広島ガス

CSR Report 2015

Corporate Social Responsibility Report

Digest

Working toward a sustainable society

How is natural gas delivered to customers?

City gas supply flowchart

Gas resources procurement and transport

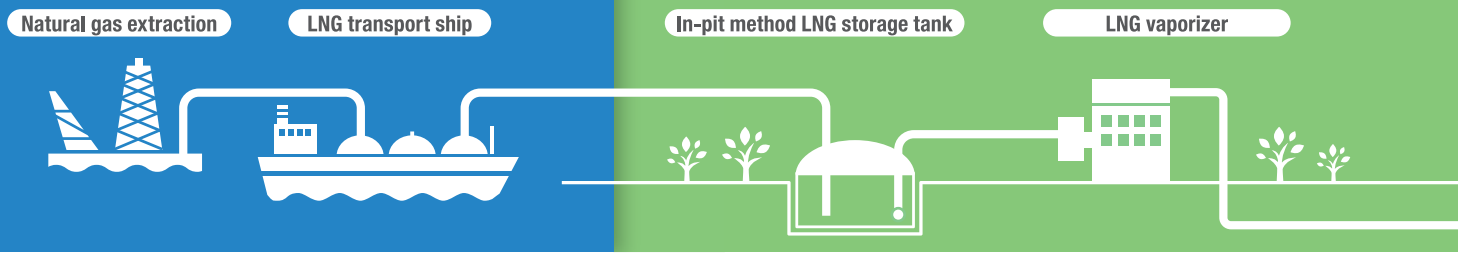
Natural gas is extracted overseas, cooled to -162°C, liquefied, and then imported as LNG (liquefied natural gas).

Russia, Prigorodnoye facilities

City gas production

LNG is placed into storage tanks and vaporized according to demand. It then undergoes calorific value adjustment and is supplied as city gas.

Hatsukaichi LNG terminal



Service area and organization

Head office address: 2-7-1, Minamimachi, Minami-ku, Hiroshima
TEL: 082-251-2151 (Switchboard)

Established: October 1909

Capital: 5.181 billion yen

Number of employees: 689

Business field:
1. Gas business
2. Sales of gas appliances
3. Sales of liquefied natural gas

(As of March 31, 2015)

Hiroshima Gas head office

Service area (6 cities and 4 towns in Hiroshima prefecture)
Cities: Hiroshima, Kure, Onomichi, Mihara, Hatsukaichi, Higashi-hiroshima
Towns: Aki-gun Kaita-cho, Saka-cho, Fuchu-cho, Kumano-cho

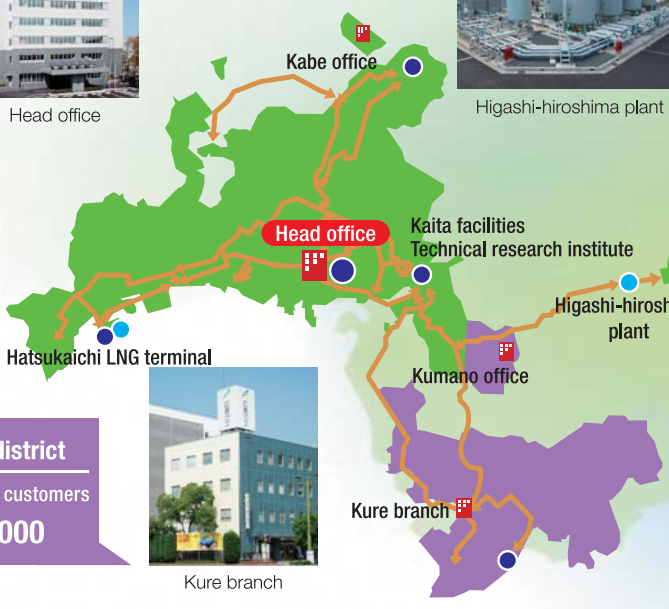
Number of customers
409,000

Hiroshima district
Number of customers
343,000

Head office

Higashi-hiroshima plant

Hatsukaichi LNG terminal



Kure district
Number of customers
48,000

Kure branch

City gas supply

Gas is supplied to customers through 5,042 km of underground piping (distribution pipes of different sizes).

