

# Our Mid-term Plan

Creation and Cultivation of new natural gas market

1999

Medium-term management plan (FY2000–2004)  
“New Utility Company”

2002

Medium-term management plan (FY2003–2007)  
“Energy Frontier Corporate Group”

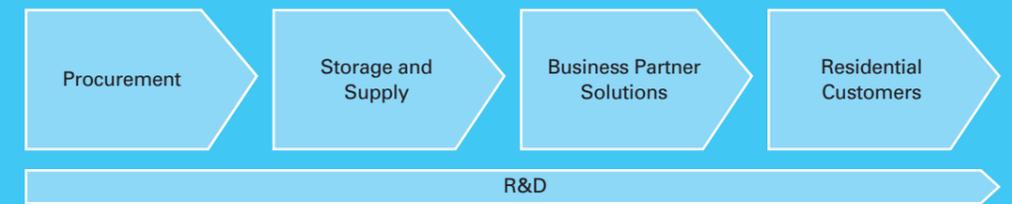
2006

Medium-term management plan (FY2006–2010)  
“Creation and Cultivation of New Natural Gas Markets”

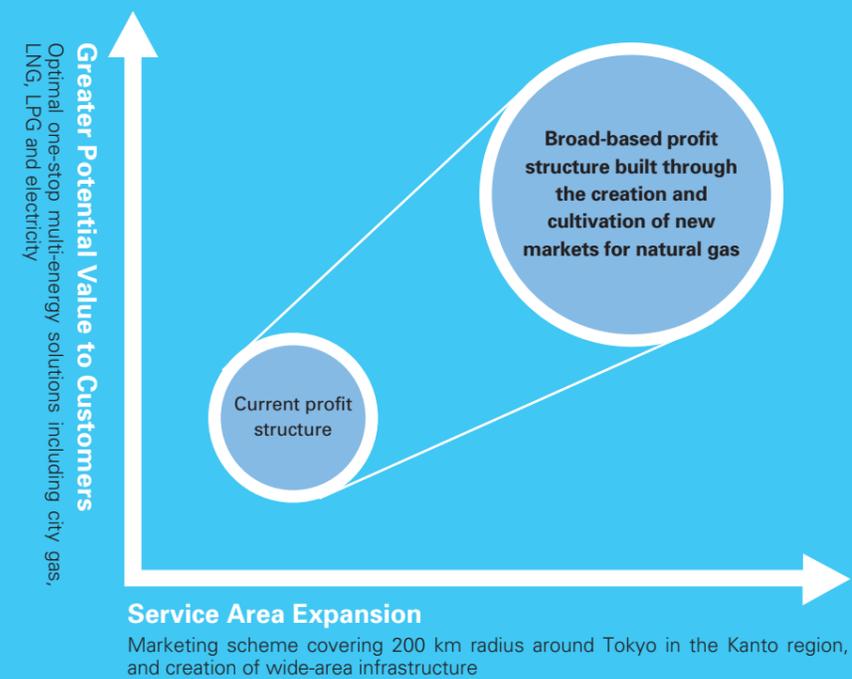
# Our Gas Value Chain

There have been significant changes in the environment in which Tokyo Gas operates, including deregulation of the gas and electric power sectors, shifts in demand patterns, and growing public concern about corporate social responsibility. At the same time, customer needs have become increasingly diverse and sophisticated. We have been adapting to this environment through initiatives based on our medium-term plans. Under the plan that started in 2000, we worked to develop Tokyo Gas as a new kind of utility company, while our goal under the plan started in 2003 was evolution as an energy frontier business group. In April 2006, we launched a medium-term management plan covering the period from fiscal 2006 to fiscal 2010. This plan reflects our vision for Tokyo Gas in the decade after 2010. We aim to increase our presence in the LNG value chain, which encompasses all stages from upstream to downstream, and we will focus on the development of energy services based on our abilities as a multi-energy supplier including gas and power. We also intend to tap the enormous latent demand in the Kanto region by expanding our integrated energy business within a 200 km radius from Tokyo.

