

FY2002
Business Plan

April 2002

Tokyo Gas Co., Ltd.

Introduction

As we enter an era of full-scale mega-competition, we look upon the progress of deregulation and the resulting changes in the operating environment as presenting new business opportunities. We are seeking to respond proactively to the era of mega-competition as an "energy frontier industry" that supplies heat and electrical power in addition to natural gas.

On April 1, 2002, in a step in this direction, we took over the gas business for Konosu City.

I. Outline of the Business Plan

1. Diffusion plan

The number of new connections for FY2002 and FY2003 is projected at the 270,000 level reflecting the impact of new building projects resulting from falling land prices and the extension of the home loan tax exemption beyond June FY 2001. However, it is anticipated that the number of new housing starts in the metropolitan area will decline from FY2004 due to a slump following the tax cut-generated rush, with new connections also being likely to decrease. The number of customers is projected to grow at a five-year average of 1.6%, as a result of efforts to acquire customers in addition to the increase in the number of households.

(Thousands)

	FY01 outlook	FY02	FY03	FY04	FY05	FY06	Average annual growth rate
Number of new connections	269.2	^{Note)} 289.8	272.5	262.9	258.5	254.2	▲ 1.1%
Number of customers	9,034.7	9,214.1	9,372.6	9,518.1	9,655.2	9,786.4	1.6%

* Number of customers = number of gas meters fitted

Note: 11,700 gas connections transferred from the gas business in Konosu City are included in the 289,800 new connections for FY2002, so the number of genuine new connections is 278,100.

2. Gas sales volume plans

A 5.9% five-year average growth rate (from FY2001 outlook to FY2006) is projected for gas sales volume, with sales of 12.4 billion m³ expected in FY2006.

<Overall sales volume>

(Unit: 1 million m³ , 46.04655MJ/m³)

	FY01 outlook	FY02	FY03	FY04	FY05	FY06	Average annual growth rate
Total sales volume	9,323	10,147	10,784	11,333	11,822	12,439	5.9%

* FY2001 outlook is after standardization (values adjusted for temperature etc., based on the average year), the same applies throughout this document.

(1) Residential

The number of residential accounts is increasing with the growth in new connections.

However, the decrease in the sales volume per account is expected to continue despite efforts to promote floor heating systems. This is due to the decline in the number of people per household,

the impact of the growth in convenience foods, improvements in the efficiency of appliances, and better draught exclusion and insulation in housing.

<Residential demand and sales volume per account>

(Unit: 1 million m³/account/year , 46.04655MJ/m³)

	FY01 outlook	FY02	FY03	FY04	FY05	FY06	Average annual growth rate
Residential sales volume	3,132	3,202	3,237	3,269	3,299	3,325	1.2%
Sales volume per account	408	407	405	403	401	399	▲0.5%

<Cumulative number of floor heating systems installed>

(Thousand households)

	FY01 outlook	FY02	FY03	FY04	FY05	FY06	Average annual growth rate
Cumulative number	347	435	527	623	719	813	18.6%
Rate of diffusion	4.1%	5.1%	6.0%	7.0%	8.0%	8.9%	-
Installation rate	73.8%	75.0%	75.8%	77.7%	77.7%	77.7%	-

* The rate of diffusion was calculated by dividing the cumulative number of floor heating systems installed by the number of residential customers as of the end of the year in the company's service area.

* The installation rate was based on the rate of adoption for private housing collective units in subdivisions.

(2) Industrial

Large-scale demand, primarily for power generation, is growing. It is set to outstrip residential demand from FY2002, becoming the biggest volume by category of use.

(Unit: 1 million m³ , 46.04655MJ/m³)

	FY01 outlook	FY02	FY03	FY04	FY05	FY06	Average annual growth rate
Industrial sales volume	2,886	3,362	3,658	4,011	4,262	4,590	9.7%
(Of which are of large-scale sales volume)	2,523	2,988	3,251	3,570	3,773	4,061	10.0%

(3) Commercial

Air conditioning demand is increasing due to the growth in popularity of gas air conditioners. In addition, large-scale sales volume will rise in FY2002 due to the commencement of sales to a new spin-off energy service company.