Gas pipe bridges

Delivery to customers

The gas that we supply can be used in a variety of applications.

Factories, etc.

Hotels, buildings, schools, etc.

Kitchens, hot water supply, etc.

Spherical gas holder | Industrial use | Commercial use | Residential use

Natural gas is an environmentally friendly type of energy!

Energy plays an important part in all of our lives.

Wholesale supply (Hiroshima Gas)

Wholesale supply utilizing equipment from Setouchi Pipeline Co., Ltd., a consolidated subsidiary

Mizushima station
(Setouchi Pipeline Co., Ltd.)

Mizushima LNG terminal
(Mizushima LNG Co., Ltd.)

Hiroshima prefecture

Bingo plant

Okayama prefecture

Mizushima LNG terminal
Mizushima station

Fukuyama Gas Co., Ltd.

Bingo plant

Onomichi branch

Mihara sales office

Onomichi/Mihara district

Number of customers

18,000

Onomichi branch

Legend			
Service area (Hiroshima district)		Gas holder	
Service area (Kure district)		Gas production plant	
Service area (Onomichi/Mihara district)		Head office/Branch Office/Sales office	
Main distribution line (Hiroshima Gas)		Proposed pipeline	
		Pipeline (Setouchi Pipeline)	

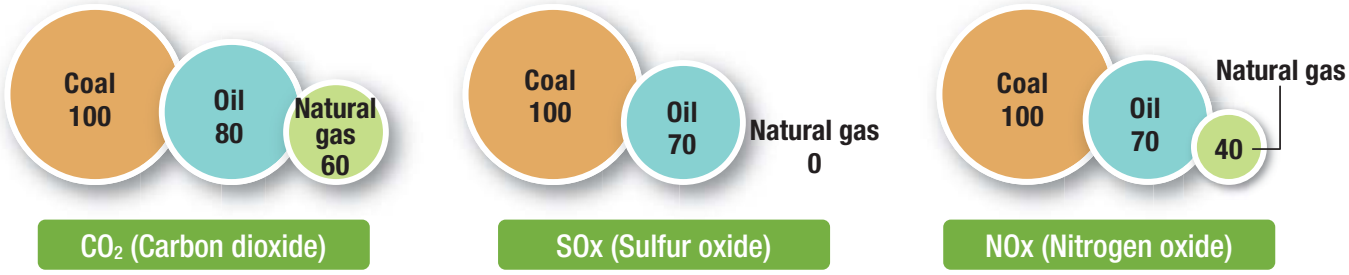
Q What type of energy is environmentally friendly natural gas?

Characteristics of Natural Gas

Natural gas is a type of fossil fuel that was created when ancient flora and fauna was buried underground for many thousands of years.
It is mainly composed of methane which has a small amount of carbon.
This means that it is a relatively clean form of energy that emits only a small amount of CO_2 or other pollutants during combustion.
Unlike oil which is mainly concentrated in the Middle East, natural gas is distributed all around the world and has excellent supply stability.

