

# **Main Policies FY2015-2017 toward Realizing “Challenge 2020 Vision”**

～ Evolve the Total Energy Business, Accelerate Global Business Development ～

October 16, 2014 (Thursday)



1. Introduction
2. Efforts to Date (Review of FY2012-2014)
3. Main Policies FY2015-2017 toward Realizing “Challenge 2020 Vision”
  - (1) Evolve the Total Energy Business
  - (2) Accelerate Global Business Development
  - (3) Construct a New Group Formation

# 1. Introduction

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- ◆ In November 2011 Tokyo Gas announced “Challenge 2020 Vision” – the Group’s management vision through the year 2020 to contribute to achieving a prosperous, fulfilling way of life, competitive domestic industries and an environment -friendly society where people can live with peace of mind.

## “Challenge 2020 Vision” Main Points

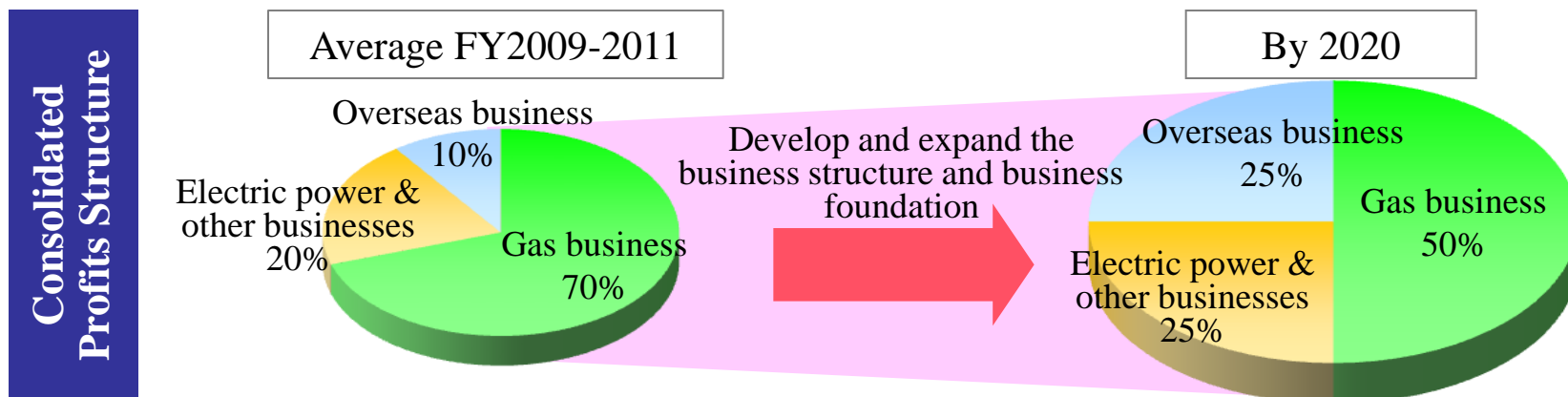
Further enhance the “value” of the LNG value chain by developing and expanding the business structure and business foundation, return value to customers and shareholders, and broadly contribute to society.

### <Business Structure>

In addition to deepening the core city gas business, establish the electric power business, engineering business, wide-area gas business and other businesses that can become second and third pillars, and become a total energy corporate group.

### <Business Foundation>

While retaining the Tokyo metropolitan area as our base, develop business nationwide and overseas, and become a global corporate group.



# 1. Introduction

- ◆ Grasping “Challenge 2020 Vision” as a hop (FY2012-2014), a step (FY2015-2017) and a jump (FY2018-2020), during the hop stage we have smoothly made the first step by implementing various initiatives in each field of raw materials procurement, overseas business, upgrading and expanding infrastructure, and energy solutions.
- ◆ As for the business environment, the economy is on a gradual recovery trend and the directions of the electricity and gas system reforms are becoming clear. Regardless, fluid and unclear conditions are expected for the time being including uncertainties regarding the setting of the energy mix and the future shape of electric power supply in the Tokyo metropolitan area.
- ◆ Consequently in the step stage we will boldly and swiftly embrace the challenge of making the path to realize “Challenge 2020 Vision” by advancing the three main policies “evolve the total energy business,” “accelerate global business development,” and “construct a new group formation.”

