

# The 8 Keys to Growth

In June 2002, Tokyo Gas established 3 new divisions at the Head Office—Strategic Planning, Corporate Communications and Corporate Service—bringing the total number of business divisions to 11. This move makes possible more flexible and swifter policy-making, decision-making and business execution.

The Strategic Planning Division will formulate strategies to maximize Tokyo Gas' corporate value. The Corporate Communications Division is charged with creating plans to enhance the value of Tokyo Gas' brand through improved communications with the public. The Corporate Service Division's mission is to coordinate the provision of shared services to members of the Tokyo Gas Group.

The other eight business divisions, effectively virtual companies, are growth drivers. Each is responsible for creating its own demand to spur growth by carving out markets in new businesses. They will target not only the gas business, but also electricity, heat supply and other fields where group resources can be effectively used.

These eight keys to growth will maintain and strengthen the Tokyo Gas Group's ability to compete against other energy suppliers in an era of heightened competition in two main ways—by cutting costs and offering improved services. Capturing demand will also be important.

## Production Division

This strategic business division is responsible for the production of gas at terminals that receive LNG from overseas suppliers. Lowering the cost of producing gas is critical to competing against other energy suppliers as deregulation unfolds in Japan. Another goal is to maintain a stable, safe supply of gas at our present, world-class levels.

Essentially, the *raison d'être* of the division is to "outperform the competition." Embracing market-based principles, the Production Division is lowering the cost of operating LNG receiving terminals with the aim of producing gas at a cost the competition can't match. Specific actions include extending the life of LNG facilities, paring operating expenses, and improving the efficiency of business processes and human resource allocation.

Tokyo Gas' LNG receiving terminals are a prize asset. We believe they also hold the potential to generate new sources of earnings. The Production Division is exploring ways to tap into this potential. There are many opportunities. LNG cryogenic energy technologies, electricity generation, soil purification business, technology consulting in new business domains, and selling our expertise in sophisticated technologies outside the company are examples.

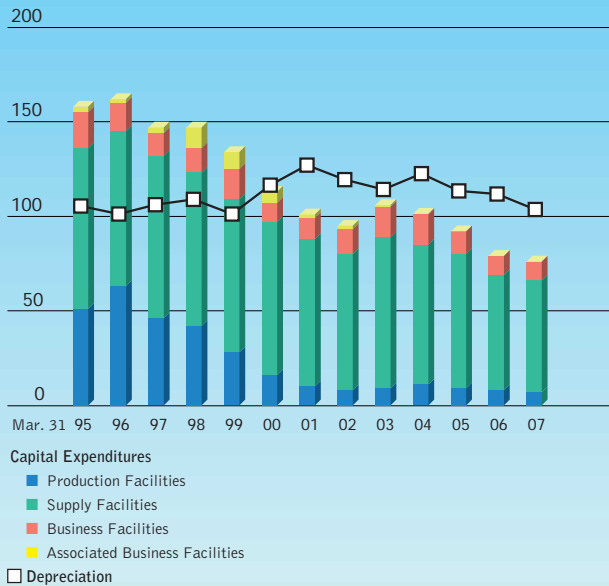
The free cash flows that we generate from cutting costs and new earnings streams will be used to lower gas rates and return profits to shareholders.

## The Tokyo Gas Production and Supply Framework

Tokyo Gas has three LNG terminals: the Negishi Terminal, which received Japan's first shipment of LNG; the Sodegaura Terminal, the world's largest LNG receiving terminal (pictured right); and the new, state-of-the-art Ohgishima Terminal. The three terminals are linked by a loop pipeline system, creating a powerful mutual backup structure. This gives us a highly efficient production and distribution system to provide customers with a reliable supply of gas.



## Tokyo Gas' Capital Expenditures and Depreciation (billion ¥)



\*The above graph represents non-consolidated data.  
 \*2003-2007 are projected figures.

## Creating Demand

Tokyo Gas' eight "virtual company" divisions are at the forefront of our efforts to create new demand and business opportunities.

### SUPREME

In July 2001, Tokyo Gas brought the world's most advanced real-time disaster prevention system online. Known as SUPREME, the system uses approximately 3,700 of the highest-performing seismic sensors positioned throughout Tokyo Gas' service area to gather data on intensity, soil liquefaction and other parameters during an earthquake. The system is linked to automatic shut off and remote control systems enabling supply to be quickly suspended in areas where there are leaks. This dramatically mitigates the risk of secondary damage.