Environmental impact of natural gas

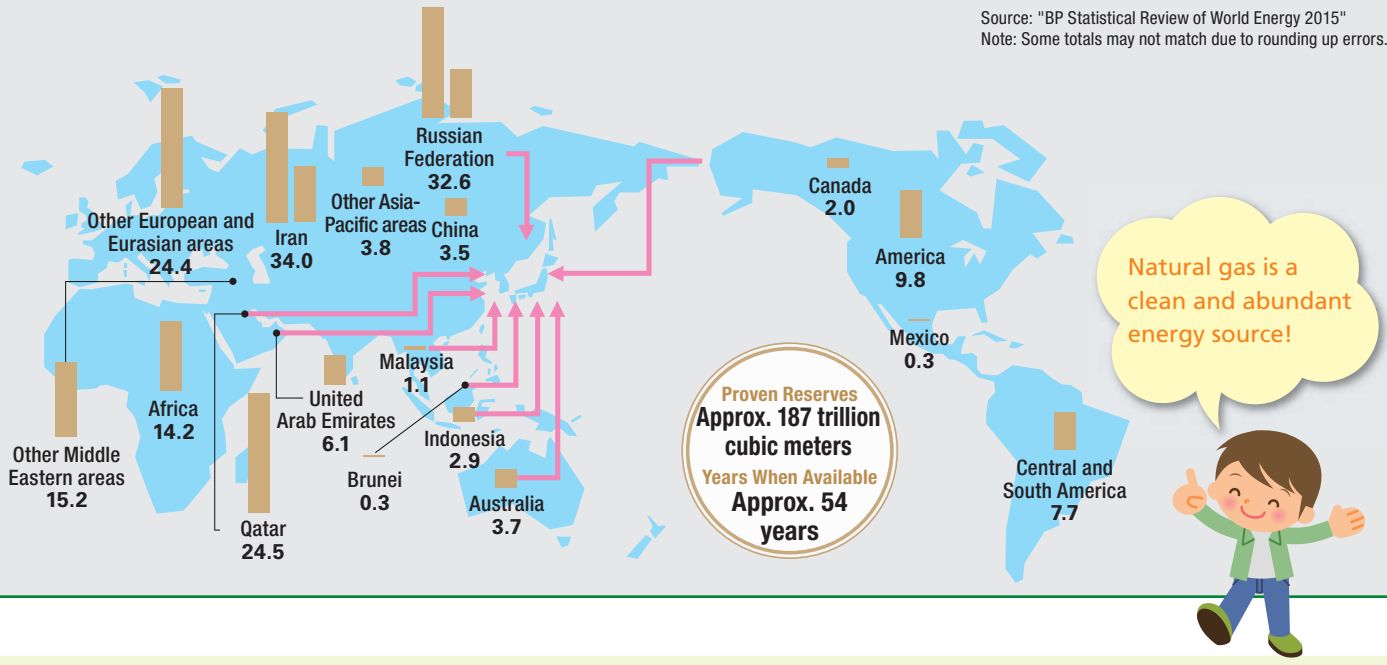
A comparison of emissions during combustion. Coal has been given a reference value of 100.



Source: "Energy White Paper 2013", Agency for Natural Resources and Energy

Natural Gas Proven Reserves (Unit: Trillions of cubic meters)

Source: "BP Statistical Review of World Energy 2015"
Note: Some totals may not match due to rounding up errors.



Supply Stability

Natural gas is abundant around the world. We import LNG (liquefied natural gas) extracted, refined, and liquefied in areas such as Indonesia and Russia (Sakhalin), and receive it at our Hatsukaichi LNG terminal. With the improvement of mining technology in recent years, unconventional natural gas sources that have traditionally been difficult to extract such as shale gas, coal bed methane, and tight sand gas are now able to be produced and stable supply is expected.

In addition, there are methane hydrate deposits in the coastal waters of Japan equivalent to around 100 years worth of Japan's annual consumption amount. Government-led initiatives for development of these resources are currently being carried out.

Composition of City Gas

We use liquefied natural gas to produce city gas which is delivered to customers through the gas piping network.

Characteristics of City Gas

Composition and content (Natural gas service area)

Components		Composition
Name	Chemical formula	% (By volume)
Methane	CH_4	91
Ethane	C_2H_6	5
Propane	C_3H_8	2
Butane	C_4H_{10}	2

Note: Gas composition shows a representative value.

Gas type	13A
Standard calorific value	45MJ/m^3
Specific gravity (Air = 1)	0.638
CO_2 emission coefficient	2.29kg-CO_2/m^3

Q What activities is Hiroshima Gas actively involved in?