## **2. Efforts to Date**

(Review of FY2012-2014)

### **(1) Diversification and Expansion of Raw Materials Procurement and Overseas Business**

#### 1) Participation in U.S. Cove Point LNG Project

- Contracted for purchase of 1.4 million tons per year of LNG in April 2013.
- Gained participation in the natural gas liquefaction and LNG sales business in February 2014.
- Received approvals from the U.S. Government in September 2013 for exports to non-FTA countries, and in September 2014 for beginning construction.

#### 2) Contracted for purchase of approximately 0.52 million tons per year of LNG from the U.S. Cameron LNG Project in July 2014.

#### 3) Signed a Memorandum of Understanding with PetroVietnam Gas in March 2012 regarding cooperation in the development of the LNG value chain in Vietnam.

#### 4) Signed a Memorandum of Understanding with Korea Gas Corporation in September 2014 regarding optimization of LNG inventory and joint LNG procurement, and joint investment in upstream businesses.

#### 5) Joined a shale gas development joint venture in the U.S. Barnett Basin in April 2013.

#### 6) Entered the energy service business in Brazil in November 2012, and established an energy services business company in Malaysia in February 2014.

### (2) Safe and Stable Energy Supply

#### 1) Infrastructure Improvements to Respond to Demand Increases and Boost Supply Stability

##### <North Kanto Area>

- Began construction of Hitachi LNG Terminal (to commence Mar. 2016), July 2012
- Began construction of Saito Line (to commence Oct. 2015), November 2011
- Began construction of the Ibaraki-Tochigi Line (to commence Mar. 2016), January 2012
- Completed construction of the Kashima Waterfront Line, began supply to Tokyo Electric Power Company Kashima Thermal Power Station, June 2012
- Began construction of the Koga-Moka Line (to commence Mar. 2018), January 2014

##### <Bay Area>

- Began use of Ohgishima LNG Terminal No. 4 LNG Tank, November 2013
- Began use of Yokohama Line II, and began use of new Negishi Line in October of the same year, August 2013

#### 2) Preparedness for Earthquake and other Disasters

- To minimize disaster prevention blocks when an earthquake occurs, the number of low-pressure pipeline blocks was subdivided into 207 blocks\*, May 2014  
\*The number was 140-block in 2011.
- Concluded an agreement with Shizuoka Gas Company Ltd. and INPEX Corporation for the reciprocal backup of natural gas in an emergency, June 2012

Note: Dates inside parentheses are scheduled dates.



## 2. Efforts to Date

### (3) Provision of Energy Solutions that Meet Customer Needs

- 1) Release of world's first ENE-FARM residential fuel cell system for housing complexes in April 2014
- 2) Construction of a Smart Energy Network
  - Verified energy conservation and electricity conservation effect by introducing HEMS and demand response at the Isogo Smart House, June 2014
  - Began construction of a smart energy center in the Tamachi Station District (supply to begin in Nov. 2014), June 2012
  - Began construction of a smart energy center in the Toyosu pier district (supply to begin in Mar. 2016), July 2014
- 3) Expansion of the Electric Power Business
  - Began construction of Ohgishima Power Station Unit 3 (supply to begin in Feb.2016), June 2013
  - Signed an agreement with Kobe Steel, Ltd. on electric power supply from the Shinko Moka Power Plant (supply to begin in FY2019), September 2014
- 4) Nationwide Development of LNG Supply
  - Began LNG supply to Hokkaido Gas Co., Ltd. via ocean liners, October 2012
  - Concluded an agreement regarding the sale and purchase of LNG with Saibu Gas Co., Ltd. (supply to begin in Oct. 2014), March 2012
  - Began construction of the Onahama Satellite Terminal toward supply to meet industrial demand in Iwaki City, Fukushima Prefecture (supply to begin in Jan. 2016), September 2014

