-term debt totaling  $\pm$ 19,026 million and  $\pm$ 22,133 million ( $\pm$ 235,332 thousand) at March 31, 2012 and 2013, respectively, were as follows:

		Millions of Yen	Thousands of U.S. Dollars
	2012	2013	2013
Property, plant and equipment	¥33,700	¥ 63,724	\$ 677,554
Investment in securities	10,746	12,163	129,324
Cash and time deposits	894	4,215	44,816
Accounts receivable	2,140	1,157	12,301
Inventories and other	4,244	20,981	223,083
Total	¥51,726	¥102,242	\$1,087,102

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9. Net Assets

Under Japanese Corporate Law ("the Law"), the entire amount paid for new shares is required to be designated as common 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 where 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 common stock over the total of additional paidin 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

#### 10. Treasury Stock

Change in the treasury stock is as follows:

			Thousands of Shares
As of April 1, 2012	Increase	Decrease	As of March 31, 2013
1,146	167	15	1,298

(Overview of reasons for change)	
Overview of reasons for increase	
Increase by repurchase of fractional shares	167 thousand shares
Overview of reasons for decrease	
Decrease by disposal of fractional shares	15 thousand shares
Increase by repurchase of fractional shares Overview of reasons for decrease	

#### 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 related to land revaluation difference" in liabilities and "Land revaluation difference" in net assets. The land prices used for the

#### 13. 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 ¥10,974 surplus and retained earnings, 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 shareholders' meeting held on June 27, 2013 included cash dividends applicable to the year ended March 31, 2013 and the payment of cash dividends to shareholders of record at March 31, 2013 in the aggregate amount of ¥9,369 million (\$99,617 thousand) or ¥4.5 per share. The appropriations have not been accrued in the consolidated financial statements for the year ended March 31, 2013. Such appropriations are recognized in the period in which they are approved by the shareholders.

#### **11. Contingent Liabilities**

At March 31, 2012 and 2013, the Companies were contingently liable as follows:

		Millions of Yen	Thousands of U.S. Dollars
	2012	2013	2013
As guarantor of indebtedness of:			
Non-consolidated affiliates	¥ 4,923	¥10,381	\$110,377
Employees	17	11	116
Debt assumption agreements	39,000	29,000	308,346
Total	¥43,941	¥39,392	\$418,841

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 market value of the land was ¥1,365 million and ¥1,290 million (\$13,716 thousand) lower than the revalued book amount at March 31, 2012 and 2013, respectively.

million and  $\pm 10,875$  million ( $\pm 115,629$  thousand) for the years ended March 31, 2012 and 2013, respectively.

#### 14. Leases

#### (1) Finance Lease Transactions

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

#### (2) Operating Lease Transactions

Obligations under non-cancelable operating leases at March 31, 2012 and 2013 were as follows:

As lessee (non-capitalized)

		Millions of Yen	Thousands of U.S. Dollars
	2012	2013	2013
Payments due within one year	¥ 841	¥ 865	\$ 9,197
Payments due over one year	7,542	7,019	74,630
Total	¥8,383	¥7,885	\$83,838

#### 15. Derivative Transactions

Fair value information for the derivative transactions to which hedge accounting was not applied in 2013 was as follows:

					Millions of Yen /	Thousands of U.S. Dollars
			Contrac	et Amounts		Profit or loss from
Туре	Instruments	Grouping		More than One Year	Fair Value	valuation
Currencies	Forward foreign currency exchange contracts Selling position	Dealings other than market transactions	¥ 9,370 \$99,627	¥ 4,400 \$46,783	¥ 412 \$4,380	¥ 412 \$4,380

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

Fair value information for the derivative transactions to which hedge accounting was applied in 2012 was as follows:

