

Domestic Energy Business

What We Aim to Be in FY2031.3 and Summary of Current Situation

Although competition in the energy business has been intensified in the Kansai area since the full deregulation of the retail electricity market in April 2016 and the retail gas market in April 2017, we are actively working to achieve growth in the domestic energy business. We are striving to develop our business as an energy marketer in a new era by strengthening each of three areas in the domestic energy business; namely gas manufacturing and sales, gas distribution, and electric power generation and sales. Specifically, we are first ensuring a stable energy supply and unparalleled safety for existing customers in the Kansai area to enable use with peace of mind. In addition, we are proceeding with comprehensive provision of energy supply and services by expanding the electric power and LPG businesses and enhancing life support services and one-stop services as utility agent, while taking measures to curb the number of customers leaving. Furthermore, by broadly deploying expertise and services as well as alliances developed in the Kansai area, we aggressively entering into markets mainly in the Greater Tokyo area other than the Kansai area, aiming to reach more than 10 million customer accounts by FY2031.3

Domestic Energy/Gas

Summary for the Fiscal Year Ended March 31, 2018, and Outlook for the Fiscal Year Ending March 31, 2019

For the fiscal year ended March 31, 2018, segment profit

decreased ¥12.6 billion year-on-year to ¥42.6 billion due to influences from competition and time-lag profits, despite an increase in gas sales volume for residential use driven by low air and water temperatures. For the fiscal year ending March 31, 2019, segment profit is assumed to decrease by ¥7.6 billion year-on-year to ¥35.0 billion, reflecting competition and a pullback from low air and water temperatures experienced in the previous fiscal year.

Forecast for the fiscal year ending March 31, 2019

Net Sales **¥994.0 billion** Segment Profit **¥35.0 billion**

Domestic Energy/Electricity

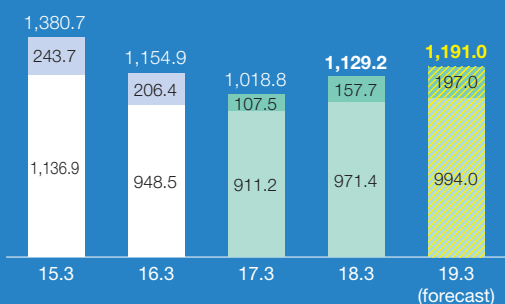
Summary for the Fiscal Year Ended March 31, 2018, and Outlook for the Fiscal Year Ending March 31, 2019

For the fiscal year ended March 31, 2018, segment profit increased ¥4.5 billion year-on-year to ¥20.7 billion due mainly to the acquisition of electric power retail contracts. For the fiscal year ending March 31, 2019, although we will continue to progress with acquisition of electric power contracts, segment profit is assumed to decrease by ¥4.2 billion year-on-year to ¥16.5 billion, owing to competition and other factors.

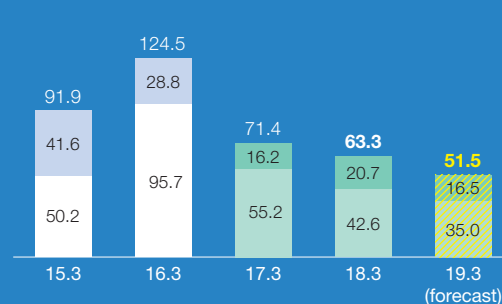
Forecast for the fiscal year ending March 31, 2019

Net Sales **¥197.0 billion** Segment Profit **¥16.5 billion**

Net Sales (billion yen)



Segment Profit* (billion yen)



* Segment profit = Operating profit + Equity in earnings of affiliates

Gas Sales

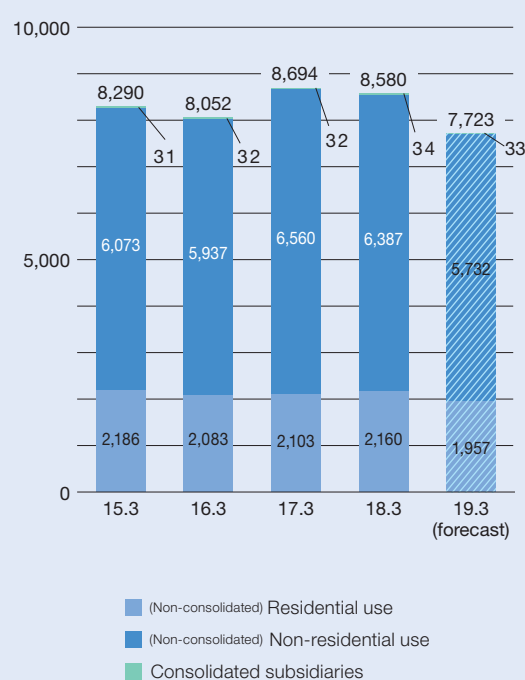
Gas sales volume for the fiscal year ended March 31, 2018 decreased from the previous fiscal year due to a decrease in sales volume for non-residential use exceeding the increase for residential use.

