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# **Outline of Supply Plans for FY2016**

## **(Non-Consolidated)**

**March, 2016**

**Tokyo Gas Co., Ltd.**

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## Introduction

Since the Great East Japan Earthquake, various issues of energy, such as safe and stable energy supply and energy cost reduction, have been more deeply discussed and the role for natural gas to play has grown furthermore. Under such circumstances, Tokyo Gas Group released its management vision, “Challenge 2020 Vision (2020 Vision)” in November 2011 and “Main Policies FY2015 – 2017 toward Realizing ‘Challenge 2020 Vision’” in October 2014 to meet the expectations of the society through the spread and expansion of natural gas use.

As for the business environment, competition is likely to intensify due to progress in discussions about the gas system reforms, Tokyo Gas Group will use its comprehensive strengths and solidarity to boldly and swiftly embrace the challenge of realizing the 2020 vision, mainly through the three main policies “evolve the total energy business”, “accelerate global business development,” and “construct a new group formation.”

With these initiatives, Tokyo Gas Group will make an effective contribution to realize a prosperous, fulfilling way of life, competitive domestic industries, and an environment-friendly society where people can live in peace of mind through the spread and expansion of natural gas use, pursuing sustained growth for the Group at the same time.

## 1. Gas Penetration Plan

The number of newly connected customers is expected to show a gradual decline, after the peak in FY2015 to FY2016 caused by the taxation system reforms, to around 210 thousand a year, although the population influx into the Tokyo metropolitan area will continue. We project the total number of customers as of the end of FY2020 at 11.87 million and the projected compound annual growth rate over the next five-year period would be 1.4 percent.

(Unit: thousand)

|                            | FY2015 Outlook | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 | CAGR |
|----------------------------|----------------|--------|--------|--------|--------|--------|------|
| Number of new customers    | 222            | 216    | 211    | 208    | 207    | 206    | -    |
| Total number of customers* | 11,096         | 11,391 | 11,512 | 11,632 | 11,751 | 11,869 | 1.4% |

\*Total number of customers = Number of gas meters installed

## 2. Gas Sales Volume Plan

With the gradual recovery of the economy and the aggressive marketing mainly for the industrial demand, the plan foresees the total gas sales volume of approximately 17.4 billion m<sup>3</sup> in FY2020. As a result, the projected compound annual growth rate over the next five-year period would be 2.2 percent.

(Unit: Million m<sup>3</sup>, 45MJ/m<sup>3</sup>)

|                        | FY2015 Outlook* | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 | CAGR |
|------------------------|-----------------|--------|--------|--------|--------|--------|------|
| Total gas sales volume | 15,552          | 15,239 | 14,892 | 15,102 | 16,160 | 17,381 | 2.2% |

\*FY2015 number is after standardization (applied temperature is adjusted for the one adopted for FY2016 and after). The standardization applies all the following tables.

#### (1) Residential demand

In this sector, the amount of sales per customer is in decline due to such factors as the reduction in the number of family members per household, a rise in the share of collective residential properties with high levels of air tightness and insulation, and the penetration of high-efficiency gas equipment. Although we are committed to efforts for the cultivation of new demand and the penetration and expansion of its cutting-edge equipment and systems such as Ene-Farm, we foresee its residential gas sales volume in FY2020 to be 3.2 billion m<sup>3</sup>, taking into account the full liberalization of retail gas market.

[Residential gas sales volume] Unit: Million m<sup>3</sup>, m<sup>3</sup>/customer·year, 45MJ/m<sup>3</sup>)

|                              | FY2015 Outlook | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 | CAGR  |
|------------------------------|----------------|--------|--------|--------|--------|--------|-------|
| Residential gas sales volume | 3,466          | 3,512  | 3,438  | 3,366  | 3,294  | 3,225  | -1.4% |

#### (2) Commercial and other demand

Efforts will be made for the cultivation of new demand through the spread and expansion of co-generation systems and marketing for air-conditioning demand. We foresee its commercial and other gas sales volume in FY2020 to be around 2.6 billion m<sup>3</sup>, taking into account the full liberalization of retail gas market.

[Commercial and other gas sales volume] (Unit: Million m<sup>3</sup>, 45MJ/m<sup>3</sup>)

|                                       | FY2015 Outlook | FY2016  | FY2017  | FY2018  | FY2019  | FY2020  | CAGR   |
|---------------------------------------|----------------|---------|---------|---------|---------|---------|--------|
| Commercial and other gas sales volume | 2,587          | 2,659   | 2,618   | 2,621   | 2,637   | 2,633   | 0.4%   |
| Incl. Large-volume gas sales volume   | (1,251)        | (1,309) | (1,283) | (1,290) | (1,311) | (1,310) | (0.9%) |

#### (3) Industrial demand

This sector accounts for the largest share of the total gas sales of the company. The sales volume in this sector is expected to grow as a result of the development of large-volume demands for the expansion of our business to a wider area, fuel conversion to natural gas from other sources, marketing for the power generation demand, and the spread and expansion of co-generation systems. For these reasons, we expect its industrial gas sales volume in FY2020 to be 9.4 billion m<sup>3</sup>.