						Millions of Yen
				Contract Arr	iounts	
Туре	Instruments	Hedge Accounting Method	Hedged Items	Mo	re than One Year	Fair Value
(a) Interest rates	Interest rate swaps	Exceptional accounting of interest rate swaps	Long-term loans payable	¥ 27,708	¥ 25,519	(Note 2)
		Principal method of accounting	Long-term loans payable and bonds	¥ 67,559	¥ 64,530	¥ 929
(b) Currencies	Forward foreign currency exchange contracts and currency option transactions	Exceptional accounting such as forward foreign currency exchange contracts, etc., or principal method of accounting	Anticipated foreign currency denominated transactions	¥ 18,532	¥ 2,254	¥ 431
(c) Products	Swap transactions and option transactions of oil prices, etc.	Principal method of accounting	Purchase prices of raw materials, etc.	¥ 52,466	¥ 40,974	¥4,046
Total				¥166,266	¥133,277	¥5,407

Fair value information for the derivative transactions to which hedge accounting was applied in 2013 is as follows:

				N	illions of Yen / Thousar	nds of U.S. Dollars
				Contract Ar	nounts	
Туре	Instruments	Hedge Accounting Method	Hedged Items	Mo	ore than One Year	Fair Value
(a) Interest rates	Interest rate swaps	Exceptional accounting of interest rate swaps	Long-term loans payable	¥ 29,987 \$ 318,841	¥ 29,117 \$ 309,590	(Note 2)
		Principal method of accounting	Long-term loans payable and bonds	¥ 105,331 \$1,119,946	¥ 103,101 \$1,096,236	¥ (856) \$ (9,101)
(b) Currencies	Forward foreign currency exchange contracts and currency option transactions	Exceptional accounting such as forward foreign currency exchange contracts, etc., or principal method of accounting	Anticipated foreign currency denominated transactions	¥ 16,214 \$ 172,397	¥ 1,810 \$ 19,245	¥ 759 \$ 8,070
(c) Products	Swap transactions and option transactions of oil prices, etc.	Principal method of accounting	Purchase prices of raw materials, etc.	¥ 50,907 \$ 541,275	¥ 33,888 \$ 360,318	¥ 6,235 \$66,294
Total				¥ 202,440 \$2,152,472	¥ 167,917 \$1,785,401	¥ 6,138 \$65,263

Notes:

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

2. Fair values of 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.

#### 16. Employees' Severance and Retirement Benefits

Employees' severance and retirement benefits included in the liability section of the consolidated balance sheets as of March 31, 2012 and 2013 consisted of the following:

		Millions of Yen	Thousands of U.S. Dollars
	2012	2013	2013
Projected benefit obligation	¥ 253,376	¥ 277,676	\$ 2,952,429
Unrecognized prior service costs	262	231	2,456
Unrecognized actuarial differences	(38,455)	(34,585)	(367,729)
Less fair value of pension assets	(237,383)	(264,197)	(2,809,112)
Prepaid pension costs	37,696	36,847	391,780
Employees' severance and retirement benefits	¥ 15,496	¥ 15,972	\$ 169,824

Included in the consolidated statements of income for the years ended March 31, 2012 and 2013 were severance and retirement benefit expenses that consisted of the following:

_		Millions of Yen	Thousands of U.S. Dollars
	2012	2013	2013
Service costs	¥ 8,217	¥ 7,193	\$ 76,480
Interest cost on projected benefit obligation	4,563	4,420	46,996
Expected return on plan assets	(7,412)	(7,309)	(77,713)
Amortization of actuarial differences	3,312	2,405	25,571
Amortization of prior service costs	(30)	(30)	(318)
Severance and retirement benefit expenses	¥ 8,649	¥ 6,679	\$ 71,015

The assumptions used in accounting for the above benefit plans were as follows:

	2012	2013
Discount rates	Mainly 1.8%	Mainly 1.1%
The rate of expected return on plan assets	Mainly 3.1%	Mainly 3.1%

The estimated amount of all retirement benefits to be paid at future retirement dates is allocated equally to each service year using the estimated number of total service years. Prior service costs are recognized as incurred and actuarial gains/losses are recognized not only as expense but also as income in equal amounts over 10 years.