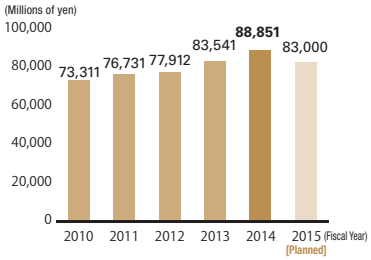
Management field — Delivering safe, stable, and clean natural gas

Company performance information

Five consecutive years of revenue growth, and three consecutive years of recurring profits

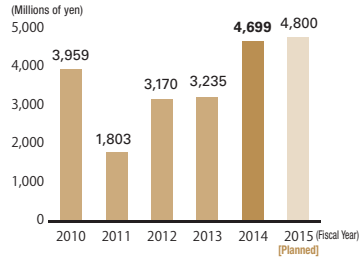
Due to an increase in the unit sales price based on the gas cost adjustment system, sales in FY2014 totaled 88,851 million yen. This is an increase of 5,309 million yen when compared with the previous fiscal year.
In regard to profits, ordinary income were 4,699 million yen and net income was 2,746 million yen. When compared with the previous fiscal year, this was an increase of 1,464 million yen and 777 million yen respectively.

Consolidated net sales



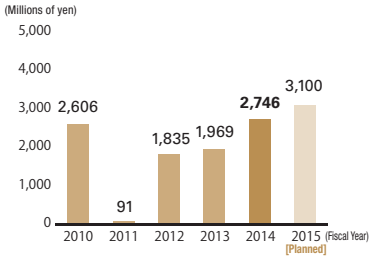
88,851 million yen (6.4% increase when compared with the previous fiscal year)

Consolidated ordinary income



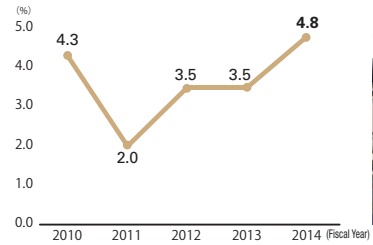
4,699 million yen (45.3% increase when compared with the previous fiscal year)

Consolidated net income



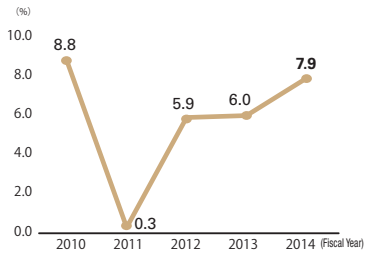
2,746 million yen (39.5% increase when compared with the previous fiscal year)

Return on assets (ROA)



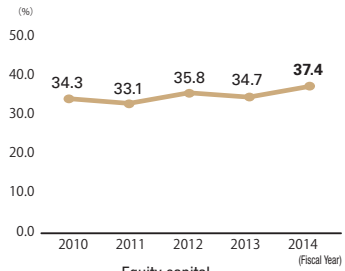
Return on assets (ROA) = Ordinary income / Average total assets ×100

Return on equity (ROE)



Return on equity (ROE) = Net income / Average equity capital ×100

Equity ratio



Equity ratio = Equity capital / Total assets ×100

Employee fields of expertise

Production field

City gas is produced at the Hatsukaichi LNG terminal, the Bingo plant, and the Higashi-hiroshima plant. Liquefied natural gas reception and the entire gas production process at these locations are tightly controlled via the central control room.
By carrying out daily equipment inspection, periodic maintenance and emergency response drills, we have achieved a system that can safely and efficiently produce city gas.


Central control room


Equipment inspection

Supply and distribution field

In order to safely and reliably supply customers with city gas produced in our factory, our central monitoring control room constantly monitors the gas pressure and supply state.
To ensure adequate response in an emergency situation, we have established a system that allows quick 24-hour response and dispatch even during night hours and holidays.


Central monitoring control room


Security center


Gas piping work

Business field

We have established a system to allow more customers to safely and reliably use environmentally friendly natural gas.