### **3. Main Policies FY2015-2017 toward Realizing “Challenge 2020 Vision”**

- (1) Evolve the Total Energy Business
- (2) Accelerate Global Business Development
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# 3. Main Policies FY2015-2017 toward Realizing “Challenge 2020 Vision”

## (1) Evolve the Total Energy Business

### 1) Further Diversity Raw Materials Procurement

- Further advance diversification of procurement sources, price indices and destinations, and flexibly form alliances not only with domestic companies but also with Korea Gas Corporation and other diverse foreign players, depending on the contract conditions and trading timing, for joint procurement, optimization, and sales of LNG.
- Contribute to eliminating the Asia premium through procurement of LNG indexed to U.S. natural gas market prices and other efforts.

### 2) Improve Infrastructure toward Spreading and Expanding Natural Gas

- Advance the construction of the Hitachi LNG Terminal LNG Storage Tank No. 2 toward completion by 2020.
- Advance construction of the Hitachi-Kashima Line toward completion by 2020.
- Advance more detailed studies including demand trends and route selection toward construction of the Hitachi-Onahama Line by the 2020s.

### 3) Safe and Stable Supply

- Aim at zero major accidents and realize an earthquake resistance ratio of 90% by the mid-2020s by accelerating measures for aged gas pipes and taking other measures.
- Completely introduce new remote systems by FY2018 for everything from confirming the soundness of gas pipes when an earthquake strikes to resumption of supply, and achieve same-day resumption of services to supply suspension blocks when there are no damages.
- Boost supply continuity by FY2016 by further subdividing blocks and making gas pipes earthquake resistant in Nagatacho, Kasumigaseki, Otemachi and other areas where the core metropolitan, political, government and/or economic functions are located.

# 3. Main Policies FY2015-2017 toward Realizing “Challenge 2020 Vision”

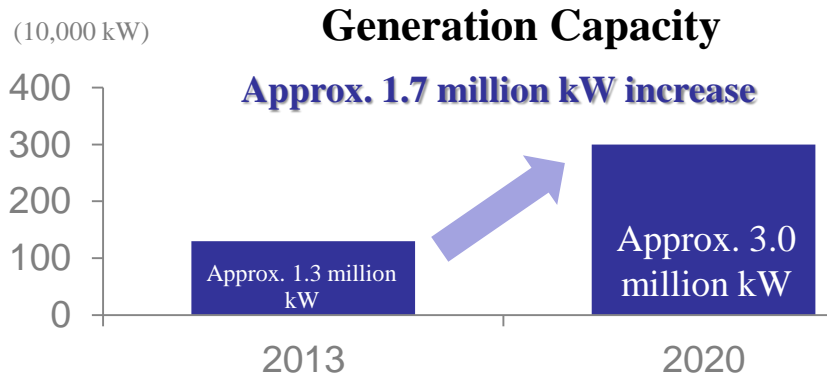
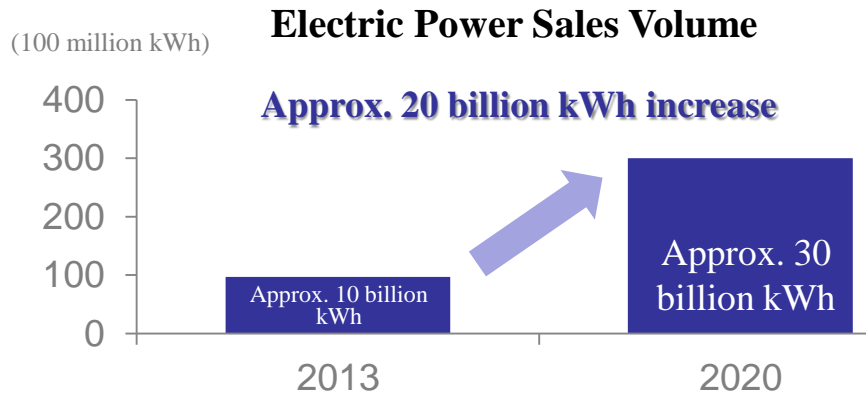
## (1) Evolve the Total Energy Business