#### 17. 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 36.2% and 33.3% for the years ended March 31, 2012 and 2013, 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, 2012 and 2013:

	2012	2013
Statutory tax rate	36.2%	33.3%
Nondeductible expenses	1.4	1.0
Statutory tax rate difference between the Company and certain subsidiaries	2.3	0.7
Per capita inhabitants taxes	0.3	0.3
Effect of revised corporate tax rate	1.9	_
Equity in earnings of affiliates	(2.7)	(2.5)
Other	(1.9)	2.3
Effective tax rate	37.5%	35.1%

Significant components of the Companies' deferred tax assets and liabilities as of March 31, 2012 and 2013 were as follows:

		Millions of Yen	Thousands of U.S. Dollars
-	2012	2013	2013
Deferred tax assets:			
Excess depreciation of depreciable assets	¥ 6,291	¥ 6,341	\$ 67,421
Excess depreciation of deferred assets	6.459	5.947	63,232
Reserve for safety measures	2,294	4,224	44,912
Loss from impairment of fixed assets	3.943	4.806	51,100
Write-down of securities	4,064	3,354	35,661
Employees' severance and retirement benefits	5,634	5,684	60,435
Accrued enterprise taxes	2,938	2,907	30,909
Others	19,578	18,780	199,681
Subtotal deferred tax assets	51,206	52,046	553,386
Valuation allowance	(9,140)	(9,757)	(103,742)
Total deferred tax assets	42,065	42,289	449,643
Deferred tax liabilities: Unrealized gains (losses) on			
securities	(8,896)	(11,824)	(125,720)
Prepaid pension costs	(11,579)	(11,277)	(119,904)
Deferred gains and losses on hedges	(2,460)	(3,168)	(33,684)
Reserve defined under the special taxation measures law	(8,038)	(8,580)	(91,228)
Reserve for advanced depreciation of noncurrent assets	(322)	(316)	(3,359)
Others	(1,950)	(3,924)	(41,722)
Total deferred tax liabilities	(33,247)	(39,091)	(415,640)
Net deferred tax assets	¥ 8,818	¥ 3,197	\$ 33,992

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

		Millions of Yen	Thousands of U.S. Dollars
	2012	2013	2013
Current assets (included in "Others")	¥11,884	¥ 11,035	\$ 117,331
Investments and other assets (included in "Others")	6,736	6,815	72,461
Current liabilities (included in "Others")	(0)	(22)	(233)
Long-term liabilities	(9,801)	(14,631)	(155,566)
Total	¥ 8,818	¥ 3,197	\$ 33,992

#### 18. 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 years ended March 31, 2012, we reported gains of ¥5,233 million, from the rent of such real property (recorded mainly as operating income). In the years ended March 31, 2013, we reported gains of ¥5,783 million (\$61,488 thousand), from the rent of such real property (recorded mainly as operating income) and impairment loss of ¥3,036 million (\$32,280 thousand).

The book value and fair value of real properties for rent in the consolidated balance sheets for the years ended March 31, 2012 and 2013 were as follows:

#### As of March 31, 2012

	Book Value		Millions of Yen
As of April 1, 2011	Increase or Decrease	As of March 31, 2012	Fair Value as of March 31, 2012
¥105,392	¥2,979	¥108,371	¥159,358

#### 19. Segment Information

#### (1) Overview of Reportable Segments

The Company group's three business segments, "Domestic Energy Service Businesses," "International Energy Businesses along Energy Value Chain" and "Environment and Non-Energy Businesses" 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 "Environment and Non-Energies Businesses," considering the similarities between product 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" segments include LPG 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 "Environment and Non-Energies Businesses" segment includes the renewable energy business, real estate development and leasing, IT services, marketing of fine materials and carbon material products, fitness gym operation, engineering services, and leasing of automobiles and IT related equipment.

