LNG Value Chain of Tokyo Gas

Bayu-Undan gas field in the Timor Sea
Gas produced at this gas field is transported to the Darwin LNG Plant, liquified, and sold. This is the Company's first upstream project.

HIGHLIGHTS OF FISCAL 2009

April 2009

One year of operations at Kawasaki Natural Gas Power Generation

Kawasaki Natural Gas Power Generation, which started operations on April 1, 2008, completed its first year of operations.

September 2009

Made final investment decision for the Gorgon Project

October 2009

Completed the Tokyo Gas LIFEVAL system

December 2009

Acquisition of thermal power generation operations in Mexico

Through a holding company, Tokyo Gas and Mitsui & Co., Ltd., concluded a contract for the acquisition of five thermal power generation companies and a pipeline company. The amount of the acquisition was US$1.2 billion (about ¥110.0 billion).

March 2010

Start of operations at Ohgishima Power Station

Ohgishima Power Co. completed the No. 1 unit at the Ohgishima Power Station and began commercial operations. Ohgishima Power's investors include Tokyo Gas and Showa Shell Sekiyu K.K.. The No. 2 unit also started commercial operations in July 2010.

March 2010

Signed a heads of agreement regarding participation in the Queensland Curtis LNG Project and the purchase of LNG from the project. This is the world's first coal bed methane (CBM) project.

Tokyo Gas is Japan's largest city gas supplier, with 10.63 million customers. Our service area encompasses the Tokyo metropolitan area and the surrounding Kanto region, a market with huge demand and high growth potential. As a city gas supplier, we do more than just deliver gas to customers. Our operations extend from participation in upstream LNG projects to the transport of LNG by tanker, the regasification of LNG to city gas at LNG terminals, the supply of city gas through pipelines, and the sales of gas appliances, as well as the implementation of safety initiatives at customer sites. Our establishment of an LNG value chain from upstream businesses to downstream businesses makes us unique from other gas suppliers around the world.

Spotlight ▸ LNG PROCUREMENT

Position in the LNG value chain
Flexible, competitive resource procurement in line with demand

Principal operating companies
Tokyo Gas Co., Ltd.

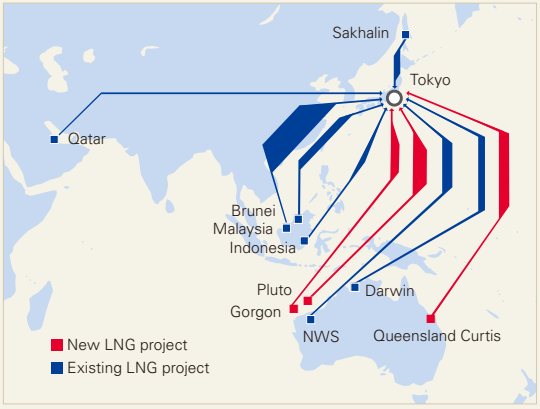
Segment
Gas Sales

Tokyo Gas LNG Imports by Country of Origin

Thousand tons

Country	2008	2009	Years ended March 31 2010	
Malaysia	3,767	4,482	4,274	(42.5%)
Australia	3,289	2,847	2,416	(24.0%)
Brunei	1,405	1,257	1,166	(11.6%)
Indonesia	740	742	730	(7.3%)
Russia	—	—	505	(5.0%)
Qatar	715	631	297	(3.0%)
Alaska	194	176	141	(1.4%)
Others	763	1,027	523	(5.2%)
Total	**10,874**	**11,162**	**10,052**	**(100%)**

Tokyo Gas Long-Term LNG Contracts



Spotlight ▸ UPSTREAM INTERESTS

Position in the LNG value chain
Competitive resource procurement through the acquisition of upstream interests

Principal operating companies
TOKYO GAS AUSTRALIA PTY LTD, Tokyo Gas Darwin LNG Pty Ltd

Segment
Other Business

Outline of Project Participation

Project	Annual contracted quantity (1,000 tons)	Inception of contract	Duration	Contract type	Project participation (%)
Darwin	1,000	2006	17 years (–2022)	FOB	3.07
Pluto	1,500 – 1,750	2011	15 years	Ex-Ship, FOB	5.0
Gorgon	1,100	(2014)	25 years	FOB	1.0
Queensland Curtis LNG	1,200	(2015)	20 years	Ex-Ship	1.25 (Upstream) 2.5 (Midstream)