### 4) Expand Electric Power Sales

- With the complete liberalization of retail electric power in 2016, in addition to the wholesale and large-lot customers to date, deliver electricity to residential and commercial customers and **expand sales to around 30 billion kWh (about 10% of Tokyo metropolitan area demand) by 2020.**

### 5) Increase Competitive Generation Capacity

- **Expand** the generation capacity from the present approximately 1.3 million kW (company equity) to **around 3.0 million kW by 2020.**
- Aim at **building a more competitive power source portfolio, including base load supply sources, in addition to natural gas thermal power.**



### 3. Main Policies FY2015-2017 toward Realizing “Challenge 2020 Vision”

#### (1) Evolve the Total Energy Business

##### 6) Optimal Energy Solutions Combining Gas, Electricity and Value Added

###### <Best Mix of Energy>

- Deliver the **best mix of gas and electricity**.

###### <Creation of Value Added>

- **Boost and create value added** with energy systems, engineering, maintenance and other services **through partnerships between the Tokyo Gas Group and companies in diverse industries** such as housing, construction, facilities, communications and information services.

###### <Proposals in Line with Customers Needs>

- Make use of close ties to communities to propose comfortable means of use, energy conservation, CO<sub>2</sub> reductions, cost savings and other **energy solutions in line with customer needs** during all opportunities for customer communications.

###### <Advance Introduction of Smart Energy>

- **Conduct testing and technology development over the next three years to begin installation from 2018 toward introducing smart meters to all buildings**, In addition to improving operations efficiency, boost convenience through two-way communications and aim at refined energy solutions utilizing measurement data and customer comments.
- **Advancing a smart lifestyle** which achieves both comfort and environmental performance by proposing ENE-FARM, HEMS, other equipment and/or services.
- **Contribute** to continued electricity and heat supply during emergencies and to **urban development** achieving energy conservation and CO<sub>2</sub> reductions **through proposals for constructing smart energy networks** using independent and decentralized energy power sources such as cogeneration and other systems.

# 3. Main Policies FY2015-2017 toward Realizing “Challenge 2020 Vision”

## (2) Accelerate Global Business Development

### 1) Develop Upstream Businesses

- In addition to securing upstream participation together with the procurement of LNG as in the past, further develop upstream business in North America and elsewhere without procurement, participate in small and medium-scale LNG projects, and otherwise work toward **diversification of participation** formats aimed at further expansion.

### 2) Develop Midstream and Downstream Businesses

- Make use of the Tokyo Gas Group’s total energy business technology and know-how to **intensively develop businesses in specific areas of Southeast Asia and North America**.
- Specifically, contribute to the provision of energy solutions to customers developing business overseas and to building local energy infrastructure.
- In addition, make use of domestic total energy business technology and know-how to take on the challenge of developing the value chain in foreign countries through alliances with local energy companies and other entities.