#### As of March 31, 2013

	Book Value		Millions of Yen
As of April 1, 2012	Increase or Decrease	As of March 31, 2013	Fair Value as of March 31, 2013
¥108,371	¥(4,212)	¥104,159	¥158,910

#### As of March 31, 2013

As of April 1, 2012 Decrease As of March 31, 2013	March 31, 2013
Increase or	Fair Value as of
Book Value	U.S. dollars

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 years ended March 31, 2012 and March 31, 2013 was the acquisition of real property of ¥7,128 million and impairment loss of ¥3,036 million (\$32,280 thousand), respectively.

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

#### (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 armslength market transactions.

As described in "Change in accounting policies with amendment of respective laws and regulations that are not distinguishable from changes in accounting estimates", in accordance with the amendment in corporate tax law, from the year ending March 31, 2013, the Company and its domestic subsidiaries have changed its depreciation method for property, plant and equipments acquired on or after April 1, 2012. Depreciation method for the reporting segment has been changed to reflect the amendment in corporate tax law. This change has had no significant effect on operating income, ordinary income or income before taxes.

Moreover, because the amount of investment has become important, the investment to the joint venture that a part of overseas consolidated subsidiary did have been presented in "Increase in tangible and intangible fixed assets" since the period on March, 2013. As a result, the amount of money of "Increase in tangible and intangible fixed assets" of "International Energies Businesses" segment at the period on March, 2012 (¥7,166 million (\$76,193 thousand)) is reclassified according to the presentation at the period on March, 2013.

Millions of Yen

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

							Millions of Yen
For 2012:	Gas	LPG, Electricity and Other Energies	International Energies	Environment and Non-Energies	Total	Adjustments (Note 1)	Consolidated (Note 2)
Operating revenues							
Outside customers	¥952,611	¥195,624	¥ 11,000	¥135,546	¥1,294,781	¥ —	¥1,294,781
Inside group	23,901	2,435	157	49,042	75,536	(75,536)	—
Total	976,512	198,060	11,158	184,588	1,370,318	(75,536)	1,294,781
Segment income							
Operating income	¥ 20,977	¥ 32,230	¥ 3,361	¥ 18,437	¥ 75,007	¥ 2,267	¥ 77,274
Equity in earnings of affiliates	5	216	5,300	114	5,637	—	5,637
Total	20,982	32,447	8,661	18,552	80,644	2,267	82,911
Segment assets	¥753,945	¥164,672	¥169,802	¥322,568	¥1,410,988	¥ 64,771	¥1,475,759
Depreciation	62,451	15,675	5,543	10,223	93,893	(776)	93,117
Amortization of goodwill	(89)	445	251	(99)	507	_	507
Investment in affiliates reported by equity method	401	4,151	37,351	1,870	43,775	_	43,775
Increase in tangible and intangible fixed assets	63,009	3,315	16,672	14,413	97,411	(732)	96,678

- For 2013:	Gas	LPG, Electricity and Other Energies	International Energies	Environment and Non-Energies	Total	Adjustments (Note 1)	Consolidated (Note 2)
Operating revenues							
Outside customers	¥1,019,118	¥212,591	¥ 10,610	¥137,739	¥1,380,060	¥ —	¥1,380,060
Inside group	19,431	2,910	153	47,903	70,400	(70,400)	—
Total	1,038,550	215,502	10,764	185,643	1,450,460	(70,400)	1,380,060
Segment income							
Operating income	¥ 23,368	¥ 37,792	¥ 2,079	¥ 18,791	¥ 82,031	¥ 2,742	¥ 84,773
Equity in earnings of affiliates	4	482	5,570	277	6,335	_	6,335
Total	23,373	38,275	7,649	19,068	88,367	2,742	91,109
Segment assets	¥ 753,424	¥163,462	¥232,871	¥340,709	¥1,490,466	¥ 76,432	¥1,566,899
Depreciation	54,280	13,306	5,177	10,452	83,216	(789)	82,427
Amortization of goodwill	(96)	140	251	94	390	_	390
Investment in affiliates reported by equity method	405	4,564	42,541	1,401	48,912	_	48,912
Increase in tangible and intangible fixed assets	62,305	3,362	37,024	10,939	113,631	(644)	112,987