Meetings with developers


Fuel cell maintenance

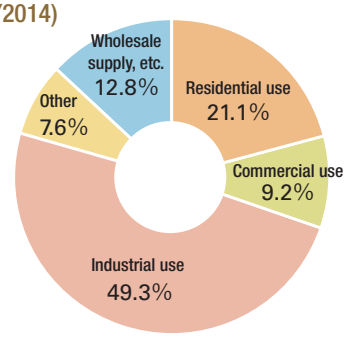
Gas sales trends and average growth rate

(Unit: Thousands of cubic meters, 45MJ/m³ conversion)

	FY2010	FY2011	FY2012	FY2013	FY2014	Average growth rate
Residential use	108,191	107,654	105,486	103,130	**103,866**	△1.0%
Commercial use	51,777	49,303	48,244	47,728	**45,389**	△3.2%
Industrial use	275,352	273,683	262,078	258,695	**242,213**	△3.2%
Other	39,326	37,883	37,857	38,890	**37,264**	△1.3%
Total	474,648	468,525	453,666	448,445	**428,733**	△2.5%
Wholesale supply, etc.	54,799	55,628	60,142	61,292	**62,918**	3.5%
Grand total	529,448	524,153	513,808	509,737	**491,651**	△1.8%

Note: Sales volume figures are rounded down to the nearest thousand cubic meters. This may cause small discrepancies in the grand total value.

Breakdown of gas sales (FY2014)



Environmental field

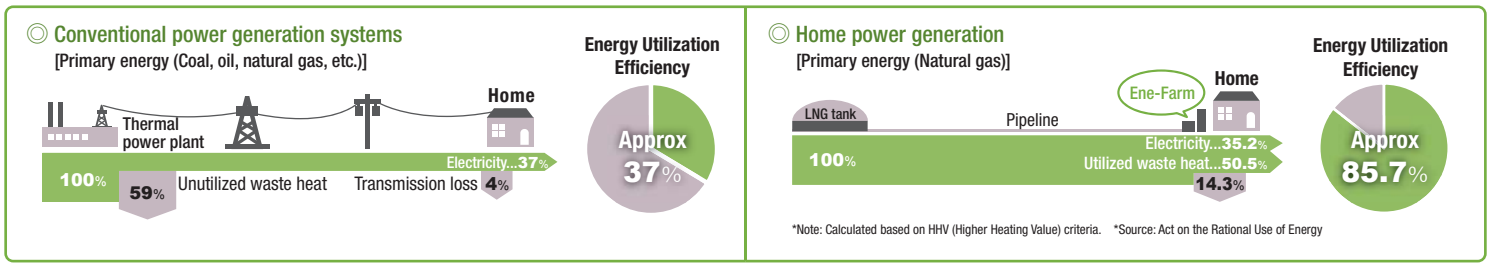
Actively working toward the expansion of clean natural gas

Promotion of high-efficiency natural gas applications

Rather than simply generating heat, natural gas can be used in gas cogeneration systems, highly efficient gas equipment, and natural gas vehicles. It can be used in a wide range of applications such as power generation, air conditioning and automobiles.