## Pipeline and Safety Management Division

This division is responsible for the construction, operation and safety of the company's pipeline network, and plays a vital role in Tokyo Gas' operations. In the supply of gas to customers, a pipeline network that ensures stable supply and a comprehensive approach to maintaining safety standards is crucial. The Pipeline and Safety Management Division is carrying out these key missions, while restructuring itself into a pipeline business company that will ensure that Tokyo Gas remains the customers' chosen gas supplier as deregulation unfolds in Japan. Two points are key to this:

- 1) Continuing to make sound investments to create an optimal pipeline network and develop new demand, thereby lifting earnings through sales growth (volumes of gas sold), while maintaining safety and a stable supply—the sources of Tokyo Gas' competitiveness.
- 2) Conducting gas construction-related work economically, quickly and effectively, and, more than ever, putting the customer first.

Furthermore, with deregulation creating a business opportunity due to increasing demand for the third-party contract transportation of gas, Tokyo Gas sees its pipeline network as having a prominent role to play in meeting this demand. The gas transportation business harbors considerable potential for generating new cash flows.

### Pipelines

Tokyo Gas has built a natural gas transportation pipeline configured in a loop encircling the greater Tokyo area that enables the constant and stable supply of gas to our customers. After its completion last year, the Saihoku Line was opened to respond to rising demand in the greater Tokyo area. Tokyo Gas will continue to expand its pipeline network to cater to a more expansive supply area.



## Strengthening Competitiveness to Capture Demand

To create a resilient company that can prevail against competition, the eight divisions are reassessing all business processes and pushing ahead with cost-cutting initiatives.

# The 8 Keys to Growth

## Energy Sales and Service Division

This division has an extremely wide scope of operations—with natural gas as the common denominator. Activities include capturing large-volume industrial and commercial gas customers, developing district heating and cooling projects, as well as promoting natural gas vehicles and the use of natural gas for power generation. To cater to wide-ranging energy needs, the Energy Sales and Service Division is attempting to expand business operations further by proposing total energy solutions. More than just pricing based, these solutions accurately address customer needs by drawing on Tokyo Gas' sophisticated know-how, cutting-edge technologies and in-depth experience.

With no signs of an end to Japan's economic downturn apparent, many Japanese companies are desperately searching for ways to cut their energy costs. Up till now, we have offered corporate customers cogeneration as a solution. Economical and environmentally sound, cogeneration systems use gas to generate electricity and at the same time recover thermal emissions for other applications. This results in an energy efficiency of around 80%. Progress has been made in recent years in making these systems smaller. We are presently testing micro turbine cogeneration systems, since demand for small on-site power generation systems is expected to grow in the future.

Creating new business models is another goal of the Energy Sales and Service Division. One example is to provide comprehensive services including the design, construction, technical support, operation and management and maintenance of heating and electricity facilities. Other examples include services that yield cost and energy savings, and proposals that use financial techniques to mitigate the risk of price fluctuations.

We manage the financial position of the division by keeping a close watch on all their operations, from marketing and equipment sales to maintenance, thus reducing costs. This allows us to offer competitive rates that help to keep our existing customers and win new ones.

The Energy Sales and Service Division is thus working to capture new sources of demand while retaining existing customers. We are doing this by generating detailed, individualized responses to customer needs, using not only our pricing advantage but sales and technological capabilities as well.

### Energy Advance Co., Ltd.—Energy Service Business

In July 2002, we established Energy Advance as a one-stop source of energy services that responds to various customer needs. In addition to electricity and heat supply services through cogeneration systems, Energy Advance will offer services extending from consulting on energy conservation to design, construction, operation and management, maintenance and finance. The market for these services is broad, from buildings and plants to entire districts.

### Nijio Co., Ltd.—Natural Gas Sales

In May 2002, we teamed up with Shell Gas B.V. to establish Nijio Co., Ltd. to sell natural gas to power generation companies under long-term agreements. The joint venture will leverage both companies' considerable experience in the energy field to provide a stable supply of natural gas to Japan's growing non-utility power generation industry.



Tokyo Gas President Hideharu Uehara (left) and Shell International Gas Limited CEO Linda Cook (right) at the signing ceremony of the agreement to establish Nijio.