						Thou	sands of U.S. Dollars
For 2013:	Gas	LPG, Electricity and Other Energies	International Energies	Environment and Non-Energies	Total	Adjustments (Note 1)	Consolidated (Note 2)
Operating revenues							
Outside customers	\$10,835,917	\$2,260,404	\$ 112,812	\$1,464,529	\$14,673,684	s —	\$14,673,684
Inside group	206,602	30,940	1,626	509,335	748,538	(748,538)	_
Total	11,042,530	2,291,355	114,449	1,973,875	15,422,222	(748,538)	14,673,684
Segment income							
Operating income	\$ 248,463	\$ 401,828	\$ 22,105	\$ 199,797	\$ 872,206	\$ 29,154	\$ 901,360
Equity in earnings of affiliates	42	5,124	59,223	2,945	67,357	_	67,357
Total	248,516	406,964	81,329	202,743	939,574	29,154	968,729
Segment assets	\$ 8,010,887	\$1,738,032	\$2,476,034	\$3,622,636	\$15,847,591	\$ 812,674	\$16,660,276
Depreciation	577,139	141,477	55,045	111,132	884,805	(8,389)	876,416
Amortization of goodwill	(1,020)	1,488	2,668	999	4,146	_	4,146
Investment in affiliates reported by equity method	4,306	48,527	452,323	14,896	520,063	_	520,063
Increase in tangible and intangible fixed assets	662,466	35,746	393,662	116,310	1,208,197	(6,847)	1,201,350

Notes:

1. Adjustments are as follows:

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

(2) A major adjustment in segment assets is for investment in securities possessed by the Company.

2. Segment income is adjusted by adding or subtracting equity in earnings of affiliates to or from operating income.

#### (4) Information about loss from impairment of fixed assets by reportable segment

#### For 2012:

Not applicable

#### For 2013:

For 2013: Loss from impairment of fixed assets	Gas <b>¥3.178</b>	Other Energies	Energies ¥—	Non-Energies ¥1.372	Subtotal <b>¥5,495</b>	corporate	Total <b>¥5,495</b>
	+0,110		•	+1,072	+0,100		ands of U.S. Dollar:
-		LPG, Electricity and	International	Environment and		Elimination or	ands of 0.5. Donar
For 2013:	Gas	Other Energies	Energies	Non-Energies	Subtotal	corporate	Total
	\$33,790	\$10,037		\$14,587	\$58,426	<b>\$</b> —	\$58,426

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

							Millions of Yen
For 2012:	Gas	LPG, Electricity and Other Energies	International Energies	Environment and Non-Energies	Subtotal	Elimination or corporate	Total
Amount depreciated in 2012	¥(89)	¥445	¥ 251	¥ (99)	¥ 507	¥—	¥ 507
Undepreciated balance at fiscal year-end	(96)	513	2,050	(101)	2,366		2,366
_							Millions of Yen
		LPG, Electricity and	International	Environment and		Elimination or	
For 2013:	Gas	Other Energies	Energies	Non-Energies	Subtotal	corporate	Total
Amount depreciated in 2013	¥(96)	¥140	¥ 251	¥ 94	¥ 390	¥—	¥ 390
Undepreciated balance at fiscal year-end	_	376	2,010	1,201	3,588	—	3,588
						Thous	ands of U.S. Dollars
—		LPG, Electricity and	International	Environment and		Elimination or	
For 2013:	Gas	Other Energies	Energies	Non-Energies	Subtotal	corporate	Total
Amount depreciated in 2013	\$(1,020)	\$1,488	\$ 2,668	\$ 999	\$ 4,146	\$—	\$ 4,146
Undepreciated balance at fiscal year-end	_	3,997	21,371	12,769	38,149	_	38,149