Utilization rate of energy supplied to the home

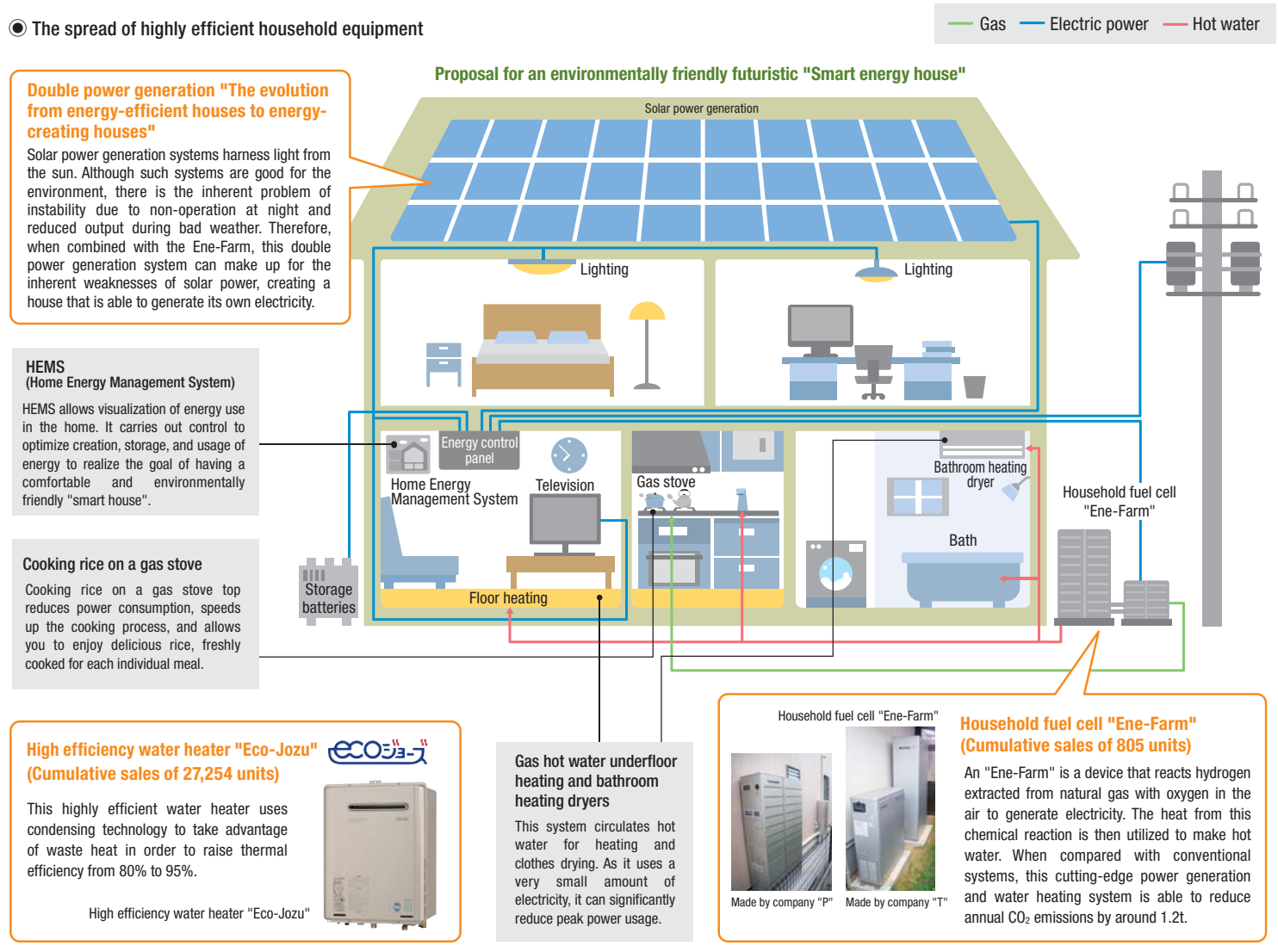
Generating power at the home eliminates transmission losses and the resultant heat can be utilized for heating water. This provides an energy utilization efficiency of approximately 85.7% (power generation: 35.2%, heat utilization: 50.5%).



Residential use

While working to spread the use of natural gas, we are creating initiatives that can further conserve energy and reduce CO_2 to improve the standard of living for all people. These initiatives include promoting the full utilization of energy, promoting multi-energy systems to meet the needs of customers, and using natural gas to compensate for fluctuations in the output of renewable energy sources such as solar power.

◉ The spread of highly efficient household equipment



Industrial use

Around 50% of our natural gas sales are for industrial customers. The transition from oil-based fuel to natural gas enables a 25% reduction in CO_2 emissions.