### 3) Upgrade Overseas Base Functions

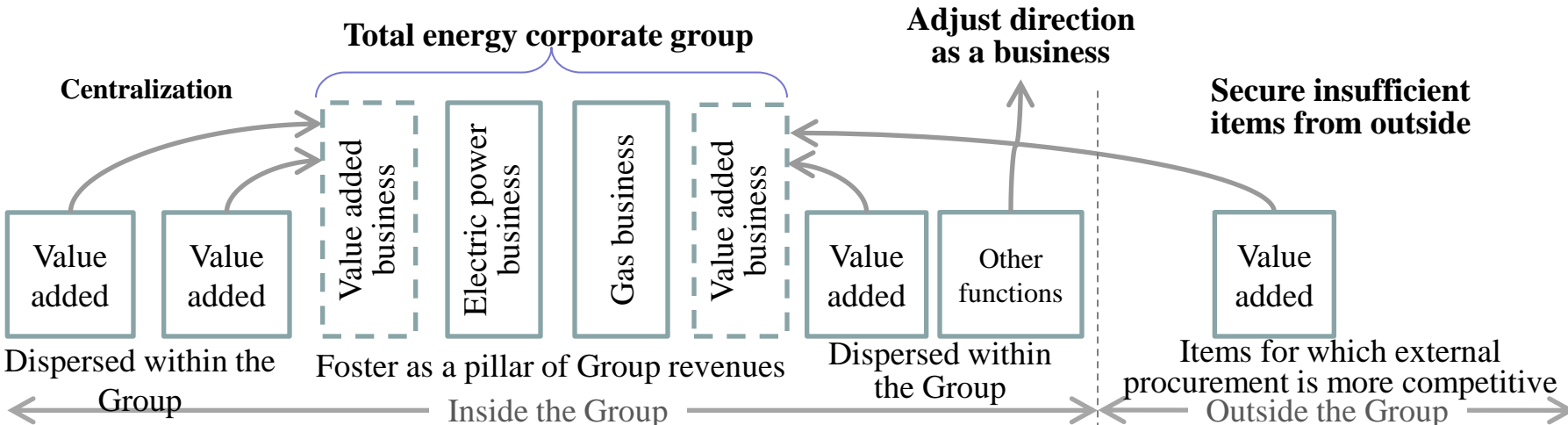
- **Establish new overseas bases and expand and reinforce existing overseas bases** through alliances with local business partners to form projects and advance business ourselves, increase the number of business development personnel to around 200 (compared with the present approx. 100) over the next three years, and otherwise examine upgrading overseas base functions.

# 3. Main Policies FY2015-2017 toward Realizing “Challenge 2020 Vision”

## (3) Construct a New Group Formation

### 1) Way of Thinking

- To realize “evolve the total energy business,” further expand the electric power business, and foster and strengthen businesses that will become value added.
- Businesses that will become value added are dispersed throughout the Group centered on affiliated companies. While advancing centralization of the necessary management resources of personnel, technology and know-how, advance examinations toward expanding scale and range such as acquiring insufficient items for the electric power and other businesses from outside via alliances.
- Meanwhile, adjust the business direction of functions that are difficult to develop within the Group toward strengthening the Group via centralization of management resources and functions which can be expected to grow through external alliances.
- Foster businesses that can become a pillar of Group revenues through selection and concentration of businesses, and construct a new group formation to accelerate global development.



# 3. Main Policies FY2015-2017 toward Realizing “Challenge 2020 Vision”

## (3) Construct a New Group Formation

### 2) Direction

#### <Engineering Business>

- Examine the centralization of all technology and know-how from energy infrastructure construction to maintenance and energy services in the engineering business, which provides important value added in the total energy business and is a Group strength.
- Realize a capital increase and an expansion and strengthening of the range of businesses, and serve as a leading force for global business development in midstream and downstream fields.
- Also, to contribute to the spread and expansion of natural gas through LNG lorry supply, examine how to rearrange and further strengthen the management resources and LNG facilities construction functions of affiliated companies.

Tokyo Gas Engineering, Energy Advance, Tokyo Gas Chemicals, Capty



# 3. Main Policies FY2015-2017 toward Realizing “Challenge 2020 Vision”

## (3) Construct a New Group Formation

### 2) Direction

#### <City Gas Business>

- Examine **incorporation of city gas companies around the Tokyo metropolitan area into the parent company** to realize more efficient business operations, improved services and energy solutions combining gas with electricity.