With regard to gas sales volume for residential use, the influence of increased demand for hot water and room heating driven by low air and water temperatures surpassed the decrease in sales volume due to customers moving to other companies and improved efficiency in appliances. With regard to gas sales volume for non-residential use, the decrease due to customers moving to other companies and declined usage at particular customers surpassed the increase fueled by demand development and increased operation of equipment at existing customers.

Gas sales volume for the fiscal year ending March 31, 2019 is expected to decrease and be below levels of the previous fiscal year for both residential use and non-residential use. Residential use is projected to be lower than the level of the previous fiscal year due to a pullback from the effects of low air and water temperatures experienced in the previous fiscal year and customers moving to other companies. Non-residential use is projected to be lower than the level of the previous fiscal year due to declined operation of equipment at particular customers and the influence of customers moving to other companies.

	2017.3	2018.3	Change
Consolidated number of gas supply contracts (thousand)	6,255	5,996	-260
Non-consolidated number of gas supply contracts (thousand)	6,230	5,970	-260

Trends in Consolidated Gas Sales (million m³)



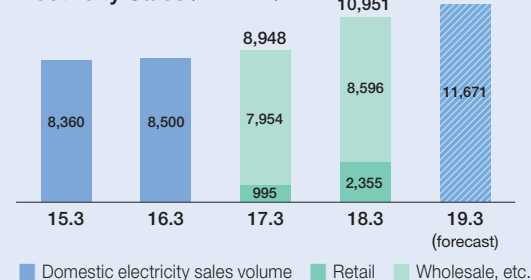
Electricity Sales

Electricity sales volume for the fiscal year ended March 31, 2018 increased from the previous fiscal year for both wholesale and retail sales. Growth in the number of low-voltage electricity supply contracts was strong particularly.

For the fiscal year ending March 31, 2019, we are working to further raise the number of low-voltage electricity supply contracts to increase electricity sales volume.

	2017.3	2018.3	Change
Number of low-voltage electricity supply contracts (thousand)	305	619	+314

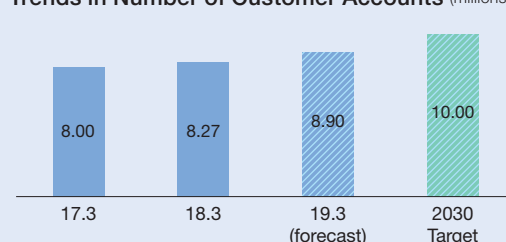
Trends in Consolidated (Domestic) Electricity Sales (million kWh)



Customer Accounts

The number of customer accounts as of March 31, 2018 was 8,270 thousand, an increase of 270 thousand from the end of the previous fiscal year. This is primarily due to new installation in the gas business, acquisition of electricity contract, an increased number of installations of ENE-FARM and acquisition of maintenance and warranty contracts, despite a decrease affected by the full deregulation of the gas retail market. We will aim for 8,900 thousand accounts by March 31, 2019 through focusing on acquisition of electric power, the Sumikata Plus service and maintenance and warranty contracts.

Trends in Number of Customer Accounts (millions)