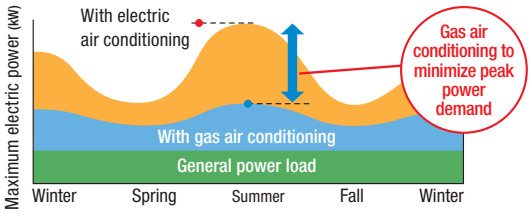
Gas industrial furnace

Commercial use

Promotion of gas heat pumps (GHP) and gas natural chillers

Gas heat pumps and gas natural chillers for gas-powered air conditioning systems can help save power. This has a big impact in cutting summer and winter peak power demand.

Power consumption leveling due to GHP (Image)



Natural gas vehicles for city driving

Natural gas truck

Natural gas bus

Gas heat pump (GHP)

Gas natural chiller

Social field — We cherish the connections with our community.

Relationship with local communities

Commitment to the next generation of education

We teach children the characteristics of natural gas and the importance of the environment in a fun and easy to understand manner.

Science show

Excursion classes for kids

- ◎ Science show — For elementary and junior high school students
- ◎ Technical research institute science experiment lessons — For elementary, junior and senior high school students
- ◎ Eco-cooking* classes — For elementary and junior high school students
- ◎ Fire safety classes — For elementary school students
- ◎ Tasting classes — For kindergarten and elementary school students

Note: "Eco-cooking" is a registered trademark of Tokyo Gas Co., Ltd.

Promotion of arts, culture, community, and sports

We have a strong relationship with the city of Hiroshima and conduct a wide range of social contribution activities.

Holding the 28th Hiroshima symphony orchestra concert

Concert stage

Participating in the Hiroshima flower festival

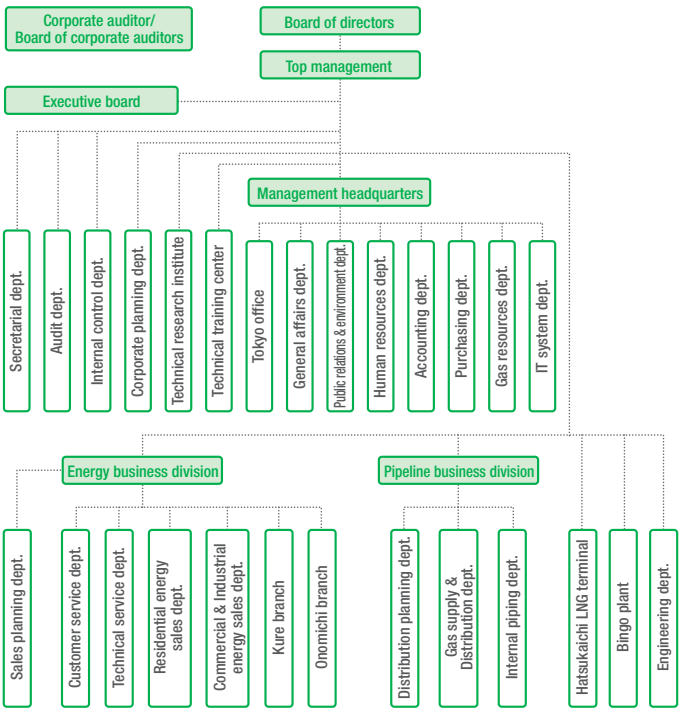
Hiroshima flower festival "Gasland" booth

Management philosophy

Aiming to be a company that earns the trust of society

■ Hiroshima Gas organizational chart

(As of April 1, 2015)



■ Showroom

Experience the latest gas equipment and a warm living provided by gas.

Examples of exhibition equipment

- Household fuel cell "Ene-Farm"
- Household cogeneration "Eco-will"
- Floor heating and bathroom heater comparison rooms
- Mist sauna experience room
- Try it! Kitchen activities (Kitchen comparison)
- Solar power generation

◎ Regional service representatives

■ Gas shop

Gas shop business hours: 9am to 7pm (Monday to Saturday)
* The Mihara shop is closed on Saturday.