## Value Chain



## Business Strategy





◀ *Energy Progress*, one of the carriers in the Tokyo Gas Fleet, loads LNG from the Darwin project in Australia.

## Procurement

Tokyo Gas is the largest importer of LNG among city gas distributors in Japan, which buys around 40% of world LNG supplies. Currently we source a total of 10 million tons of LNG from 10 projects in six countries, including locations in Southeast Asia, Australia, the United States and the Middle East. We are determined to secure our ability to supply our customers with high-quality natural gas. To achieve this goal, we plan to ensure reliable and competitive access to resources by enhancing our presence in the LNG value chain through participation in upstream development and transportation.

## Capturing Upstream Value



### LNG—A Precious Natural Resource

Liquefied natural gas (LNG) is produced by transforming natural gas from its natural gaseous state into a liquid by lowering its temperature to around minus 160°C. This precious natural resource is brought to Japan across thousands of kilometers of ocean aboard specially designed carriers. Tokyo Gas first imported LNG from Alaska in 1969. In the four decades since then, we have made this environmentally friendly fuel the core of our business operations.

LNG is an environmentally superior fuel to other fossil fuels. Unlike crude oil, which is found only in limited areas, such as the Middle East, LNG can be sourced from many locations. Another important advantage is the ability of natural gas to be used with increasing efficiency because of advances in utilization technologies, such as fuel cells and cogeneration systems. These and other advantages are reflected in consistently high levels of customer satisfaction.

### Reliable, Competitive Access to Resources

Tokyo Gas is continually working to maintain reliable and competitive access to LNG sources by expanding its LNG value chain through the effective linkage of its business activities—from upstream operations and transportation to the operation of import facilities and gas supply systems. This includes overseas activities, and we are implementing the following policies to achieve this goal.

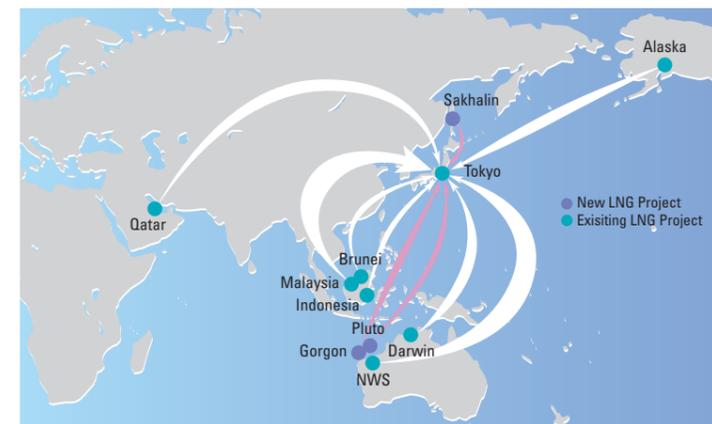
First, we enhance the reliability and competitiveness of our LNG procurement by diversifying our supply sources. In 2008, Russia will become our seventh source country when we begin to procure LNG from the Sakhalin II project. From 2010 onwards we will also source LNG from the Gorgon and Pluto Projects in Western Australia.

In recent years we have strengthened our competitiveness by enhancing our ability to adjust to fluctuations in customer demand. We have achieved this by negotiating contracts that provide increased flexibility. For example, with some of our projects we are now able to adjust volumes or change the destinations to which LNG is shipped.

Second, we are already involved in the Darwin Project in Australia, and currently we are negotiating over participation in the Pluto and Gorgon Projects, which are also in Australia. In addition to reducing LNG price fluctuation risk and ensuring business profits, another advantage of this involvement in upstream interests is the potential to develop new business opportunities, including trading operations. Furthermore, we aim to establish an LNG value chain through involvement in LNG receiving terminal and gas supply business.

Third, we currently operate a fleet of five vessels, including *Energy Progress*, which went into service in November 2006. We plan to expand our fleet to seven vessels by fiscal 2010, by which time we will carry approximately 50% of our total LNG cargos in our own vessels. By increasing the volumes carried, we aim to achieve further reductions in our transportation costs. The use of our fleet for short-term and spot procurement as well as procurement under long-term contracts will provide increased flexibility, thereby helping to reduce gas resource costs and improve reliability. We also intend to expand the scope of our business activities by carrying LNG for the third parties or chartering out our vessels.