### Electricity Business

Wholly owned subsidiary Tokyo Gas Bay Power Co., Ltd. is constructing a 100MW-class power plant at our Sodegaura LNG Terminal. The plant is slated to come online in the autumn of 2003. Meanwhile, we are using alliances to aggressively advance our electricity business. Tokyo City Power Co., Ltd., established with the Tokyo Bureau of Waterworks and Shell Gas & Power Japan Ltd., and Kawasaki Natural Gas Generation Co., Ltd., established with Nippon Oil Corporation, plan to construct 150MW-class and 400MW-class power plants, respectively.

## Inter-Regional Sales and Service Division

In the past, gas suppliers have had a monopoly on supplying gas within their respective service areas. Deregulation has changed the landscape of the industry somewhat, in that gas companies are now allowed to supply large-volume customers outside of their service areas. This shift in industry dynamics prompted us to form the Inter-Regional Sales and Service Division in July 2001. This division will promote the development of demand to expand Tokyo Gas' business to a wider-ranging supply area. This business division has already achieved success in respect of its three missions: expanding wholesale activities, establishing the necessary pipeline network and growing demand, over a wider area.

As with Tokyo Gas' service area, the prefectures on the periphery of the Tokyo metropolitan area boast many large-volume users. We are laying new pipelines to these areas to capture demand. The new Tochigi Line is an example of a pipeline currently under construction. We have also completed surveys of future demand and other factors in several other areas.

Tokyo Gas supplies gas on a wholesale basis to 16 gas companies in areas surrounding its own service area. These sales account for around 10% of Tokyo Gas' gas sales volume. We expect high average annual growth of 8.2% through the fiscal year ending March 31, 2007 by expanding sales to existing wholesale customers and finding new ones. Efforts to expand demand include assisting these gas companies with activities to sell cogeneration systems.

Another theme for the Inter-Regional Sales and Service Division is promoting the conversion to city gas to customers in areas within Tokyo Gas' service area who are using LPG. In areas where conversion is problematic, our subsidiary Tokyo Gas Energy Co., Ltd. supplies LPG. Looking ahead, we will continue in this way to meet all demand. And we will work in concert with the Pipeline and Safety Management and other divisions to efficiently build pipeline infrastructures based on an accurate understanding of area needs.

### The Transfer of Konosu City's Gas Business to Tokyo Gas

April 1, 2002, saw the transfer of Konosu City's gas business to Tokyo Gas under a privatization program implemented by the municipal government. Under the terms of the agreement, Tokyo Gas paid ¥1,260 million for the business. Tokyo Gas expects to recoup its investment as well as expenses for replacing pipes and upgrading other facilities, over the next several years.

#### Outline of the Konosu City Gas Business

No. of customers: 10,954 (As of March 31, 2001)  
 Gas sales volume: 5,928,000 m<sup>3</sup> per year  
 (Fiscal year ended March 31, 2001; an equivalent of 46.05MJ/m<sup>3</sup>)



# The 8 Keys to Growth

## Residential Sales and Service Division

Residential users account for around 90% of Tokyo Gas' roughly 9 million customers, making them the bedrock of earnings from gas sales.

In the home heating field, where competition with other forms of energy is particularly intense, our strategy has been to develop demand by expanding sales of high-comfort gas floor heating. Competition in recent years hasn't been restricted to heating. Electricity companies have been actively encouraging customers to switch to electricity by developing products such as induction heating (IH) cooking appliances and heat pump water heaters using CO<sub>2</sub> as a refrigerant. The Residential Sales and Service Division has countered these moves with higher profile advertising and PR to make customers more aware of the latest gas appliances, as well as with product development and sales activities for cooking and water heating equipment.

A central theme is making gas floor heating the de facto standard for new residential buildings. We are promoting the virtues of this heating system among builders of large private- and public-sector housing projects, major homebuilders, local construction companies and other residential construction firms. As a result of these efforts, gas floor heating was installed in a third of the new houses and multi-unit buildings built in the year ended March 31, 2002. Around 70% of new condominiums had this heating system installed during the same period. Ensuring that customers understand such matters as how to use and maintain this heating system will be a focus of our after-sales service.