#### 20. Consolidated Statements of Comprehensive Income

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

		Millions of Yen	Thousands of U.S. Dollars
—	2012	2013	2013
Unrealized gains (losses) on securities			
Incurred in the fiscal year	¥ 330	¥17,648	\$187,644
Reclassification adjustments	(89)	(438)	(4,657)
Before tax effect adjustments	241	17,210	182,987
Tax effect	1,435	(5,386)	(57,267)
Unrealized gains (losses) on securities	1,676	11,824	125,720
Deferred gains and losses on hedges			
Incurred in the fiscal year	1,241	4,079	43,370
Reclassification adjustments	(1,730)	(3,841)	(40,839)
Before tax effect adjustments	(489)	237	2,519
Tax effect	340	(69)	(733)
Deferred gains and losses on hedges	(148)	168	1,786
Land revaluation difference			
Tax effect	9	—	_
Foreign currency translation adjustments			
Incurred in the fiscal year	(5,514)	14,048	149,367
Reclassification adjustments	_	52	552
Before tax effect adjustments	(5,514)	14,100	149,920
Tax effect	—	—	_
Foreign currency translation adjustments	(5,514)	14,100	149,920
Share of other comprehensive income of associates accounted for using equity method			
Incurred in the fiscal year	(4,160)	1,967	20,914
Reclassification adjustments	524	869	9,239
Share of other comprehensive income of associates accounted for using equity method	(3,636)	2,836	30,154
Total other comprehensive income	¥(7,613)	¥28,929	\$307,591

# 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 at March 31, 2013 and 2012, and the consolidated income statements, 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 expressed in Japanese yen.

#### 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 misstatements, 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 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 at March 31, 2013 and 2012, 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, 2013 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

June 27, 2013 Osaka, Japan

# Major Consolidated Subsidiaries As of March 31, 2013

egment	Name of subsidiary	Main business	Capital (Millions of yen)	Osaka G shareholdii 9)
Gas	Osaka Gas Customer Relations Co., Ltd.	Maintenance checks on gas equipment and appliances / Checking gas meters / Collection of gas bills, and others	50	100.
	Osaka Gas Housing & Equipment Co., Ltd.	Sales of gas appliances / Sales of housing equipment and appliances	450	100.
	Osaka Gas Security Service Co., Ltd.	Provision of security and disaster protection services / Sales of home security systems	100	100.
	Kansai Business Information Inc.	Contracting and staffing of call center operations / Various research services and consulting	100	100.
	Kinpai Co., Ltd.	Gas piping works / Sales of gas appliances, and housing equipment and appliances	300	100
	Creative Techno Solution Co., Ltd.	Sales and construction of energy equipment, heating system supplies, etc.	1,150	100
	Nabari Kintetsu Gas Co., Ltd.	Production, supply, and sales of gas	100	85
LPG, Electricity	Osaka Gas LPG Co., Ltd.	Sales of LPG and other products	100	100
and Other Energy	Gas and Power Co., Ltd.	Electric power supply	1,368	100
	Senboku Natural Gas Power Generation Co., Ltd.	Electric power supply	2,000	90
	Nakayama Joint Power Generation Co., Ltd.	Electric power supply	300	95
	Nakayama Nagoya Joint Power Generation Co., Ltd.	Electric power supply	450	95
	Nissho Petroleum Gas Corporation	Sales of LPG and other products	1,726	52
	Nissho Propane Sekiyu Co., Ltd.	Sales of LPG and other products	60	100
	Liquid Gas Co., Ltd.	Sales of industrial gas, LNG, LPG, and other products	1,110	100
International	Osaka Gas International Transport Inc.	LNG vessel leasing	3,190	100
Energy	Osaka Gas Summit Resources Co., Ltd.	Development and investment of petroleum and natural gas	100	70
	Osaka Gas Australia Pty Ltd *	Development and investment of petroleum and natural gas	A\$822 million	100
	Osaka Gas Energy America Corporation	Research and investment relating to energy supply business	US\$2	100
	– Osaka Gas Gorgon Pty. Ltd.*	Development and investment of petroleum and natural gas	A\$323 million	100
Environment and Non-Energy	Urbanex Co., Ltd.**	Development, leasing, management, and sales of real estate	1,570	100
	Osaka Gas Autoservice Co., Ltd.	Leasing and servicing of automobiles, and other activities	100	100
	Osaka Gas Chemicals Co., Ltd.	Manufacture and sales of fine materials, carbon material products, and others	2,500	100
	Osaka Gas Business Create Co., Ltd.	Provision of office service operations, operation of facilities, operation of parking and other facilities	100	100
	Osaka Gas Finance Co., Ltd.	Leasing, credit, insurance agency business, and others	600	100
	OG Sports Co., Ltd.	Management and contract operation of sports facilities	100	100
	OGIS-RI Co., Ltd.	Software development / Computer-based data processing services	400	100
	Sakura Information Systems Co., Ltd.	Software development / Computer-based data processing services	600	51
	Japan EnviroChemicals, Ltd.	Manufacture and sales of activated carbon, wood protective coatings, and other products	2,055	100