Measures for Reliable Supply, and Safe and Secure Use

Energy Resource Procurement

Diversifying sources of supply and the terms and conditions of agreements

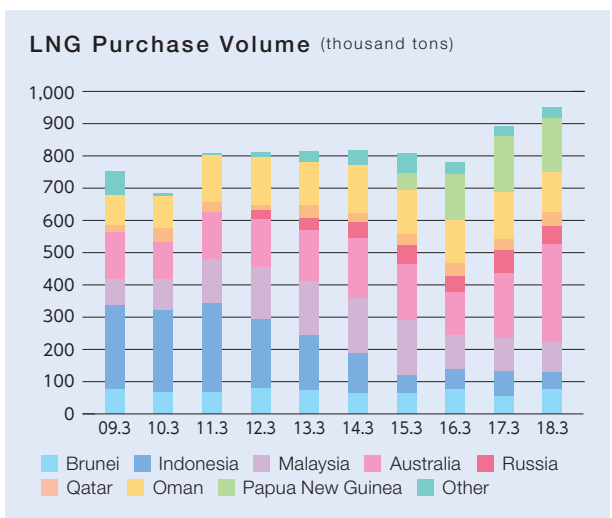
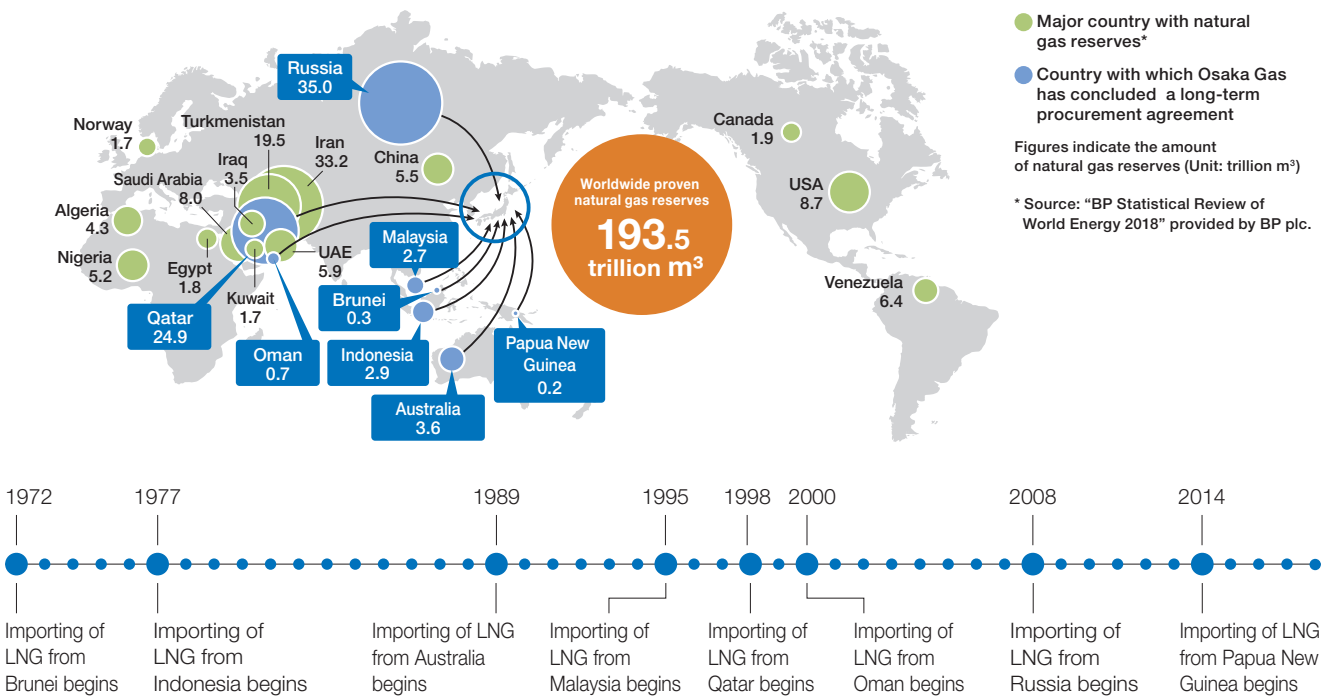
Unlike oil reserves, most of which are located in the Middle East, reserves of natural gas, which are used as materials for city gas and for power generation, are found all over the world.

With longer expected years of production than those of oil, the superiority of natural gas as an energy source is highly recognized. Osaka Gas started to import LNG from Brunei in 1972 and has since diversified its suppliers. Currently, Osaka Gas procures supplies of LNG from the eight countries of Brunei, Indonesia, Malaysia, Australia,

Qatar, Oman, Russia, and Papua New Guinea. In addition, the natural gas liquefaction business in Texas, USA is set to launch operations. We are continuing to strive for increasingly stable and reliable procurement of LNG.

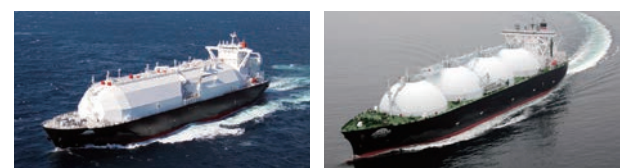
Furthermore, procurement of LNG from the USA will enable us to enter into new types of agreements where LNG procurement prices are indexed to Henry Hub prices, in addition to the traditional agreements in which LNG prices are generally linked to the price of crude oil. The diversification of pricing mechanisms will stabilize LNG prices should there be a surge in crude oil prices. In addition, by investing in liquefaction projects, we will be able to procure price-competitive LNG from among Henry Hub prices, expect to lead to reductions in the price of LNG.

Countries with Natural Gas Reserves and Countries from which Osaka Gas Procures LNG



Use of Daigas Group LNG Carrier Fleet

By utilizing the Daigas Group carrier fleet consisting of seven ships, we are striving to further stabilize the procurement of energy resources and reduce transportation costs while diversifying our suppliers in an effort to expand our LNG trading business.