Implementing Initiatives to Ensure Stable Procurement

More than 95% of the city gas provided by Tokyo Gas is sourced from LNG, and accordingly securing sources that can provide a stable, long-term supply of LNG is an issue of the utmost importance for the Company. Centered on supply sources that are geographically close to Japan and located in regions that are politically stable, Tokyo Gas has concluded long-term LNG contracts for 10 projects in six countries and imports more than 10.0 million tons of LNG a year. We are also taking steps to secure new procurement sources. In April 2009, we began procurement from the Sakhalin II Project. Moving forward, we will continue working to diversify our LNG procurement sources, such as commencing new procurement from the Pluto and Gorgon Projects in Australia starting from 2011 and thereafter. In LNG procurement contracts, we are also taking steps to facilitate flexible, competitive resource procurement in line with demand fluctuations. For example, we are working to accommodate changes in destinations and to increase flexibility in regard to handling volumes.

Unconventional Natural Gas Procurement

Recently, unconventional natural gas has been drawing considerable attention. Tokyo Gas has been working to take advantage of unconventional natural gas through efforts geared toward expanding its options for LNG procurement, such as signing a heads of agreement for the Queensland Curtis LNG Project, which is highly anticipated as the world's first coal-bed methane (CBM) LNG project.

CBM is an unconventional natural gas like shale gas and tight sand gas. Natural gas is absorbed in the cleat of the coal bed. In the United States, commercial production began in the 1980s and currently supplies about 10% of natural gas consumption in the United States. In Australia, full-scale use of this gas has gotten underway in recent years.

Acquisition of Upstream Interests

In the acquisition of upstream interests, we are doing everything possible to control the risk associated with projects. For example, we are restricting acquisitions to projects that have already completed the prospecting phase and therefore have a high probability of starting operations and, at the same time, are candidates for the Company's LNG procurement operations. Tokyo Gas holds about 3% of the Darwin Project, 5% of Pluto, and 1% of Gorgon. Long-term LNG procurement contracts have been concluded with all of these projects. At the same time, we have also announced that we are moving ahead with discussions regarding the acquisition of interests in the Queensland Curtis Project in Australia, an unconventional natural gas development project. In these ways, we continue to aggressively strengthen the LNG value chain. The Darwin Project, which is already in operation, is demonstrating steady effects on earnings, such as through the receipt of steady dividends.

Spotlight ▸ TRANSPORTATION

Position in the LNG value chain
Decreasing cost by increasing FOB

Principal operating company
Tokyo LNG Tanker Co., Ltd.

Segment
Other Business

One of the Largest Fleets in Japan

In May 2009, the Energy Confidence was placed into service, bringing our fleet to a total of seven vessels. Going forward, we plan to introduce another vessel in 2011. At eight vessels, our fleet will be one of the largest among domestic electric power and gas companies, and by leveraging this fleet we will work to increase flexibility in resource procurement. Furthermore, by engaging in flexible procurement utilizing not only long-term contracts but also short-term contracts, we are planning to expand shipping operations, including the transport of LNG to third-parties and the leasing of vessels to other companies.

LNG Vessel "Energy Confidence"

Efficiently Managing Our Fleet

The management of our fleet is handled in cooperation with wholly owned subsidiary Tokyo LNG Tanker Co., Ltd. Moreover, in order to further promote efficient utilization, we have entered into basic contracts with the Petronas Group (Malaysia LNG, Malaysia LNG Tiga, and Asean LNG Trading) which is a major LNG vendor, as well as Brunei LNG, Shell Eastern LNG, and the TEPCO Group, with the objective of joint use of LNG vessels.

Spotlight ▸ INFRASTRUCTURE DEVELOPMENT

Position in the LNG value chain
Ensuring both stable supply and safety

Principal operating company
Tokyo Gas Co., Ltd.

Segment
Gas Sales

BASIC STRATEGY
Investing in infrastructure to meet expanding demand

Tokyo Gas receives about 10 million tons of LNG a year at three LNG terminals along the shores of Tokyo Bay. After LNG is received at the terminals, it is regasified to natural gas using vaporizers and LPG is added to adjust the caloric value. The city gas is delivered to customers through a pipeline network of about 57,000 km.