(Unit: 1 million m³ , 46.04655MJ/m³)

	FY01 outlook	FY02	FY03	FY04	FY05	FY06	Average annual growth rate
Commercial sales volume	1,612	1,759	1,904	1,948	1,998	2,046	4.9%
(Of which are of large-scale sales volume)	402	483	593	604	615	621	9.1%

(4) Other

Sales volume for other uses is rising, primarily based on air conditioning demand.

(Unit: 1 million m³ , 46.04655MJ/m³)

	FY01 outlook	FY02	FY03	FY04	FY05	FY06	Average annual growth rate
Other sales volume	741	780	811	849	934	1,067	7.6%

(5) Wholesales supply

Wholesale supply to other gas companies is rising due to increased demand from wholesale purchasers.

(Unit: 1 million m³ , 46.04655MJ/m³)

	FY01 outlook	FY02	FY03	FY04	FY05	FY06	Average annual growth rate
Wholesale supply sales volume	952	1,044	1,174	1,256	1,329	1,411	8.2%

(6) Power generation

[Power generation (cogeneration/power generation only) sales volume] (Included in figures for (2), (3) and (4) above)

Sales volume is increasing due to the diffusion of cogeneration and supply to new power generation companies, with the proportion of overall sales volume also rising.

(Unit: 1 million m³ , 46.04655MJ/m³)

	FY01 outlook	FY02	FY03	FY04	FY05	FY06	Average annual growth rate
Consumer cogeneration	188	242	275	303	333	370	14.5%
Industrial cogeneration	974	1,095	1,185	1,307	1,442	1,590	10.3%
Generation of power only (business use)	447	945	1,166	1,261	1,261	1,261	23.0%
Generation of power only (private use)	153	150	150	156	156	156	0.4%
Total	1,762	2,432	2,776	3,027	3,192	3,377	13.9%

* Sales to the Roppongi area in the energy supply sector are included in power generation only (business use).

<Power generation as proportion of overall sales volume>

	FY01 outlook	FY02	FY03	FY04	FY05	FY06
Proportion represented by power generation (%)	18.9%	24.0%	25.7%	26.7%	27.0%	27.1%

3. Production/purchasing volume and feedstock utilization plans

Tokyo Gas is working to secure stable feedstock over the long term. In addition, we are also further reducing procurement costs by increasing short term transactions, thereby boosting our flexibility.

<Gas production/purchasing volume>

(Unit: 1 million m³, 46.04655MJ/m³)

		FY01 outlook	FY02	FY03	FY04	FY05	FY06
Natural gas	LNG	(91.5%) 8,680	(91.1%) 9,237	(91.2%) 9,839	(91.1%) 10,371	(89.3%) 10,618	(89.4%) 11,181
	Domestic natural gas	203	185	214	248	276	278
Petroleum	LPG	391	509	531	550	791	844
	Off gas	209	209	210	210	210	210
Coal gas		1					
Total		9,484	10,140	10,794	11,379	11,895	12,513

* Production/purchasing volume does not include receipts from other gas companies

<Feedstock utilization volume>

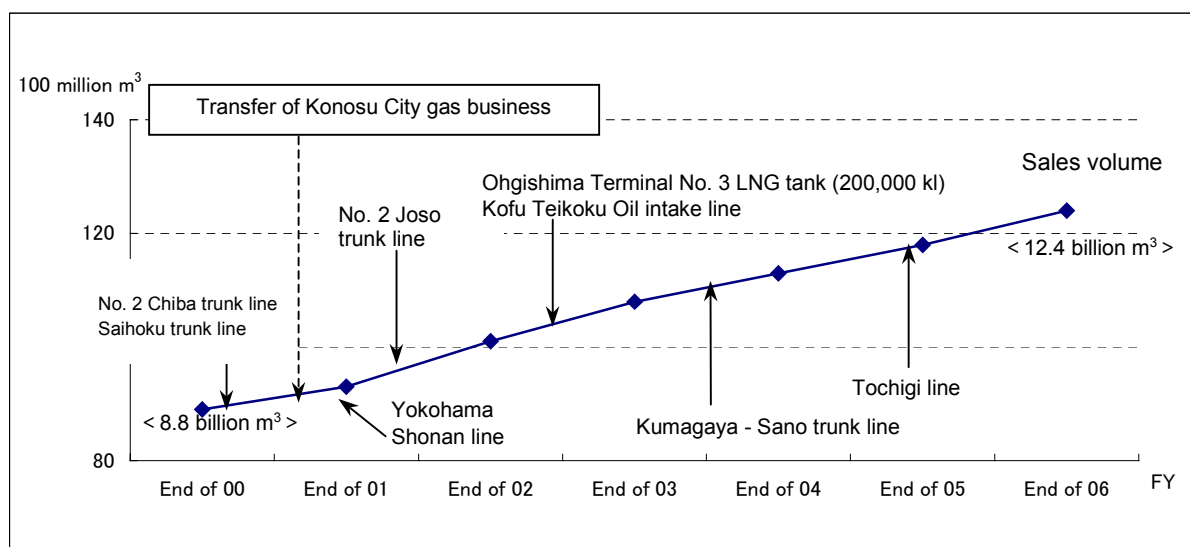
(Unit: thousand tons)