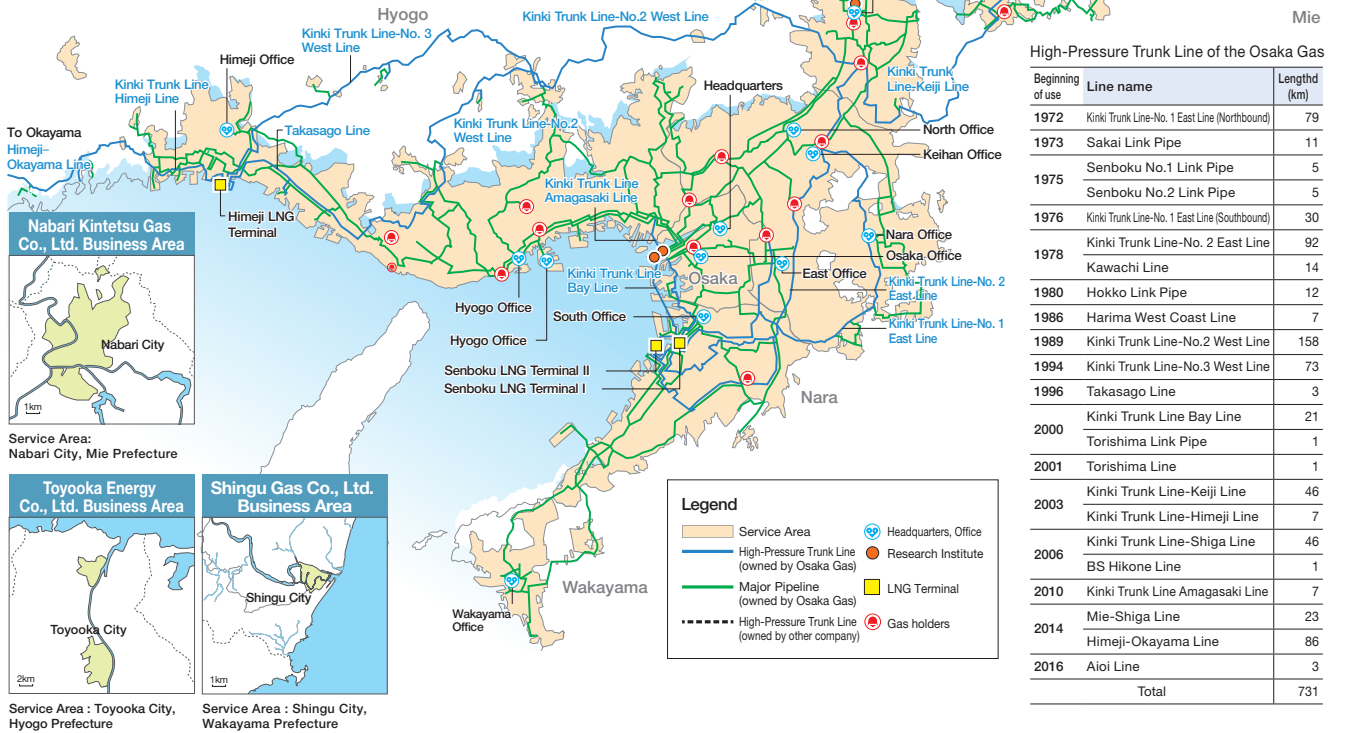
Vessel name	LNG VESTA	LNG JAMAL	LNG DREAM	LNG BARKA	LNG JUPITER	LNG VENUS	LNG MARS
Capacity	125 thousand m ³	135 thousand m ³	145 thousand m ³	153 thousand m ³	153 thousand m ³	153 thousand m ³	153 thousand m ³

As of April 1, 2018

Supply Systems

Supply network structure

For stronger supply capabilities and improved reliability of city gas, we regularly inspect our pipeline network, implement planned reinforcements and replacements with pipelines constructed of stronger material on a regular basis. Additionally, in response to increasing demand for city gas, we have been working to extend new pipelines as well to establish a strong network.



Safety System that Works 24 Hours a Day, 365 Days a Year

To ensure reliable supply of city gas, our safety system estimates daily demand, makes production plans, and sends production orders to production facilities. The system also performs reliable and efficient controls that respond to changes in demand through means such as wirelessly operating gas holders that store and release gas as necessary. For a pipeline network with a total extended length of approximately 61,900 km (equivalent to 1.5 times the circumference of the earth), regular inspection and maintenance are conducted as preventative measures for ensuring safety. The Central Safety Command Center operates 24 hours a day to monitor and control the status of gas supply in an integrated manner and is ready to promptly respond and dispatch staff from respective locations upon receiving reports from customers. In the event of a large-scale accident or natural disaster such as an earthquake, the center will serve as a company-wide command center that communicates and collaborates with each business base.



High-Quality Safety and Reliability

We have approximately 200 service chain partners in our service area that work closely with customers in their areas providing Sumikata Services (home services) in addition to contract services for the Company (such as opening and shutting off gas service and maintenance of gas equipment). We receive calls 365 days a year and have a 24-hour reception system in place particularly for gas appliance repairs. If a call is received by 3:00 p.m., one of 1,300 technicians qualified by Osaka Gas to repair gas appliances will visit the customer on that day. Customers have given a 98% customer satisfaction rating to the speed with which repairs are completed after their call is made.