### Tokyo Gas LNG Long-term Imports





◀ Now operated jointly with Tokyo Electric Power Company, the Negishi Terminal was opened in November 1969 as Japan's first LNG terminal.

## Storage and Supply

The three LNG receiving terminals operated by Tokyo Gas in the Tokyo Bay area are the biggest in Japan. LNG is transported across the world by carriers to these facilities, where it is processed into city gas. The gas is then supplied safely to customers through a pipeline network covering a total distance of 50,000 km—more than the circumference of the Earth. Our supply infrastructure in the Kanto region, including LNG receiving terminals, pipelines and regulators, serves a market that produces around 40% of Japan's GDP. Our success depends on our ability to make effective use of this infrastructure, and we actively invest in the development of our pipeline network as part of our strategy to capture new demand. We plan to expand our network in the Kanto region across a 200 km radius from Tokyo. Tokyo Gas continues to accept the challenge of sustainable growth.

## Moving Outward



### Exploiting the Full Potential of Supply Infrastructure

Tokyo Gas imports LNG from various parts of the world through its Negishi, Sodegaura and Ohgishima Terminals in the Tokyo Bay area. To maximize shipping efficiency, the gas is cryogenically liquefied at the point of production to reduce its volume about 600 times. On arrival in Japan LNG is transferred to storage tanks, a process that takes approximately half a day. LNG is regasified by passing it through aluminum tubes that are exposed to seawater. LPG is added to adjust the caloric value, and finally odorized, so that customers will be aware of the presence of the gas. It is then sent out through pipelines.

Two of our three terminals, the Negishi and Sodegaura facilities, are jointly operated with Tokyo Electric Power Company. The benefits of this arrangement include reduced capital investment and operating costs, and higher operating rates made possible by load leveling based on differences between peak demand patterns for power and gas. These advantages are reflected in lower gas production costs.

Computerized central control systems allow efficient operation of the terminals by a small team, and day-to-day operations require only 5–10 workers. Safety is of paramount importance. Most of the LNG tanks, which hold up to 200,000 kiloliters, are located underground. This increases their ability to withstand earthquakes, and even if a tank is damaged the risk of above-ground LNG leaks can be minimized.

### Expansion across a 200 km Radius around Tokyo—The Kanto Region

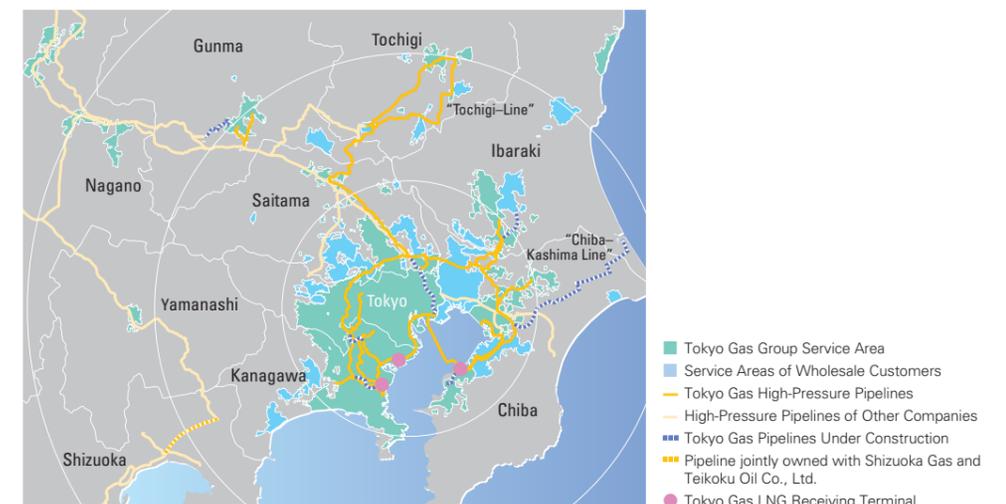
In the medium-term management plan for fiscal 2006–2010, the Tokyo Gas Group announced that it would expand its pipeline network in the Kanto region across a radius of 200 km from Tokyo. This expansion will enhance supply reliability and allow us to develop the enormous potential demand that exists in the region.