Owners of existing homes are becoming increasingly aware of the advantages of gas floor heating as this system is installed in a greater number of residences. Seizing on the opportunities this presents, Tokyo Gas is promoting gas floor heating systems that can be easily installed when houses are renovated. Moreover, capturing heating demand in areas of the house other than the living room, such as the bathroom, is another area being investigated. We are also expanding our sales efforts for the latest gas cooking appliances to stave off competition from electrical kitchen appliance manufacturers.

Markets where earnings are growing, such as equipment sales and new business ventures, are focal points, too. With the profitability of the former having risen, boosted by more efficient distribution methods, we are eager to expand sales revenue. To lift earnings even higher, we are selling kitchen systems and other complete systems for the house, in addition to individual gas appliances. What's more, we are considering entering new businesses that capitalize on our close contact with customers, such as nursing care services for the elderly and security services.

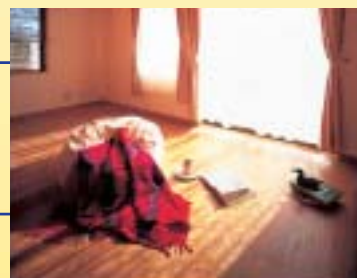
### Advanced Kitchen Appliances

To counter the threat posed by IH cooking equipment, we are making customers fully aware of the inherent advantages of gas. This is being achieved through advertising and events that raise the profile of gas, and by promoting the latest gas appliances with automatic temperature adjustment functions and other new features.



### Gas Floor Heating

With demand for gas floor heating increasing year by year, Tokyo Gas is making proposals for more comfortable living to customers of both new and existing houses.



## Customer Service Division

The mission of this division is to provide high-quality services at a lower cost. As competition in the energy sector heats up, it is imperative that we retain customers by offering services that are less expensive and deliver maximum satisfaction. The Service Planning Dept., Service Promotion Dept. and 11 service branches are tackling this difficult challenge, and are aiming to deliver the highest level of customer satisfaction in Japan.

We are confident that our services are already top class, but the Customer Service Division intends to raise the bar even higher. To this end, the division has introduced the JQA (Japanese Quality Award) quality assurance program. Work processes, service details, and quality are being reviewed from the customer's standpoint. With this new perspective, Tokyo Gas will make numerous changes in our operation.

Tokyo Gas established Tokyo Gas Customer Service Co., Ltd., starting to outsource periodic safety checks, and some meter reading and gas bill collection operations in some parts of Tokyo Gas' service area in July 2002. Tokyo Gas Customer Service will become fully operational by July 2003, and will be instrumental in delivering high-quality customer services at a lower cost. Tokyo Gas will continue to assume responsibility for safety, determining gas rates and bill collection, as well as maintaining service quality. Together, Tokyo Gas and Tokyo Gas Customer Service will work to enhance customer satisfaction.

In another move to enhance the quality of our services, in July of last year, we combined 12 contact center locations into two and upgraded their functions. This will better enable us to respond promptly and accurately to customer requests. We will analyze feedback from customers and effectively relay this feedback throughout the organization to improve service quality and customer satisfaction—and ultimately win new customers.

In this way, the Customer Service Division will garner satisfaction through its own services and make customer satisfaction the cornerstone of our company. Achieving a higher level of satisfaction across the whole Tokyo Gas Group will bolster our competitiveness and lead to more business opportunities.

## Contact Centers

These centers are at the forefront of customer relations in a number of ways. They are an important base for gathering information from and conveying information to our customers. This is made possible by a proprietary system wedding the Internet, phones and computers to ensure a speedy response.





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## Polymer Electrode Fuel Cells (PEFC)

On-site, residential-use cogeneration systems using PEFCs are energy efficient, economically sound and environmentally friendly, and they increase the demand for gas. Using proprietary technology, Tokyo Gas is pushing ahead with the development of advanced fuel reformers for these systems, and conducting field tests in actual homes.



## Methane Hydrate

The seabeds around Japan are estimated to hold reserves of methane hydrate—methane and water frozen into a sherbet-like form under high pressure—equivalent to Japan's natural gas consumption for about 100 years. For a country like Japan that is almost totally reliant on imports of energy, this substance is seen as an extremely exciting potential source of energy. Tokyo Gas is continuing basic research into options for using methane hydrate as a future source of natural gas.