Measures to Maximize Customer Accounts

For maximizing customer accounts, we are aiming to become a company that is consistently chosen by customers in the areas of energy supply such as city gas, LPG, electric power, and other energy-related services by continuing to provide services that go beyond customers' expectations.

Measures for Residential Use

For more than 110 years, we have provided a stable energy supply and superior safety and reliability to earn customers' trust. On the base of this trust, we are providing electricity and gas supply as well as new products and new services to strengthen relationships with customers. In addition, we established the Innovation Headquarters in April 2018 in order to accelerate this initiative.

In April 2017, we began providing a new service, Sumikata Plus, offering emergency home repair services that provide primary response to household problems as many times as requested and living support services that supports customers' food, health and energy savings, for a fixed monthly fee of 216 yen (including consumption tax) for customers subscribing to Gas-Toku plans from among our gas rate options.

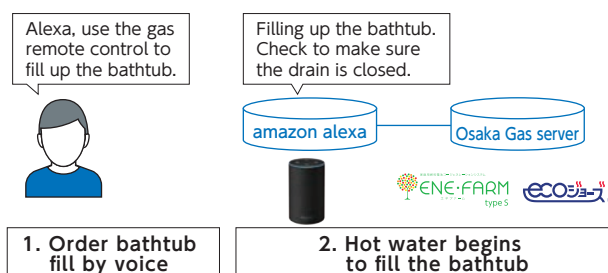
Starting from April 2018, we expanded the target customer of this service to all of our customers and added the new services, Smile Check, which offers water leakage inspection, light fixture replacement advice, underfloor inspections, etc. In addition we began to provide four services, including Mamoryukku which offers emergency supplies with replacement services, for an additional fee.

Expanding IoT Service

Starting from April 2018, further enhanced services are provided for customers who enjoy the IoT residential fuel cell ENE-FARM type S or energy saving water heater ECO-JOZU.

We are providing new added value by utilizing the IoT, namely, gas appliance operations through smart speaker, hot water monitoring service using smartphone app and etc.

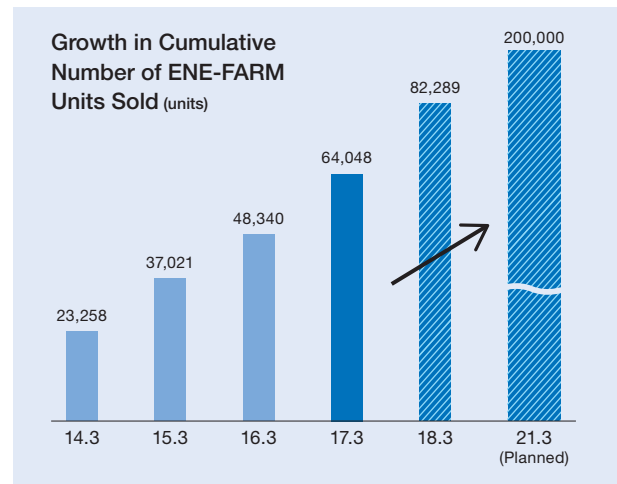
Services/Functions	Content
For customers using the IoT supported ENE-FARM and ECO-JOZU	
1: Gas appliance operation through smart speaker	Enables customers to speak to Amazon Echo to fill up a bath tub or operate floor heating
2: Hot water monitoring service using smartphone app	Sends remote family members notifications of hot water usage using smartphones, offering a casual watch over family life
3: Living-related newsletter service using smartphone app	Sends newsletters about tips and hints on how to use gas appliances and other useful living information (weather and editorials) to smartphones
4: Gas usage visualization service	Provides breakdown of gas usage (by water heating, room heating, and water reheating) of IoT supported gas appliances on the My Osaka Gas page



Initiatives Aimed at Promoting Installation of ENE-FARM

Since its launch in June 2009, ENE-FARM has been well received by many customers, and total sales volume recently reached 80,000 units.

The CO₂ reduction effect by 80,000 units of ENE-FARM is 118 thousand tons*¹ per year, equivalent to planting of approximately 8.51 million cedar trees*². Osaka Gas are striving to achieve total sales volume of 100 thousand units of ENE-FARM early and advance further technology development and cost reduction while continually contributing to the realization of comfortable living for customers, mitigation of environmental loads, and enhancement of energy security.



*1 Estimated figures calculated by the Company for instances where traditional gas-powered hot water and heating systems are replaced with a new ENE-FARM type S (on assumption of a detached house with a family of 4).