[Industrial gas sales volume] (Unit: Million m<sup>3</sup>, 45MJ/m<sup>3</sup>)

|                                     | FY2015 Outlook | FY2016  | FY2017  | FY2018  | FY2019  | FY2020  | CAGR   |
|-------------------------------------|----------------|---------|---------|---------|---------|---------|--------|
| Industrial gas sales volume         | 7,115          | 6,934   | 6,705   | 7,031   | 8,134   | 9,421   | 5.8%   |
| Incl. Large-volume gas sales volume | (7,006)        | (6,819) | (6,594) | (6,920) | (8,023) | (9,310) | (5.9%) |

#### (4) Wholesale demand

We expect the gas sales volume to other gas companies in FY2020 to be 2.1 billion m<sup>3</sup>, taking into account the trend of industrial demand in other gas distributors. Sales volumes to the three companies to be integrated (Chiba Gas, Tsukuba Gakuen Gas, and Miho Gas) will be classified into the Residential demand. Commercial and other demand. and Industrial demand sections in and after FY2016.

[Wholesale gas sales volume]

(Unit: Million m<sup>3</sup>, 45MJ/m<sup>3</sup>)

|                            | FY2015 Outlook | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 | CAGR  |
|----------------------------|----------------|--------|--------|--------|--------|--------|-------|
| Wholesale gas sales volume | 2,384          | 2,134  | 2,131  | 2,085  | 2,094  | 2,103  | -2.5% |

### 3. Production/Purchasing Volume and Feedstock Use Plan

We aim to heighten flexibility in our procurement by engaging in upstream business development and through the utilization of short-term business transactions to cope with demand fluctuation, making an effort to procure more competitive resources in addition to long-term contract based procurement of resources and commencement of receiving unconventional LNG.

[Gas production and purchasing volume]

(Unit: Million m<sup>3</sup>, 45MJ/m<sup>3</sup>)

|               |                      | FY2015 Outlook | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 |
|---------------|----------------------|----------------|--------|--------|--------|--------|--------|
| Natural gas   | LNG                  | 14,702         | 14,481 | 14,018 | 14,086 | 15,088 | 16,209 |
|               | Domestic natural gas | 242            | 252    | 250    | 250    | 250    | 250    |
| Petroleum oil | LPG                  | 525            | 634    | 760    | 904    | 968    | 1,078  |
|               | Off gas              | 33             | 31     | 31     | 31     | 31     | 31     |
| Other         | Biogas               | 1              | 1      | 1      | 1      | 1      | 1      |
| Total         |                      | 15,503         | 15,399 | 15,061 | 15,272 | 16,338 | 17,569 |

[Gas resource/fuel use volume]

(Unit: 1,000 ton)

|     | FY2015 Outlook | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 |
|-----|----------------|--------|--------|--------|--------|--------|
| LNG | 11,531         | 11,384 | 11,010 | 11,046 | 11,832 | 12,710 |
| LPG | 449            | 540    | 648    | 770    | 825    | 918    |

### 4. Major Facility Plan

We will improve the security and disaster prevention initiatives by taking measures resistant to earthquakes and floods as well as accelerating the replacement of aged pipes. We will install and reinforce the production and supply infrastructure to establish more safe and secure base of supply and to respond more appropriately to gas demand projection, taking into account the heightened expectation and demand toward natural gas from customers and society at large.

- We will complete Koga-Moka Line connecting to the existing network in FY2017.
- We will newly plan the construction of the Ibaraki Line (Hitachi City to Kamisu City), which we aim to complete in FY2020.
- We will install vaporizers in Onahama Satellite, Sodegaura LNG Terminal and Hitachi LNG Terminal.
- We will complete No. 2 LNG storage tank in Hitachi LNG Terminal in FY2020.
- We will newly plan the construction of a LNG storage tank in Sodegaura LNG Terminal.

[Major pipeline plans]

| Planned Commencement | Name           | Route                      | Inner Diameter (mm) | Total Length (km) |
|----------------------|----------------|----------------------------|---------------------|-------------------|
| Mar. 2018            | Koga-Moka Line | Koga city – Moka city      | 600                 | 50.0              |
| FY2020               | Ibaraki Line   | Hitachi city – Kamisu city | 600                 | Approx.87         |

[Total length of pipelines at year-end]