## R&D Division

This division, which is the nucleus of Tokyo Gas' R&D activities, conducts wide-ranging research and development into technologies related to the production, supply and use of gas, as well as research aimed at expanding Tokyo Gas' operations into other business fields. As deregulation leads to greater competition, these activities will be vital for developing technologies that win customers in the company's gas and also non-gas businesses, and that raise our corporate value. Indeed, the R&D Division supports the efforts of other strategic business divisions by creating products and technologies that differentiate us from rivals and that facilitate further cost reductions.

This section showcases just a handful of the solutions that will maintain and increase our competitiveness. Others not detailed here include on-site power generation facilities that use Solid Oxide Fuel Cells (SOFCs), ultra-efficient gas-fired air conditioning technologies, increasingly sophisticated safety functions using intelligent gas meters and enhanced value with a more varied rate structure, higher pressure gas pipes that improve facility capabilities, and new safety technologies. The division's activities extend to the development of technologies for the creation of new businesses, such as household refurbishment, home services, facility monitoring and maintenance, and the manufacturing of isotope-related products. Technology for protecting the environment is another key R&D theme.

## Highly Efficient Condensing Boilers

Tokyo Gas' condensing boilers, which capture latent thermal emissions, boast a high thermal efficiency of 93%, reduced CO<sub>2</sub> emissions and low running costs, thus adding to the competitiveness of the company's gas boilers. Work continues at Tokyo Gas to further improve the ease of installation and to reduce running costs with a view to promoting their widespread use in businesses and homes.



## Techniques for Restoring Pipes

The length of time that existing gas distribution pipes can be used effectively has a huge bearing on Tokyo Gas' capital expenditure plans and thus achieving competitive gas rates. Tokyo Gas is therefore developing techniques for maintaining pipelines without excavation. One example is lining the inside of existing pipes with a protective epoxy resin coating. This technique is far more cost effective than prevailing techniques that involve excavation, thereby helping to make Tokyo Gas more competitive.

## Creating Demand

### Comprehensive Engineering Services in the Energy Sector

Tokyo Gas Engineering Co., Ltd. is the lynchpin of Tokyo Gas Group's engineering business. It provides technical and consulting services covering all aspects of the production, supply and use of gas. The company's expertise extends from LNG receiving terminals to cogeneration and DHC systems. In Japan and overseas, it has chalked up many successes, earning a solid reputation for its comprehensive engineering excellence.

### Affiliated Companies Division

Seeing the advance of deregulation as a business opportunity, the Tokyo Gas Group is aiming to grow steadily as a total energy services provider with natural gas as its core business. This includes entering new business domains such as electricity generation and retailing, and LNG transportation using our own LNG carriers. Furthermore, we are developing energy-related businesses that draw on the strengths of our gas business—including our people, assets and technology—and "lifestyle" businesses that respond to the IT revolution and Japan's "graying" society, as well as those that contribute to environmental protection.

The 54 Tokyo Gas Group member companies are implementing structural reforms designed to raise the value of the Group. They are being guided by their respective missions and by the policy that earnings are the fundamental priority for all affiliated companies. Quick decisions are needed. We won't hesitate to channel resources to businesses with high potential. Equally, we are just as determined to withdraw from unprofitable businesses where we have no expectations for a turnaround. We will use return on capital as our principal yardstick for determining whether a business is worthwhile or not, and if not, reconstituting the group's management to optimally reallocate resources. For this we have established a project team to promote reforms aimed at raising Group profitability.

### LNG Transportation Business

Tokyo Gas established Tokyo LNG Tanker Co., Ltd. to lower the cost of importing LNG, and to secure a stable supply of this vital energy source. This subsidiary is presently building two LNG carriers that will help reduce LNG import costs by allowing Tokyo Gas to take advantage of short-term contracts and spot trading. It is also exploring the possibility of supplying LNG to third parties.



### Key Ingredient for Breakthrough Diagnostic Method—<sup>13</sup>C

Tokyo Gas achieved a world first by developing technology to separate <sup>13</sup>C-Methane from LNG. The <sup>13</sup>C-Methane is being processed and sold by Group member Tokyo Gas Chemicals Co., Ltd. as a key ingredient for a diagnostic reagent to test for the existence of *Helicobacter pylori*, a common cause of gastritis and gastric ulcers. Research is being carried out on <sup>13</sup>C-Methane to find uses in other drugs such as for the diagnosis of pancreatic disease.



## Strengthening Competitiveness to Capture Demand