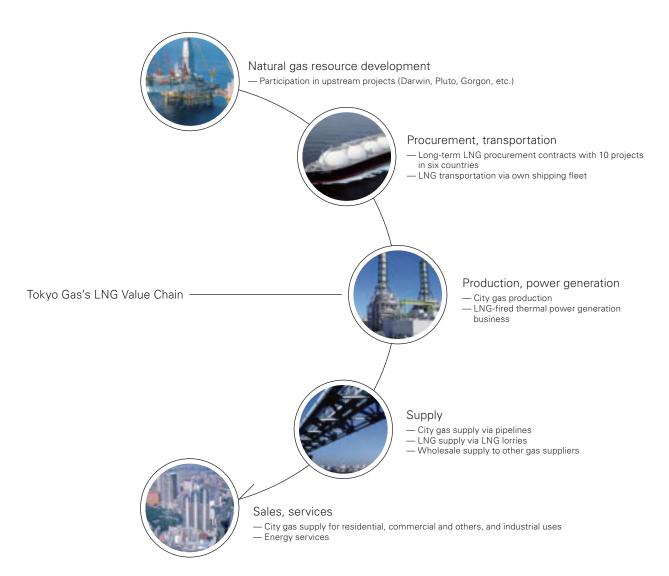
# Profile

Tokyo Gas Co., Ltd. is Japan's largest provider of city gas, serving more than 10 million customers, primarily in the Tokyo metropolitan area and surrounding Kanto region, an economic zone that accounts for around 40% of the nation's GDP.

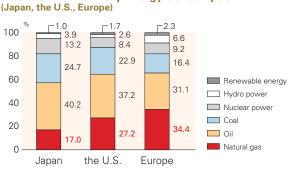
Since energy resources are scarce in the Japanese archipelago, Tokyo Gas converts LNG to city gas at its LNG terminals, and supplies the city gas through a pipeline network. We also sell gas appliances and conduct repairs and inspections. In addition to sales and services at customer sites, we participate in resource development projects and are advancing our LNG transport business using our own shipping fleet.

A key strength is our "LNG value chain," which extends from upstream through to end-users. Deploying this strength, we not only supply natural gas in a safe and reliable manner, but also operate an "integrated energy business, with natural gas at its core," which delivers solutions for diverse energy needs on a one-stop basis, including electric power, heating, and renewable energy.



## Features of Gas Business in Japan

Unlike in Europe and the U.S., where gas production and gas consumption locations are connected via pipelines, in Japan, liquefied natural gas (LNG) is brought in by ship, converted to city gas, and delivered to end-users mostly via pipelines. Because this entails significant costs, the share of total primary energy supply by natural gas is relatively low in Japan compared with Europe and the U.S. However, natural gas is winning growing acclaim for its environmental benefits, as it gives off lower CO<sub>2</sub> and NOx emissions than other fossil fuels. In addition, demand for natural gas in Japan is growing year by year as pipelines are extended.



Source: BP Statistical Review of World Energy, June 2011

**Breakdown of Primary Energy Consumption** 

# Tokyo Gas's Two Growth Drivers

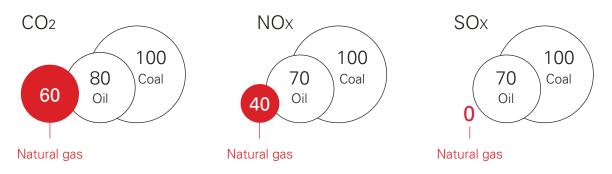
# Environmental Benefits of Natural Gas

#### Environmental advantage: Natural gas is the cleanest of all fossil fuels

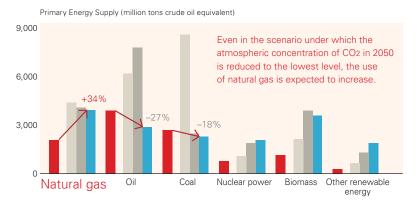
Compared with other fossil fuels, natural gas emits lower volumes of carbon dioxide (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) when burned and emits no sulfur oxides (SO<sub>x</sub>). Accordingly, it has an extremely low environmental impact. Moreover, the International Energy Agency (IEA) estimates that natural gas usage will increase in its "BLUE scenarios" for reducing CO<sub>2</sub> emissions by 50% (from 2008 levels) by 2050.