[Applied rates] For a traditional hot water and heating system, the floor heating standard plan (option discount of 9%) for gas and the meter-rate lighting A plan for electricity are applied. For ENE-FARM type S, the my home power generation rates (option discount of 9%) for gas and the meter-rate lighting A plan for electricity are applied. *Gas and electricity charges are respectively calculated based on rates for August 2017 of Osaka Gas and Kansai Electric Power (consumption tax included). Renewable energy generation promotion levies included in electricity charges are based on the amount effective for FY2018.3. Purchase rates for surplus power is based on rates as of August 2017. [CO₂ emission factors] gas: 2.29kg-CO₂/m³ (Source: the Company), electricity: 0.65kg-CO₂/kWh (Source: the average factor of thermal power plants in FY2014.3 stated in the Global Warming Countermeasure Plan approved by the Cabinet in May 2016)

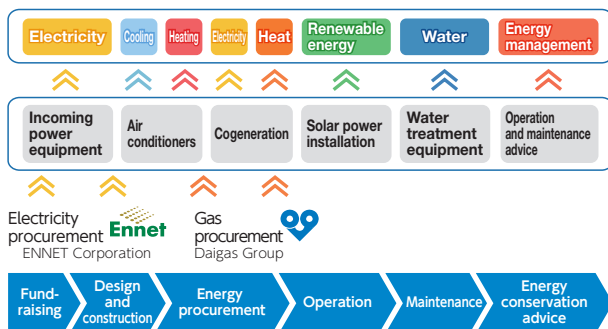
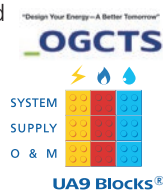
*2 CO₂ absorption of cedar trees per unit is 13.9kg-CO₂ per year and per tree (Source: 1997 Forestry White Paper of Japan. Based on a 50 year-old and 22 meter-high cedar tree with a diameter of 26 cm)

Measures for Commercial and Industrial Use

To enable optimized, efficient energy usage, we provide solutions to meet utilities-related outsourcing needs at our customers, along with services that leverage engineering, the IoT and other advanced tools in the development of technologies and products needed by our customers. We also offer these services beyond the Kansai area. In March 2018, we invested in Reliance Energy Okinawa which engages in the ESP business.

Utility Agent Contract

As a utility agent, the Daigas Group has a full range of utilities-related services. OGCTS Co., Ltd. provides comprehensive one-stop services combining nine categories. By proposing in a single package optimized utility facilities (for gas, electricity, water, etc.), no requirement for initial investment, optimized procurement of energy, facility operation/maintenance, and energy-saving technical advice after facility introduction, we ensure continuous energy- and cost-saving not only at the time of introduction but also during operation.



Engineering Services

Leveraging technologies built up over the years, we carry out thorough investigations into energy load at all customer facilities and provide solutions to issues faced by the customer using simulations and other measures at one of Japan's largest test sites. Construction work and post-project maintenance are also carried out by the Daigas Group. We propose total solutions, including regular inspections, emergency troubleshooting and facility upgrades.



Diagnosis results

Industrial facilities
Approx. 5,900 units

Power measurement
Approx. 1,700 systems

As of March 31, 2018

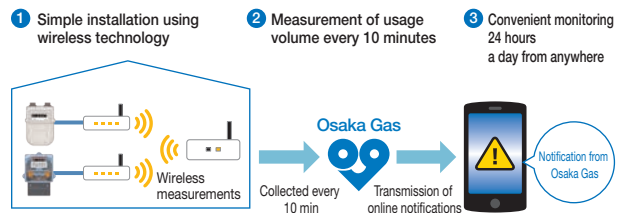
Services Using ICT

For the commercial and industrial customer, we have developed various services using Information and Communications Technology (ICT).

We are providing Eneflex that makes operational status "visible" in gas air conditioning systems, and controls energy-saving system and "Motto Save" system which displays energy use throughout a building. In addition, we have in recent years launched "ekul" service, which meets various usage visualization needs beyond the energy field.

"ekul" is a service which can measure and immediately provide gas and electricity usage information in real time, and can also measure various data, including water usage, number of customers, temperature, and humidity.

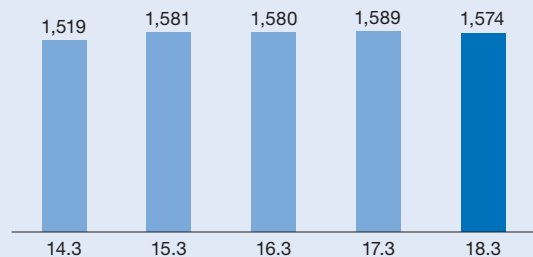
Simple Three-step Measurement and Notification Service



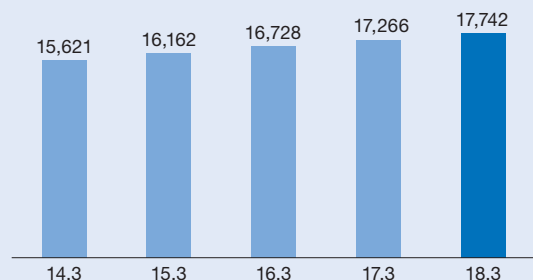
Expanded Use of Gas Cogeneration Systems and Air Conditioning Systems