Chiba Gas, Tsukuba Gakuen Gas, Miho Gas

#### <Wide-area Gas Business>

- In addition to city gas and LNG, to expand the service area and scale of the wide-area gas business including propane gas and industry gas, which is one value added factor, **strengthen ties with affiliated companies and examine the direction as a business.**

Tokyo Gas Energy, Tokyo Gas Chemicals, Tokyo Gas Yamanashi, Nagano Toshi Gas

#### <Gas Appliances Business (manufacturing, distribution, sales, installation, installation management, maintenance)>

- To increase the compound value of the energy provided to customers and gas equipment, home installation and maintenance services, examine **selection and concentration of the functions and businesses of the affiliated companies responsible.**

Gastar, Tokyo Gas Remodeling, Tosez, Tokyokiko, Tokyo Gas Telemarketing, Tokyo Gas Lease, Living Design Center, Urban Communications

# 3. Main Policies FY2015-2017 toward Realizing “Challenge 2020 Vision”

## (3) Construct a New Group Formation

### 2) Direction

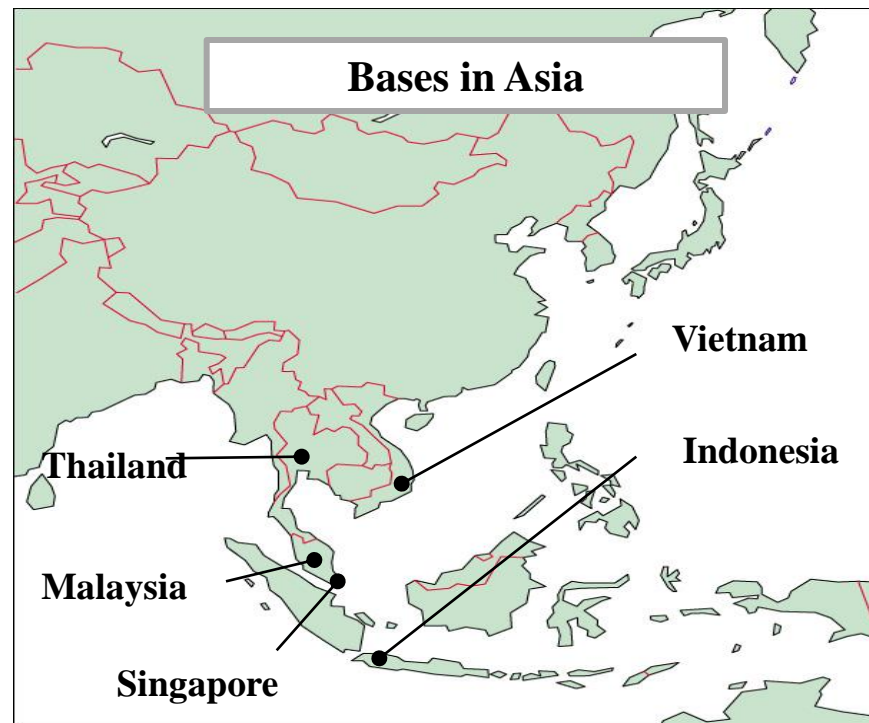
#### <Business Development Overseas>

- Examine **reinforcing overseas bases and personnel** to develop businesses and strengthen administration overseas.

Jan. 2015: Establish Asia management base in Singapore

Within 2015: Establish bases in Vietnam, Thailand and Indonesia

Expand existing bases in Malaysia, North America and Australia



# 3. Main Policies FY2015-2017 toward Realizing “Challenge 2020 Vision”

## (3) Construct a New Group Formation

### 2) Direction

#### <Real Estate Business>

- Considering the redevelopment in the metropolitan area toward the 2020 Tokyo Olympics and Paralympics and other market trends, the business growth potential, and the synergy with the total energy business, examine the **reorganization and integration of real estate affiliates** to achieve nimble business development.

Tokyo Gas Urban Development, Tokyo Gas Site Development, Tokyo Gas Facility Service

#### <Support Functions for Businesses inside the Group>

- Consider **reorganizing and arranging functions** from the perspective of strengthening competitiveness considering the future development and growth potential within the Group.

### 3) Preparation of Management Systems

- **Have a dedicated unit set** and examine **the direction of management systems** that can effectively manifest the Group’s comprehensive strengths under the new Group formation and of **personnel systems** under which each employee can enthusiastically do his or her work.