Focus on Future Demand Growth— Starting Construction on the Hitachi LNG Terminal

The Company's LNG terminals are among the largest in the world, and we continue to invest in our facilities in order to enhance our ability to respond to growth in demand for natural gas and to further stabilize supply. In November 2009, we commenced construction of the No. 4 LNG storage tank at the Ohgishima LNG Terminal. In addition, we are forecasting further growth in demand for city gas in a 200-kilometer radius around Kanto from 2010, and accordingly we have planned to build our fourth LNG terminal, the Hitachi LNG Terminal. In consideration of growing social need for global warming countermeasures and of strong regional demands, we have accelerated this plan and are targeting the start of operations in fiscal 2015.

Tokyo Gas Sodegaura LNG Terminal

Pipeline Maintenance Investment and Facility Investment Plan

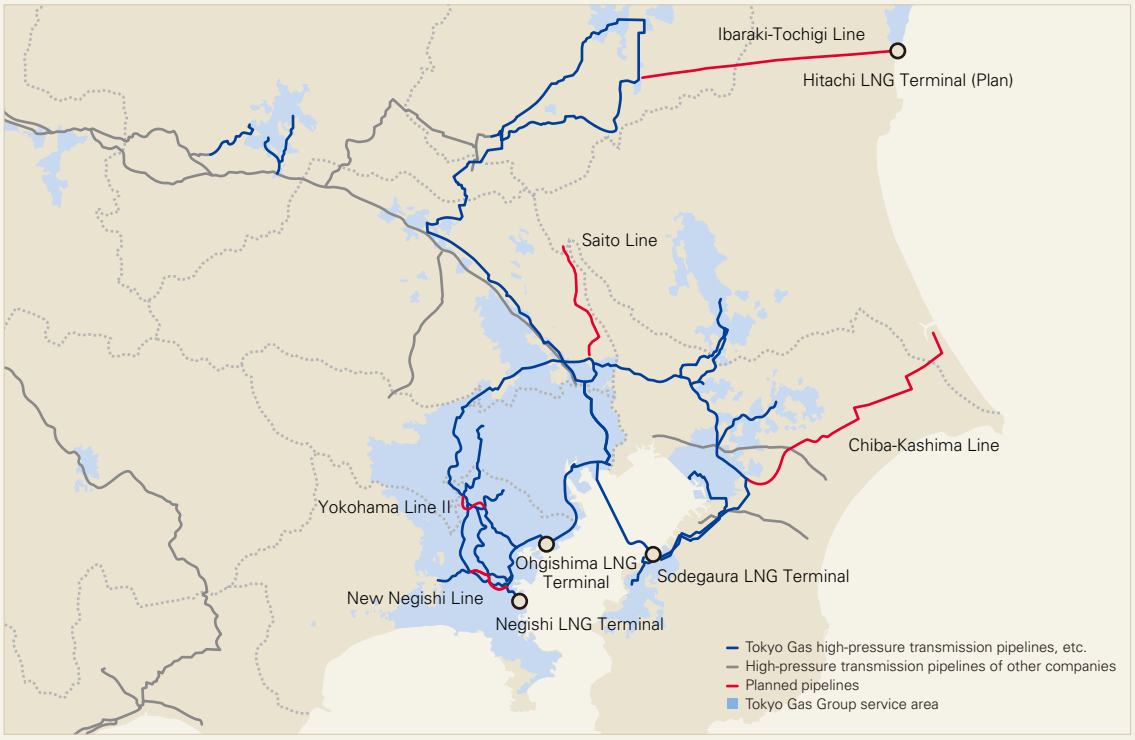
The high-pressure trunk pipelines circling the Tokyo metropolitan area and the three LNG terminals work together to support the reliable supply system of Tokyo Gas. In May 2010, construction was completed on Central Line II, which made Central Line complete, running north to south through the loop trunk lines, and has strengthened the trunk line network. In addition, to acquire demand in the period after 2015 and to expand our operations, we will bolster our wide-area trunk infrastructure during the period covered by the medium-term management plan.