	FY01 outlook	FY02	FY03	FY04	FY05	FY06
LNG	7,023	7,478	7,961	8,388	8,574	9,020
LPG	377	477	496	513	724	770

4. Major facility plans

We are boosting facilities to respond appropriately to demand outlook, at the same time developing related production and supply infrastructure. As well as striving for stable supply, we are making efforts to improve efficiency. During FY 2001, specific strategies to improve efficiency were the scrapping of three SNG (one at Kawasaki Plant and two at Negishi Terminal), two SMV (Negishi Terminal) and our one water-sealed gas holder (Hitachi branch). LNG supply from the company's plants to the Kumagaya branch pipeline (excluding central and southern districts of Konosu) commenced due to the completion of the Saihoku trunk line. The intake of Teikoku Oil gas at the Kofu branch line will start in FY2003 and the supply of LNG from the company's plants to the Utsunomiya branch pipeline will commence in FY2004 upon the completion of the Kumagaya-Sano trunk line.

<Demand outlook and facility formation plans>



<Major production facility plans>

Date of scheduled commencement	Production facility	Location
Oct. 2003	LNG vaporization facilities (for emergencies)	Kofu Intake Terminal
Oct. 2003	No. 3 LNG underground tank (200,000 kl), LPG vaporization facilities	Ohgishima Terminal
Nov. 2004	LNG vaporization facilities	Sodegaura Terminal
Nov. 2005	LNG vaporization facilities	Negishi Terminal
Nov. 2006	LNG vaporization facilities	Ohgishima Terminal

<Major pipeline plans>

(Unit: km)

Date of scheduled commencement	Name of route	Section	Inner diameter (mm)	Pressure (MPa)	Total length (km)	
Oct. 2002	1. No. 2 Joso trunk line	Phase I	Shiroi ~ Tone	400	6.86	14.4
		Phase II	Tone ~ Ryugasaki	400	6.86	5.9
May 2002	2. Yokohama Shonan line	Phase III	Kami-iida ~ Shimo-tona	600	1.96	3.9
Oct. 2004	3. Kumagaya-Sano trunk line	Kumagaya ~ Sano	400	7.00	39.1	
				1.77	2.9	
Mar. 2006	4. Tochigi line	Sano ~ Maoka	400	7.00	54.0	
Oct. 2003	1) Teikoku intake pipeline	No.1 line	Showa-cho ~ Kokubo, Kofu-shi	300	0.99	2.8
		No.2 line	Showa-cho ~ Showa-cho	300	0.99	1.1
Mar. 2006	2) Tochigi line (medium pressure)	Maoka ~ Utsunomiya	500	0.99	16.0	

* 1 MPa (megapascal) = 10.1972 kg/cm²

Note: Figures to the left of route names indicate the route number in the Pipeline Network Conditioning Plan (see next page).