Expansion work was already in progress before the announcement of the plan. In November 2005 we completed the 69-km "Tochigi Line" linking Sano and Utsunomiya across the northern part of the Kanto region and commenced natural gas sales to large-volume customers in the area. This pipeline was constructed to meet the needs of customers, especially in local industrial estates, and to provide enhanced reliability of supply. Its contribution to demand development has exceeded our initial target, and to date we have been able to secure approximately 300 million m<sup>3</sup> of new demand.

We have also decided to build the new "Chiba–Kashima Line" to capture energy demand at industrial complexes in Ibaraki Prefecture. When completed in 2010, this 73-km pipeline is expected to attract approximately 500 million m<sup>3</sup> of new demand.

Tokyo Gas uses a variety of methods to supply natural gas to customers in locations that are remote from our pipelines. The Sodegaura and Negishi Terminals also serve as loading depots for tanker trucks, which form a mobile link in our infrastructure for day-to-day gas sales in the Kanto region across a 200-km radius from Tokyo. Coastal carriers are used to supply natural gas to customers in more remote locations. This flexibility and mobility allow us to provide optimized energy solutions that meet the needs of our customers.

#### Tokyo Gas Group Supply Area





◀ The Tokyo Gas Baypower plant (100 MW) is located alongside the Sodegaura LNG Terminal.

## Business Partner Solutions

Buoyant business performance has driven a surge in the development of new production facilities in the Tokyo metropolitan area. There has also been an accelerating shift to natural gas, both as a means of reducing CO<sub>2</sub> emissions, and also because of a price advantage relative to persistently high crude oil prices. Despite escalating competition in the energy market, Tokyo Gas has built an overwhelming advantage on a foundation of engineering expertise. As a reliable business partner in all segments of the energy market, we will continue to work with our customers to create new value.

# Greater Energy Choice



### Sophisticated Energy Solutions

There is escalating competition among different types of energy, and among suppliers of the same type of energy. However, Tokyo Gas has maintained an overwhelming advantage backed by decades of accumulated experience and knowledge. Our city gas network is the core infrastructure through which we respond to the changing and increasingly sophisticated energy needs of industrial and commercial customers. As a multi-energy supplier and provider of energy services, we offer one-stop access to city gas, LPG, electric power and other forms of energy. We will continue to provide advanced energy solutions that surpass the expectations of our customers.

Our power business is one of the core elements in the multi-energy supply structure, through which Tokyo Gas provides its customers with one-stop solutions to their energy needs. Our aim is to supply the optimal mix of facilities, including cogeneration systems. We are able to supply electric power competitively by combining a range of strategies, including the construction of power plants close to demand areas, the use of existing infrastructure at LNG terminals and other facilities, and the introduction of Advanced Combined Cycle (ACC) technology. There are also important synergy benefits between our electric power and gas operations, including higher utilization rates for LNG terminals. Tokyo Gas and its allied companies currently have 2,340 MW of generating capacity at four sites, either already in operation or at the construction or planning stages.

### Integrated Utility Services for Diversified Needs

We are expanding our collaboration with ENERGY ADVANCE Co., Ltd. (ENAC), which was separated from Tokyo Gas as an independent company in 2002. This relationship is crucial to the full-scale development of our multi-energy supply business.

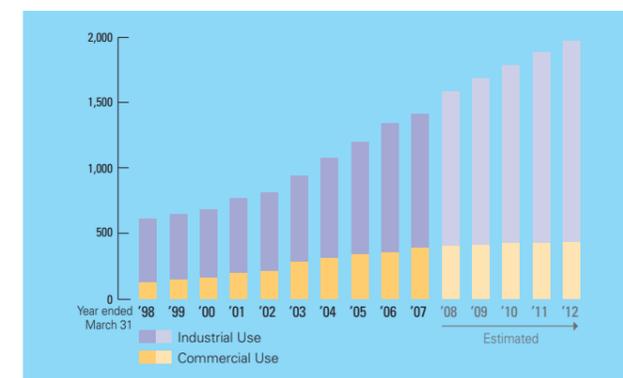
The knowledge and technical expertise accumulated through construction and operation of these facilities are the foundation for a wide range of energy services. ENAC's professional engineers select, design and install systems that precisely match customer needs, providing benefits that include energy conservation and reduced CO<sub>2</sub> emissions and costs. With a cumulative total of 175 orders by the end of March 2007, ENAC is the industry leader.