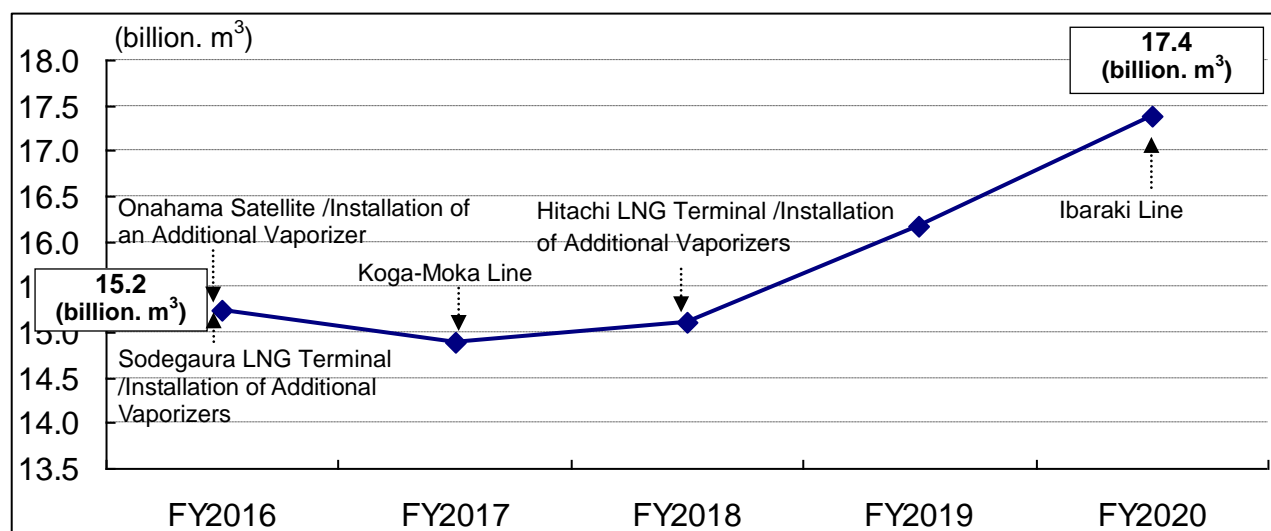
(Unit: km)

| FY2015 Outlook | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 |
|----------------|--------|--------|--------|--------|--------|
| 57,489         | 60,480 | 61,192 | 61,858 | 62,546 | 63,295 |

[Major production facilities plans]

| Planned commencement | Site                   | Installed facilities | No. of units |
|----------------------|------------------------|----------------------|--------------|
| Jun. 2016            | Onahama Satellite      | LNG vaporizer        | 1            |
| Dec. 2016            | Sodegaura LNG Terminal | LNG/LPG vaporizer    | 2            |
| Dec. 2018            | Hitachi LNG Terminal   | LNG/LPG vaporizer    | 2            |
| FY2020               |                        | LNG storage tank     | 1            |
| FY2023               | Sodegaura LNG Terminal | LNG storage tank     | 1            |

[Gas sales volume plan and facilities development plan]



## 5. Capital Investment Plan

Tokyo Gas plans to invest a total of 880.0 billion yen in its facilities (after advanced depreciation of contribution for construction) over the five-year period of the supply plans (FY2016 – FY2020) as follows.

- (1) Production facilities; the further reinforcement of stable production systems through construction of Hitachi LNG Terminal expansions and a LNG storage tank in the Sodegaura LNG Terminal which are LNG-related facilities in the three Terminals on Tokyo Bay as well as by proper measures for continued operation under long-term blackout situation, by appropriate methods resistant to earthquakes and floods and by scheduled repair and renovation of aged facilities.
- (2) Supply facilities; the establishment of stable supply systems and safety assurance through investment in pipeline installation for new demand development, formation of main pipeline network (reference: P6 “Supply Area Map”), investment for measures resistant to earthquakes and floods, and further promotion of replacing aged pipes.
- (3) Business facilities; the further reinforcement of business development systems through improvements to information systems, redevelopment in Tamachi area and promotion of technology development.
- (4) Incidental business facilities; improvements mainly to existing facilities.

[Capital investment plans]

(Unit: billion yen)

|                                   | FY2015<br>Outlook | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 | FY2016-<br>FY2020<br>Total |
|-----------------------------------|-------------------|--------|--------|--------|--------|--------|----------------------------|
| LNG facilities                    | 29.6              | 10.8   | 5.9    | 9.6    | 8.6    | 12.2   | 47.1                       |
| Other                             | 8.5               | 14.0   | 18.0   | 9.4    | 5.8    | 6.5    | 53.6                       |
| Production facilities             | 38.1              | 24.7   | 23.8   | 19.1   | 14.4   | 18.7   | 100.8                      |
| Trunk line investment             | 28.4              | 10.9   | 19.7   | 20.3   | 23.9   | 19.4   | 94.2                       |
| Other                             | 77.0              | 89.4   | 87.4   | 87.8   | 84.9   | 81.9   | 431.3                      |
| Supply facilities                 | 105.5             | 100.2  | 107.1  | 108.1  | 108.8  | 101.3  | 525.4                      |
| Business facilities               | 38.3              | 50.0   | 75.3   | 63.3   | 34.8   | 22.6   | 246.0                      |
| Gas supply business<br>Facilities | 182.0             | 175.0  | 206.2  | 190.4  | 157.9  | 142.6  | 872.2                      |
| Incidental business facilities    | 1.1               | 2.0    | 1.8    | 1.5    | 1.9    | 0.6    | 7.8                        |
| Total                             | 183.0             | 177.0  | 208.0  | 191.9  | 159.8  | 143.2  | 880.0                      |