Facility Investment Plans (non-consolidated)

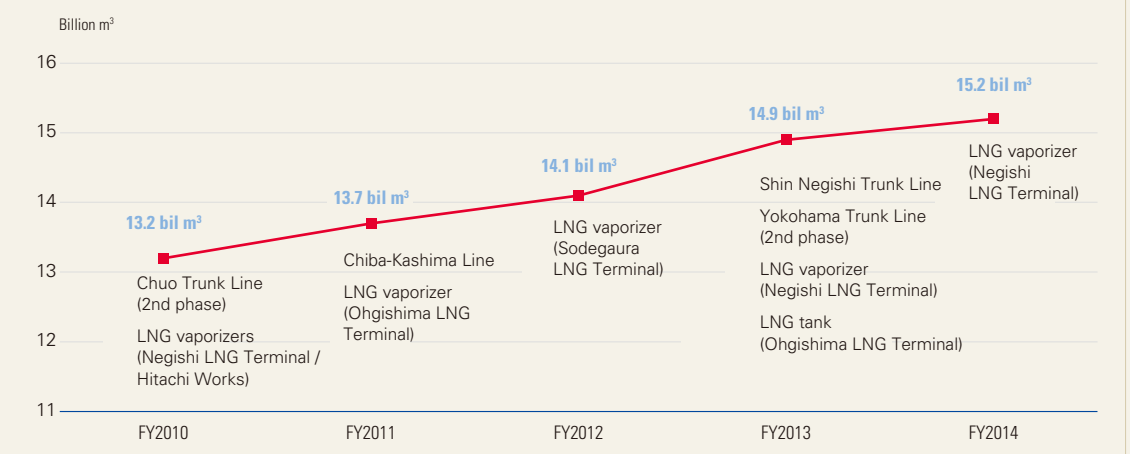
Billions of yen

	FY2009 Result	FY2010 Outlook	FY2010–2014 Total
Gas Business Facilities			
LNG facilities	8.7	4.7	99.4
Other	5.3	6.2	24.8
Production facilities	**14.0**	**10.9**	**124.2**
Trunk line investment	19.4	12.9	70.6
Other	59.2	58.1	272.9
Supply facilities	**78.6**	**71.0**	**343.5**
Business facilities	**18.9**	**24.1**	**122.1**
Subtotal	**111.5**	**106.0**	**589.8**
Incidental facilities	0.8	0.7	3.0
Total	**112.3**	**106.6**	**592.7**

Major Infrastructure Formation Plan



Demand Outlook and Facility Formation Plans (non-consolidated)



Spotlight ▸ GAS SALES (RESIDENTIAL SECTOR)

Position in the LNG value chain
Maintaining and expanding the number of customers through community-based marketing

Principal operating companies
LIFEVAL companies

Segment
Gas Sales, Gas Appliance Sales, and Installation Work

Basic Strategy

In the residential market, we are working to provide customers with the pleasant, comfortable lifestyles that can be enjoyed with the use of city gas for such applications as hot water, heating, and cooking appliances. We are also working to offer new lifestyle value by developing products and services that meet diversifying customer needs. Furthermore, in October 2009 we completed Tokyo Gas LIFEVAL community-based marketing systems. Leveraging these systems, we have been working to further enhance communications with each individual customer.

Construction of Community-based Marketing Systems through Tokyo Gas LIFEVAL

In order to build close ties with our customers, we commenced the step-by-step introduction of the community-based marketing system, Tokyo Gas LIFEVAL, in April 2008, and we completed the system in October 2009. The system currently consists of 45 companies and, excluding the wide-area markets, divides our service area in Tokyo, Kanagawa, Chiba, and Saitama prefectures into 63 service blocks.

LIFEVAL facilitates the provision of quick, one-stop responses to the needs of customers that come to our attention during our various business activities, such as maintenance and sales of gas appliances, periodic gas facility safety checks, and meter reading. Our results have been in line with our expectations. For example, LIFEVAL has had the effect of boosting sales of environment-friendly products launched in fiscal 2009, such as solar power generation and "ENE-FARM."

Gas Sales Volume

Residential 25.1%
3,437 million m³

In order to compete with all-electric housing campaigns, which are being advanced by electric power companies, we have been visiting customer homes and explaining to them the pleasant, comfortable lifestyles that can be enjoyed with the use of gas. We are actively approaching those customers who are especially likely to switch to all-electric and working to sustain and increase the demand for gas.

Building a Market for "ENE-FARM"

The "ENE-FARM" residential fuel cell that we launched in May 2009 has gotten off to a strong start, and we sold 1,500 units in fiscal 2009. We are aiming to sell an additional 2,500 units in fiscal 2010, and our plans call for an installed base of 42,000 units by the end of March 2014.