The services provided by ENAC are not limited to energy. It is evolving into an integrated utility service company offering one-stop solutions for a wide range of customer needs, including utility services, such as the supply of pure water and compressed air, and contracting services in such areas as biomass utilization and facility operation and management.

### Building Markets for Integrated Energy Solutions

Businesses are establishing an increasing number of factories and large-scale commercial facilities on the outskirts of Tokyo. Our strategies for the development of potential demand in the Kanto area around Tokyo include the development of wide-area pipeline networks and construction of LNG satellite terminals in areas where gas pipelines have not been installed. We see the Kanto area within a 200-km radius of Tokyo as a single market for natural gas, and we believe that we can achieve further demand growth by strengthening our alliances with local energy suppliers, and by offering one-stop service packages that include LNG sales and other energy services, such as power and heat.

Cogeneration Stock (MW)





◀ Tokyo Gas offers a variety of lifestyle ideas to enhance and enrich today's increasingly diverse home environments.

## Residential Customers

The mission of Tokyo Gas is to help residential customers experience the lifestyle enhancements made possible by city gas, including the enjoyment of delicious food cooked over real flames, and the convenience of being able to produce just the required amount of hot water whenever it is needed. We offer our customers new value by developing products and services that reflect their needs, including environmental and health needs. We are also determined to enhance our ability to communicate with customers by building a marketing structure based on the development of even stronger links with regional communities.

## One Stop for Service



### Maximizing the Value of Customer Contacts

In the residential sector, Tokyo Gas aims to maintain and expand gas sales volumes per customer through in-depth marketing. All Tokyo Gas companies have numerous opportunities for customer contacts, and we are determined to maximize these opportunities. We also work to expand our gas sales volumes through dynamic marketing activities targeted toward expansion of our customer base.

In recent years, it has become increasingly difficult to prevent declines in gas sales per customer because of structural factors, including Japan's falling birthrate, and an increase in the number of houses with effective draft-proofing and thermal insulation. There is also escalating competition from all-electric houses, a concept that is being promoted primarily by electric power companies.

Our strategy in this market environment is to maintain and expand gas sales in the residential sector by offering enhanced lifestyle features and comfort to as many customers as possible. We will achieve this by strategically introducing attractive gas appliances that anticipate changing lifestyles, such as floor-heating systems and mist saunas. We are also encouraging customers to use these appliances by developing and promoting an attractive range of gas charging options.

We are promoting these strategic appliances aggressively. In addition to the use of mass-advertising media, such as television, newspapers, magazines and the Internet, we are also creating opportunities for consumers to experience the advantages of gas at our showrooms, and through outside events and condominium and housing displays.

In addition to aggressive product development and marketing strategies, we also work to strengthen our marketing organization in each market segment. In April 2007, we created the Residential Sales Promotion Division, which is responsible primarily for end-user services and marketing through regionally focused marketing approaches coordinated by five branch offices. We also established the Housing Development Division, which markets our products and services primarily to sub-users.

We will soon commence full-scale preparations for the implementation of the new regional energy company concept as the next stage in the evolution of our regionally based marketing organization. This change will involve the restructuring and integration of sales and service functions, including appliance sales, repair services and safety inspections, in order to provide one-stop access to products and services with the potential to add value to customer lifestyles.

The aim of these initiatives is to create a framework for sustainable growth in the residential gas market by strengthening the integrated marketing potential of the Tokyo Gas Group, and by providing one-stop access to products and services needed by our customers.