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

Industrial Gas Cogeneration Running Capacity (thousand kW)



Gas Air Conditioning and Gas Heat Pump Cumulative Capacity (thousand kW)



(Note) Output basis

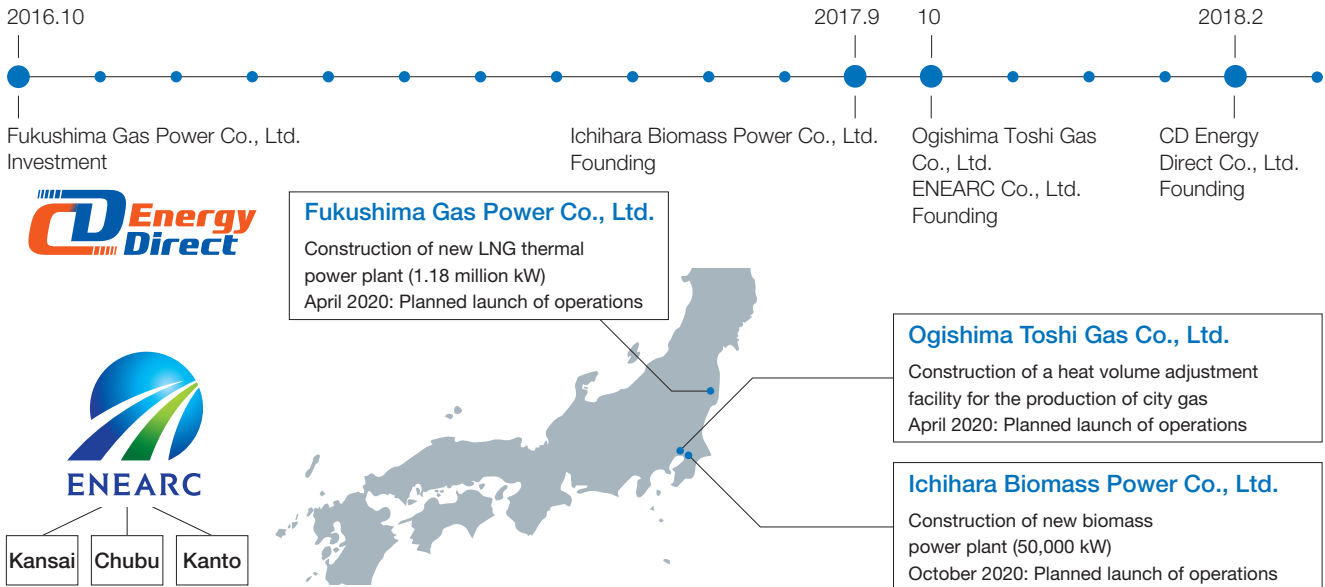
Businesses Outside the Kansai Area

The Kansai area is the backbone of our business. To ensure sustainable growth, we are planning to leverage our expertise and know-how built up through our Kansai businesses, to develop new businesses outside the area transcending regional and corporate boundaries, through alliances with other companies.

In fiscal years 2017,3 and 2018,3 we decided to take stakes in Fukushima Gas Power Co., Ltd., Ichihara Biomass Power Co., Ltd., and Ogishima Toshi Gas Co., Ltd. in the Tokyo area. In addition, we also set up ENEARC

Co., Ltd., as an LPG marketing company in the three metropolitan areas of Tokyo, Osaka and Nagoya, and set up CD Energy Direct Co., Ltd. which provides gas, electric power and peripheral services in the Greater Tokyo area. These initiatives enabled us to create a wide-area energy business network centered on the Greater Tokyo area.

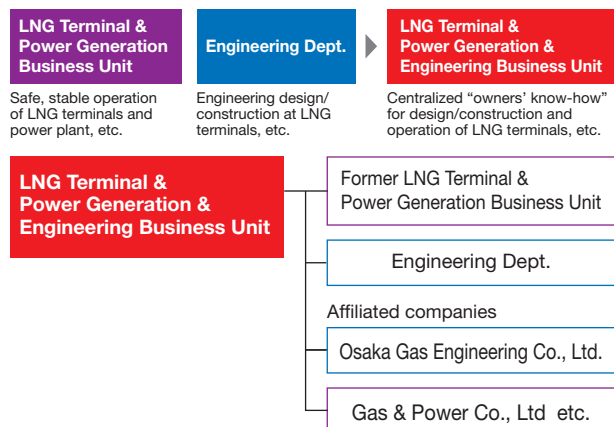
The Greater Tokyo area is a huge market. By expanding wide-area businesses centered on this market, we are aiming to ensure the growth of our domestic energy business.