We are working on a sales initiative to have "ENE-FARM" preinstalled in new residences by leveraging the relationships of trust that we have built with developers and housing companies over many years. Sales to existing dwellings are handled primarily by Tokyo Gas LIFEVAL companies. Additionally, in December 2009 we held the Double Power Generation Campaign to promote the combination of "ENE-FARM" and solar power generation. Through such initiatives, we are contributing to the establishment of a low-carbon society, which is an issue of great social concern. We have also been working to steadily advance the research and development of next-generation fuel cells in cooperation with fuel cell manufacturers. At the same time, we are working to reduce costs by promoting standardized specifications and common parts. Preparations for the introduction of these products are underway, and we are aiming to launch them in the first half of the 2010s.

Spotlight ▸ GAS SALES (COMMERCIAL AND OTHERS, INDUSTRIAL, AND WHOLESALE SECTORS)

Position in the LNG value chain
Proposing tailor-made solutions that match diversified customer needs

Principal operating companies
Tokyo Gas Co., Ltd., ENERGY ADVANCE Co., Ltd.

Segment
Gas Sales, Other Business

Basic Strategy

In the energy market, we are seeing intensifying competition, principally from electrical power. In this setting, Tokyo Gas is enhancing its integrated energy business, focusing on commercial and industrial clients, who have increasingly diverse and sophisticated energy needs. In accordance with those needs, we strive not only to supply energy from a wide range of sources, including gas, electric power, and heat, but also to propose tailor-made, optimal combinations of products and services on a one-stop basis. Furthermore, in addition to engaging in wholesale operations geared toward peripheral gas suppliers, we are expanding the range of our integrated energy business by aggressively working to capture demand, centered on the region extending for a 200-kilometer radius around Tokyo, where latent demand is expanding.

Combating the Shift to Electricity

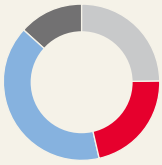
For commercial customers, we are proposing high-efficiency air conditioning and water heating systems. In addition, we are working together with LIFEVAL to expand sales of Suzuchu*, which reduces the heat that is characteristic of commercial kitchens, and we have had steady success with these initiatives.

Tokyo Gas is working to counter the use of electric-powered factories by industrial customers. To that end, we are leveraging our engineering capabilities to make solid contributions to the production processes of customers. At the same time, we are continually providing services with reduced energy consumption, lower costs, and high levels of safety. In these ways, we are working to further differentiate our services.

The owner of a *yakitori* restaurant touches the surface of a Suzuchu gas appliance to confirm that it has not gotten hot.

In wholesale operations, an important role is played by the Gas Network Consortium (Gas Net 21), which is composed of 41 general gas suppliers (including Tokyo Gas but mainly comprising our wholesale gas customers). Through Gas Net 21 activities, we have been able to discuss a number of issues, including countering the shift to electricity, strengthening marketing efforts, and increasing management efficiency. As a result, we have established countermeasures targeting the resolution of these issues.

Gas Sales Volume



- **Commercial and Others 21.5%**
  2,943 million m³
- **Industrial 39.9%**
  5,446 million m³
- **Wholesale 13.5%**
  1,841 million m³

* Suzuchu: A brand of commercial gas appliances that make kitchens cool and comfortable by minimizing the heat from appliances through the use of heat insulation and a concentrated air discharge structure.

Suzuchu is a registered trademark of Osaka Gas Co., Ltd.

Developing Our Integrated Energy Business

Social demands for global warming countermeasures are increasing. In this setting, we are working to provide more customers with natural gas, which is environmentally friendly and has the lowest CO_2 emissions of any fossil fuel. In addition, we are making full use of the Group's advanced engineering capabilities as we strive to provide customers with optimal solutions that incorporate renewable energies, such as solar power, solar heat, wind power, and biomass; contribute to the environment; and provide high levels of customer satisfaction. In fiscal 2009, we made progress in the development of an air conditioning/hot water system that uses solar heating, and we have commenced introduction and demonstration project of these systems, both in the Company's own facilities and in those of customers.

Heat transfer system at the Company's Kumagaya Branch. Solar heat from a solar heat collector (front) installed on the roof of the Company's Kumagaya Branch is transmitted to a nearby hotel (back) through heat transmission lines. This is the first system in Japan that transmits solar heat among private-sector buildings with different owners.

Furthermore, we are working in cooperation with ENERGY ADVANCE Co., Ltd., a wholly owned subsidiary. Together, in line with the needs and specific conditions of customers, we provide customers with one-stop solutions for facility operation and management, including other utility services, such as water and air, in addition to energy.