\* Specified subsidiary \*\*Company name changed to Osaka Gas Urban Development Co., Ltd. on April 1, 2013

# **Company Data**

As of June 27, 2013

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## 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. Tel: (+44) 20-7851-7483

Osaka Gas Energy America Corporation One North Lexington Avenue, Suite 504, White Plains, NY 10601, U.S.A. Tel: (+1) 914-253-5500

#### Osaka Gas Resources America Corporation

1980 Post Oak Blvd., Suite 1500, Houston, TX 77056, U.S.A. Tel: (+1) 713-360-4820

#### Osaka Gas Australia Pty Ltd

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

## Investor Information

Date of Establishment: April 10, 1897

#### **Regular General Meeting:**

The regular general meeting of shareholders is held in June each year. The 2013 regular general meeting was held on June 27.

#### Common Stock:

Authorized: 3,707,506,909 shares Issued: 2,083,400,000 shares \* Total number of shares issued includes 1,298,619 shares of treasury stock.

#### Listing of Shares:

Osaka Gas' shares are listed for trading on the following stock exchanges in Japan: Tokyo, Osaka, Nagoya.

#### Number of Shareholders:

(As of March 31, 2013) 141,601

#### Stock Transaction Units:

Osaka Gas' stock is traded in units of 1,000 shares.

# Independent Certified Public Accountants: KPMG AZSA LLC

#### **Transfer Agent:**

Mitsui Sumitomo Trust Bank, Limited

#### <Contact>

Mitsui Sumitomo Trust Bank, Limited Stock Transfer Agency Business Planning Department 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.

http://www.osakagas.co.jp/en/

- For inquiries about this report or requests for other materials, please
   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, 2013)

Shareholders	Number of shares held (Thousands)	Shareholding ratio (%)
Nippon Life Insurance Company	108,103	5.19
Japan Trustee Services Bank, Ltd. (Trust a/c)	76,422	3.67
The Master Trust Bank of Japan, Ltd. (Trust a/c)	71,372	3.43
The Bank of Tokyo-Mitsubishi UFJ, Ltd.	69,929	3.36
Resona Bank, Ltd.	52,777	2.53
SSBT OD05 OMNIBUS ACCOUNT - TREATY CLIENTS	41,058	1.97
Osaka Gas Employees Shareholding Association	30,363	1.46
Meiji Yasuda Life Insurance Company	29,191	1.40
Japan Trustee Services Bank, Ltd. (Trust a/c 9)	28,999	1.39
Aioi Nissay Dowa Insurance Co., Ltd.	27,865	1.34

#### Shareholdings by Type of Shareholder

- Banks and Insurance Companies
- Individuals and Others
- Foreign Corporations and Foreign Individuals
- Other Japanese Corporations
- Securities Companies
- Treasury Stocks



#### Stock Price Range





Osaka Gas Co., Ltd. 4-1-2, Hiranomachi, Chuo-ku, Osaka 541-0046, Japan http://www.osakagas.co.jp/en/



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