1 Fuchu Gas Shop	3-4-26, Hamada, Fuchu-cho, Aki-gun TEL: 082-282-3359
2 Ujina Gas Shop	2-12-19, Ujinakanda, Minami-ku, Hiroshima TEL: 082-253-1261
3 Itsukaichi Gas Shop	2-7-43, Kairoen, Saeki-ku, Hiroshima TEL: 082-922-3670
4 Furue Gas Shop	6-4, Furueshinmachi, Nishi-ku, Hiroshima TEL: 082-272-0050
5 Takanobashi Gas Shop	5-10-19, Otemachi, Naka-ku, Hiroshima TEL: 082-243-7520
6 Hakushima Gas Shop	17-17, Higashi-hakushima-cho, Naka-ku, Hiroshima TEL: 082-228-1000
7 Gion Gas Shop	5-13-1, Nishihara, Asaminami-ku, Hiroshima TEL: 082-850-3505
8 Koyo Gas Shop	1-3-10, Ochiaiminami, Asakita-ku, Hiroshima TEL: 082-842-4433
9 Kure Gas Shop	1-6-16, Chuo, Kure TEL: 0823-23-5050
10 Onomichi Gas Shop	3-2, Tenma-cho, Onomichi TEL: 0848-22-4378
11 Mihara Gas Shop*	2-7-5, Shiromachi, Mihara TEL: 0848-62-7108
12 Kabe Gas Shop	9-13-7, Kameyama, Asakita-ku, Hiroshima TEL: 082-814-3322
13 Saijo Gas Shop	225-1, Shimominaga, Saijo-cho, Higashi-hiroshima TEL: 082-420-6770
14 Aki Gas Shop	3-1-14, Funakoshiminami, Aki-ku, Hiroshima TEL: 082-821-1055

◉ Gastopia Center

[Contact] 1-30, Minamitakeya-cho, Naka-ku, Hiroshima
TEL: 082-240-8888

◉ Gastopia Itsukaichi

[Contact] 2-7-43, Kairoen, Saeki-ku, Hiroshima
TEL: 082-923-5678

◉ Gastopia Gion

[Contact] 5-13-1, Nishihara, Asaminami-ku, Hiroshima
TEL: 082-850-3506

◉ Gastopia Kure

[Contact] 1-6-16, Chuo, Kure
TEL: 0823-22-1234

◉ Gastopia Onomichi

[Contact] 3-2, Tenma-cho, Onomichi
TEL: 0848-22-2104

◉ Gastopia Aki

[Contact] 3-1-14, Funakoshiminami, Aki-ku, Hiroshima
TEL: 082-821-1130

■ Overview of main subsidiaries

(As of March 31, 2015)

HIROSHIMA GAS PROPANE Co., Ltd.
Capital: 300 million yen
Sales: 12,522 million yen
Established: March 1969
Number of employees: 91

HIROSHIMA GAS TECHNO-SERVICE Co., Ltd.
Capital: 80 million yen
Sales: 9,592 million yen
Established: June 1998
Number of employees: 195

HIROSHIMA GAS MATE Co., Ltd.
Capital: 20 million yen
Sales: 1,074 million yen
Established: April 1975
Number of employees: 157

RUNET Co., Ltd.
Capital: 30 million yen
Sales: 454 million yen
Established: October 2000
Number of employees: 8

BE-SMILE Co., Ltd.
Capital: 50 million yen
Sales: 209 million yen
Established: June 2001
Number of employees: 44

SETOUCHI PIPELINE Co., Ltd.
Capital: 150 million yen
Sales: 1,177 million yen
Established: May 2003
Number of employees: 8

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HIROSHIMA GAS Co., Ltd.
2-7-1, Minamimachi, Minami-ku, Hiroshima, 734-8555
Public Relations & Environment Department: 082-252-3154 (Direct line)

Hiroshima Gas Website
http://www.hiroshima-gas.co.jp/