In addition, city gas can be used for power generation in necessary places, and heat thus emitted can be used to heat water and power air-conditioning systems. Thanks to the technological progress of such "gas cogeneration" and other dispersed power sources, the role of natural gas continues to grow.

Comparison of Emissions (Coal = 100)



#### Forecast for Global Energy Supply under Various IEA Scenarios



# Stable supply: Development of unconventional gases greatly extends reserves-to-production ratio

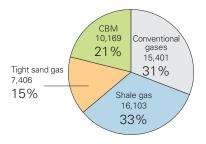
Compared with "conventional gases" extracted from oil and gas fields, "unconventional gases" can be extracted from solid rock. In the past, technological limitations have prevented development of such gases at the extraction and production stages. Thanks to recent technological innovations, however, unconventional natural gases, such as coal-bed methane (CBM), shale gas, and tight sand gas, have started to enter full-scale use. In addition to CBM, Tokyo Gas also participates in a shale gas development project.

Unconventional gases can be found all around the world and clearly exceed conventional gases in terms of resource volume. Accordingly, the reserves-to-production ratio for natural gas will greatly surpass the current ratio of around 63 years. 2005 Actual

- Baseline scenario: Current conditions continue
- ACT Map 2050 scenario: Atmospheric concentration of CO<sub>2</sub> in 2050 is reduced to 550 ppm or lower
- Blue Map 2050 scenario: Atmospheric concentration of CO2 in 2050 is reduced to 450 ppm or lower

According to the Intergovernmental Panel on Climate Change (IPCC), to prevent a variety of adverse factors leading to climate change on a global scale, the atmospheric CO2 concentration needs to be reduced to less than 450 pm (IPCC Fourth Assessment Report).

#### Reserves of Conventional and Unconventional Gases Unit: Trillion cubic feet (TCF)



Source: Tri-zen, USGS, SPE



# Advantageous Service Area

## One of the world's largest economic zones

While the population of Japan is declining, there is a net inflow trend in the Tokyo metropolitan area, one of the world's largest economic zones. The Kanto region, which extends for a 200-kilometer radius around Tokyo, accounts for around 40% of Japan's GDP. Thanks to an abundance of flat terrain and extension of pipelines, the Kanto region is expected to see an increased demand for fuel conversion in main areas of industrial concentration. This highlights a major strength for Tokyo Gas, whose business base is the Kanto region, Japan's largest source of energy demand.



Breakdown of GDP of Japan by Major Area (Year ended March 31, 2009)



#### Total ¥505 trillion

- 39.4% Tokyo area: Tokyo, Kanagawa, Saitama, Chiba, Ibaraki, Tochigi, Gunma, Yamanashi, and Nagano prefectures
- 15.8% Osaka area: Osaka, Hyogo, Kyoto, Shiga, Nara, and Wakayama prefectures
- 9.6% Nagoya area: Aichi, Gifu, and Mie prefectures

Source: Cabinet Office, Government of Japan, National Accounts of Japan

## Share of Tokyo Gas of Total City Gas Sales Nationwide (Year ended March 31, 2011) Tokyo Gas total 44.9%

44.9% Tokyo Gas total 14,745 million m<sup>3</sup>
10.7% Residential

- 9.3% Commercial and others
- 19.0% Industrial
- 5.9% Wholesale

Japan total 32,805 million m<sup>3</sup>

- Source: The Japan Gas Association web site, (Gas Sales Volume JGA Newsletter) The figures are calculated on the basis of 45 MJ/m<sup>3</sup>.
- Note: The above figures do not include the sales volume of eight city gas companies in the Tohoku Region affected by the Great East Japan Earthquake.

## Sales of industrial-use gas as a growth driver

Japan's three major city gas providers—Tokyo Gas, Osaka Gas, and Toho Gas—together account for 80% of the nation's gas supply. Of this total, the sales volume of Tokyo Gas has reached 45% of the nationwide total. Amid growing environmental awareness among corporations, industrial-use gas sales volumes have exceeded residential-use volumes since fiscal 2000, providing a driving force for overall sales growth.

# Industrial-use Gas Sales Volume