Strengthening the Engineering Business

In April 2018, we restructured the Engineering Department handling LNG terminal and power-plant design, and the LNG Terminal & Power Generation Business Unit handling safety and stability of operations and relaunched them as the LNG Terminal & Power Generation & Engineering Business Unit. By ensuring centralized development of "owners' know-how"--that is, expertise in the design, construction and operation of LNG terminals built up over years of business development--we aim to ensure still safer and more stable operation of existing infrastructure. At the same time, we plan to accelerate the development of new infrastructure outside the region and overseas by strengthening engineering functions within a holistic paradigm of infrastructure construction, operation and maintenance management.

In May 2018, we took consultancy orders relating to first-phase construction of a third LNG terminal for CPC Corporation, Taiwan (CPC), a state energy company (with operational launch scheduled for 2023 near Taoyuan International Airport), as well as to an LNG terminal in Taichung planned by Taiwan Power Company (TPC) (with operational launch scheduled for 2023 near the CPC Taichung LNG terminal).



Power Source Development

The Group's Power Source Composition

In response to the phased-in liberalization of retail sales in the power sector since 2000, we have launched a power retail business with affiliate ENNET Corporation as distributor. We have taken measures to develop demand and broaden

power sources, and, in Japan, have expanded output to around 2,000 MW, mainly comprising natural gas-fueled thermal power.

In this broadening of power sources, we are working to rely not only on thermal power, but also on renewables such as wind, solar and biomass-based energy.

Total Power Generation Capacity*1

Total: Approx. **2,007** MW (As of June 30, 2018)

Thermal Power Sources*1

- Senboku Natural Gas Power Plant
- Himeji LNG Terminal
- Senboku LNG Terminal I
- Torishima Energy Center, Gas & Power
- Funamachi Power Plant, Nakayama Joint Power Generation
- Nagoya Power Plant, Nakayama Nagoya Joint Power Generation
- Nagoya II Power Plant, Nakayama Nagoya Joint Power Generation
- Fukushima Natural Gas Power Plant, Fukushima Gas Power (Under construction)
- Yamaguchi-Ube Power Generation (Under consideration)
- Himeji Natural Gas Power Generation (Under consideration)



Senboku Natural Gas Power Plant Torishima Energy Center

Total: approx. **1,694** MW

Cogeneration Power Sources

- Uji Energy Center, Gas & Power
- Settsu Energy Center, Gas & Power
- Senri Energy Center, OGCTS Co., Ltd.



Uji Energy Center

Total: approx. **91** MW

*1 Includes volumes of power generated by equity-method affiliates within the Osaka Gas Group. Does not include projects under discussion or at the construction stage.

Renewable Energy Power Sources, etc.*1

(Wind Power Generation)

- Hayama Wind Farm Power Plant, Hayama Wind Farm Power Plant
- Hirogawa Myojin-yama Wind Power Plant, Hirogawa Myojin-yama Wind Power Plant
- Yura Wind Power Plant, Yura Wind Power Generation
- Hizen Wind Power Plant, Hizen Wind Power Generation
- Hizen South Wind Power Plant, Hizen Wind Power Generation
- Hirao Wind Power Plant, Hirao Wind Power Generation
- Inami Wind Power Plant, Inami Wind Power Generation
- Shiribetsu Wind Power Plant, Shiribetsu Wind Power Generation (Under construction)

(Solar Power Generation)

- Torishima Solar Power Plant, Gas & Power
- Torishima Solar Power Plant II, Gas & Power
- SHOO Solar Power Plant, Gas & Power
- Hirogawa Myojin-yama Wind Power Plant, Hirogawa Myojin-yama Wind Power Plant
- Yawata Solar Power Plant, Nabari Kintetsu Gas Co., Ltd.
- Nissan Green Energy Farm in Oita, JGC Mirai Solar Co., Ltd.
- Yura Solar Power Plant, Yura Wind Power Generation (North)
- Yura Solar Power Plant, Yura Wind Power Generation (South)

(Biomass Power Generation)

- Matsusaka Woody Biomass Power Plant, Biomass Power Technologies Inc.
- Ichihara Biomass Power Plant, Ichihara Biomass Power Co., Ltd. (Under construction)



Inami Wind Power Plant



Torishima Solar Power Plant

Total: approx. **222** MW*2

*2 Includes biomass-mixed combustion.

The Future of Power Development

In the overall Group power portfolio, we plan to be generating around 5,500 MW in Japan by fiscal 2030, and around 3,500 MW overseas. To reach the 5,500 MW target for Japan, we aim to ensure flexible responses to demand through combined procurement from the power market and from peer suppliers. Moreover, at the time of compilation

of the fiscal 2018 management plan, we revised upward our fiscal 2030 target for power from renewable sources from around 500 MW to 1,000 MW, in both the Japan and overseas markets. By aggressively introducing renewable energy, we aim to curb emissions of greenhouse gases and contribute to attainment of a low-carbon society. Our goal is creation of a competitive but highly environment-friendly power supply portfolio by fiscal 2030.