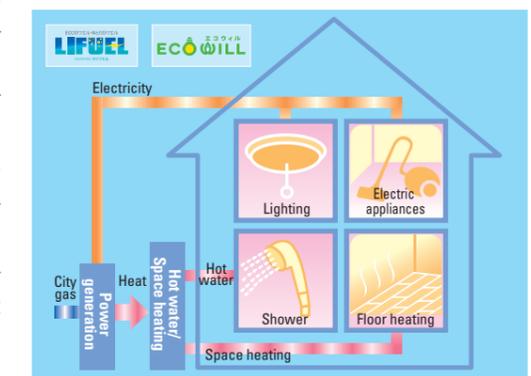
### Capturing Residential Electric Power Demand—Home Power Generation

Tokyo Gas promotes home power generation systems as a way of expanding residential gas demand and countering competition from all-electric systems. Our flagship products in this area, the ECOWILL gas engine cogeneration system and the LIFUEL fuel cell cogeneration system, are being marketed primarily to customers living in detached houses.

We use home power generation to develop a new residential electric power market. These strategic products have the potential to drive future growth in gas sales. Until now, we marketed these systems mainly for new houses, but in early fiscal 2007, we expanded the scope of the market by launching a major effort focusing on installation in existing houses. By fiscal 2010, we aim to sell a cumulative total of approximately 43,000 units as a foundation for large-scale adoption of this technology.

Tokyo Gas is studying strategies for entry into the market for energy systems for condominium housing. In this area, we will provide one-stop solutions, including the installation, ownership and maintenance of cogeneration systems designed to meet the energy needs of condominium residents.

Flow of residential cogeneration system





◀ The pilot biomass gasification plant is located at the Nakagawa Water Recycling Center in Misato city, Saitama Prefecture.

## Technology Research and Development

Tokyo Gas places a high value on technology and accepts the challenge of creating new technology as the driving force for business development and growth. Particularly important are technologies relating to the gas business, such as combustion technology and pipeline technology. As a leading company in the Japanese energy sector, we aim to achieve sustainable growth in partnership with society by actively contributing to the development of new technologies for the energy society of the future.

# Making Our Own Future



### R&D Focusing on both Strategy and Platform

Our research and development activities are broadly divided into strategic technology development that contributes to the development of an integrated energy business centering on natural gas, and platform technology development that helps to enhance our competitiveness while also ensuring that we can meet society's needs in terms of reliability, safety and environmental considerations.

Our strategic technology development has two major goals. First, we aim to diversify and improve the performance of our products, including mist saunas and floor-heating systems, so that residential customers can enjoy the full benefits of gas. Second, we work to develop new technologies to drive sustainable growth in the future.

One of the goals of our platform technology development is to improve the technologies used to build, and maintain our natural gas infrastructure, especially our pipeline network, so that we can safely deliver natural gas and ensure that it is safely used by our customers. Another focus is the development of technology to improve our competitiveness by reducing costs. Our platform activities also play a crucial role in increasing depth and passing on our platform technologies, including gas quality management and combustion engineering.

### Creating the Energy of the Future

Tokyo Gas has made the development of technologies for the energy society of the future a priority theme for its technology development activities. We are developing a variety of highly efficient equipment with major energy-saving benefits. One of these is the LIFUEL home power generation system, which is now at the performance verification stage. Another is the Solid Oxide Fuel Cell (SOFC), a next-generation fuel cell system capable of generating electricity with high efficiency.

We are also developing technology for the use of biomass as a renewable energy resource capable of making a major contribution to the reduction of CO<sub>2</sub> emissions. A feature of our biomass power generation technology is the use of mixtures of biogas and city gas. This approach allows us to stabilize seasonal and time variations in the output and caloric value of biogas so that cogeneration facilities can be operated continuously. We will market this technology to industrial and public sector customers, such as sewage treatment and waste processing plants.

Our technology development goals also include the development of holic energy systems. By effectively combining highly efficient devices and renewable energy resources, these systems allow major reductions in energy consumption and CO<sub>2</sub> emissions while also improving supply stability. In June 2006 we built a pilot facility at the Yokohama Research Center and commenced testing. The facility is designed to provide optimized control by combining various distributed power sources and grid power.

### Technology Development Strategies