<Total length of pipeline infrastructure at end of fiscal year>

(Unit: km)

FY01 outlook	FY02	FY03	FY04	FY05	FY06
48,587.5	49,424.0	50,147.1	50,827.6	51,525.2	52,141.0

5. Outline of capital expenditure plans

We have made plans for investments totaling ¥455.8 billion (after compression for income from construction beneficiary burdens) in the five year period from FY2002 to FY2006. The following were the major considerations in this supply planning period:

- (1) In the area of production facilities, we intend to fully ensure a stable production system in step with the increase in demand by continuing to expand LNG-related facilities, such as the construction of various facilities at the Ohgishima Terminal, which went into operation in October 1998.
- (2) In the area of supply facilities, we will make efforts to establish a stable supply system and assure safety through investments in construction of additional pipelines to meet new demand, the formation of a major pipeline network, the systematic replacement of existing pipelines, and facilities for disaster prevention.
- (3) In the area of business facilities, we are planning to further reinforce the sales system through additional investment in augmentation of customer services, promotion of technology development and information technology as well as implementing land improvement strategies.
- (4) In the area of incidental services, we plan significant reduction through the establishment and transfer of operations to a new energy service company.

<Table of facility investment plans>

(Unit: ¥100 million)

		FY01 outlook	FY02	FY03	FY04	FY05	FY06	FY02~06 Total	
Gas business facilities	LNG-related facilities	62	67	81	54	35	22	(5.7%)	259
	Others	20	24	34	31	45	48	(4.0%)	182
	Production facilities	82	91	115	85	80	70	(9.7%)	441
	Trunk line investment	103	93	87	62	14	0	(5.6%)	256
	Others	619	702	649	650	598	593	(70.0%)	3,192
	Supply facilities	722	795	736	712	612	593	(75.6%)	3,448
	Business facilities	131	164	157	123	104	101	(14.3%)	649
Subtotal		935	1,050	1,008	920	796	764	(99.6%)	4,538
Associated business facilities		23	13	4	1	1	1	(0.4%)	20
Total after compression for income from construction beneficiary burdens		958	1,063	1,012	921	797	765	(100.0%)	4,558

Note: Figures in parentheses indicate percentage shares of totals.

LNG-related facilities	Ohgishima terminal (Phase II cost of ¥ 68.3 billion in total, of which ¥ 10.9 billion is over five-year period in question) Third underground 200,000 kl LNG tank (Completion in FY2003: total cost ¥ 24.3 billion, of which ¥ 6.6 billion is over five-year period in question)
Trunk line investment	No. 2 Joso trunk line (Completion in FY2002: total cost ¥ 7.8 billion, of which ¥ 1.4 billion is over five-year period in question) Kumagaya-Sano trunk line (Completion in FY2004: total cost ¥ 17.3 billion, of which ¥ 10 billion is over five-year period in question) Tochigi line (Completion in FY2005: total cost ¥ 16.9 billion, of which ¥ 16.1 billion is over five-year period in question): including medium pressure lines
Business facilities	Land improvement, information technology, sales office improvements, etc.

II. Major numerical projections

(1) Diffusion plan

	FY01 outlook	FY02	FY03	FY04	FY05	FY06	Comments
Number of new connections (1000)	269.2	Note) 289.8	272.5	262.9	258.5	254.2	(Five-year total 1,337.9)
Number of customers(1000)	9,034.7	(2.0%) 9,214.1	(1.7%) 9,372.6	(1.6%) 9,518.1	(1.4%) 9,655.2	(1.4%) 9,786.4	Year-on-year rate of growth
Net increase (1000)	162.3	179.4	158.5	145.5	137.1	131.2	Five-year net increase 751.7
Diffusion rate (%)	87.8	88.4	88.9	89.5	90.1	90.7	

Note: 11,700 gas connections transferred from the gas business in Konosu City are included in the 289,800 new connections for FY2002, so the number of genuine new connections is 278,100.

(2) Gas demand outlook

(Unit: 1 million m³ , 46.04655MJ/m³)

		FY01 outlook	FY02	FY03	FY04	FY05	FY06	Average annual growth rate
Sales volume	Residential	(408) 3,132	(407) 3,202	(405) 3,237	(403) 3,269	(401) 3,299	(399) 3,325	(▲0.5%) 1.2%
	Industrial	2,886	3,362	3,658	4,011	4,262	4,590	9.7%
	Commercial	1,612	1,759	1,904	1,948	1,998	2,046	4.9%
	Others	741	780	811	849	934	1,067	7.6%
	Subtotal	5,239	5,901	6,373	6,808	7,194	7,703	8.0%
	Total	8,371	9,103	9,610	10,077	10,493	11,028	5.7%
Wholesale supply		952	1,044	1,174	1,256	1,329	1,411	8.2%
Grand total		9,323	10,147	10,784	11,333	11,822	12,439	5.9%
(Of which are for power generation)		1,762	2,432	2,776	3,027	3,192	3,377	13.9%
Excluding power generation		7,561	7,715	8,008	8,306	8,630	9,062	3.7%

* FY2001 outlook is after standardization (values adjusted for temperature etc., based on the average year).
Figures in parentheses indicate sales volume per household (m³/household/year).

<Reference>(Unit: 1 million m³ , 46.04655MJ/m³)

	FY01 outlook	FY02	FY03	FY04	FY05	FY06	Average annual growth rate
Large-volume supply	3,151	3,707	4,091	4,437	4,711	5,105	10.1%

* FY2001 outlook is after standardization (values adjusted for temperature, etc., based on the average year), the same applies in the tables below.

(3) Installed stock for each system type in the air conditioning sector

(Unit: thousand kW)

	FY01 outlook	FY02	FY03	FY04	FY05	FY06	Average annual growth rate
Absorption type	2,603	2,798	2,946	3,097	3,232	3,391	5.4%
GHP	647	723	803	881	968	1,067	10.5%
Total	3,250	3,521	3,749	3,978	4,200	4,458	6.5%

* Installed stock is a conversion of the base cooling facility capacity managed at the company to COP 3.5 electric air conditioners

(4) Installed stock of power generation facilities

(Unit: thousand kW)

	FY01 outlook	FY02	FY03	FY04	FY05	FY06	Average annual growth rate
Consumer cogeneration	209	260	301	336	367	412	14.5%
Industrial cogeneration	635	726	799	897	1,006	1,129	12.2%
Generation of power only (business use)	1,395	1,434	2,012	2,012	2,012	2,012	7.6%
Generation of power only (private use)	187	187	187	187	287	287	8.9%
Total	2,426	2,607	3,299	3,432	3,672	3,840	9.6%

(5) FY2002 facility investment plans

(Unit: ¥ 1 million)

Item		Amount of investment	Percentage of total	Comments	
Production facilities	New LNG-related facilities	6,695	6.3%	<ul style="list-style-type: none"> • Ohgishima terminal, Phase II construction • Total cost: ¥68,278 million with ¥6,695 million in FY2002 • Includes construction of the third 200,000 kl underground tank scheduled for completion in FY2003 • Total cost: ¥24,313 million with ¥4,571 million in FY2002 	
	Others	2,387	2.2%	• Improvement and replacement of existing facilities	
	Total	9,082	8.5%		
Supply facilities	Mains and laterals	Demand development	33,151	31.2%	• Mains and laterals to meet demand
		Stable supply	16,409	15.4%	<ul style="list-style-type: none"> • 68.5 km high pressure transmission trunk lines, 30.2 km cost of ¥9,319 million Construction for improvement of supply pressure, etc. Includes: No. 2 Joso trunk line Total cost: ¥7,833 million, of which ¥1,398 million is in FY2002 • Kumagaya - Sano trunk line Total cost: ¥17,322 million, of which ¥5,583 million is in FY2002 • Tochigi line (including medium pressure lines) Total cost: ¥16,920 million, of which ¥2,366 million is in FY2002
		Pipe maintenance	10,916	10.3%	• 148.4 km systematic replacement of superannuated pipes
		Other construction, etc.	2,351	2.2%	• 130.7 km concomitant construction such as road construction
		Subtotal	62,827	59.1%	• 1,187.2 km
	Service pipes and gas meters	15,090	14.2%		
	Others	1,607	1.5%	• Disaster prevention facilities and other safety equipment	
	Total	79,524	74.8%		
Business facilities	16,440	15.5%	• Land improvement strategies, technology development, introduction of information technology and repair of sales offices		
Gas utility facility total (after compression for income from construction beneficiary burdens)	105,046	98.8%			
Associated business facilities	1,235	1.2%	• District heating and cooling facilities, etc. ¥425 million		
Total (after compression for income from construction beneficiary burdens)	106,281	100.0%	• Income from construction beneficiary burdens ¥3,343 million		

* Figures for length in Comments indicate total length to be constructed in FY2002.