



The Tokyo Gas Group's Vision for Energy and the Future
— Challenge 2020 Vision —

- 1. For Energy and the Future**
- 2. The Tokyo Gas Group's Vision**
- 3. Enhancing the LNG Value Chain**
- 4. Action Plan to enhance the LNG Value Chain**
 - (1) Strive to reduce raw materials prices and expand overseas operations.**
 - (2) Deliver a safe and stable supply of energy.**
 - (3) Provide energy solutions adapted to a variety of needs.**
 - (4) Pursue technical development and IT utilization with a focus on the future.**
 - (5) Realize a leaner, stronger business structure.**
- 5. Challenge performance indicators for the year 2020**

1. For Energy and the Future



What is required of energy today

The Great East Japan Earthquake of March 11 has brought sweeping change to Japan. In particular, the resulting nuclear power plant disaster and power supply shortages have once again called into question the nature of energy supply, and it has become necessary to steadily address the following issues.

■ Enhancement of the energy security that supports safe and secure living

- Take all possible measures to further strengthen energy security, including earthquake and tsunami preparedness, power failure protection, and security assurance.

■ Energy cost reduction to support the rapid reconstruction and sustained growth of Japan

- Reduce energy costs to eliminate concern about the hollowing out of industry, deceleration of economic growth, and job loss due to factors including the strong yen, power shortages, and rising energy costs.

■ Energy system innovation to support energy conservation and CO2 emissions reduction

- Engage in energy system innovation, including acceleration of the shift to natural gas and the spread and promotion of distributed energy systems since Japan will be unable to rely heavily on nuclear power generation.



• The Tokyo Gas Group has long played a key role in energy supply in Japan, with a focus on the Tokyo metropolitan area.

• For energy and the future, we will rise to the challenge posed by these new energy issues.

1. For Energy and the Future



The Tokyo Gas Group's vision for ten years into the future

- The Tokyo Gas Group seeks to contribute to solving various energy-related issues through initiatives designed to **enhance the LNG Value Chain**.
- In view of the current adverse energy situation, it will be of crucial importance to address these issues with a sense of urgency from now until 2020.
- For more than 40 years since pioneering the introduction of LNG in Japan in 1969, we have striven to establish and strengthen the LNG value chain and disseminate and expand the use of natural gas as an LNG pioneer and top runner in the field of natural gas.
- We have renewed our commitment to be of service to our customers by further honing the technologies and expertise in LNG and natural gas we have cultivated over the years.

The Tokyo Gas Group will satisfy the needs of customers, society, and the times and strive to realize a prosperous, fulfilling way of life, competitive domestic industries, and an environment-friendly society where people can live in peace of mind. We will remain keenly aware of our corporate social responsibility and pursue sustained growth for the Group by engaging in transparent, fair management while aiming for harmonious coexistence with local communities.

2. The Tokyo Gas Group's Vision

What is required of energy

Enhancement of energy security

Energy cost reduction

Innovation of energy systems

What is required of companies

- Strengthening of governance
- Rigorous compliance
- Enhancement of risk management

Enhancing the LNG Value Chain

(1) Strive to reduce raw materials prices and expand overseas operations.

(2) Deliver a safe and stable supply of energy.

(3) Provide energy solutions adapted to a variety of needs.

(4) Pursue technical development and IT utilization with a focus on the future.

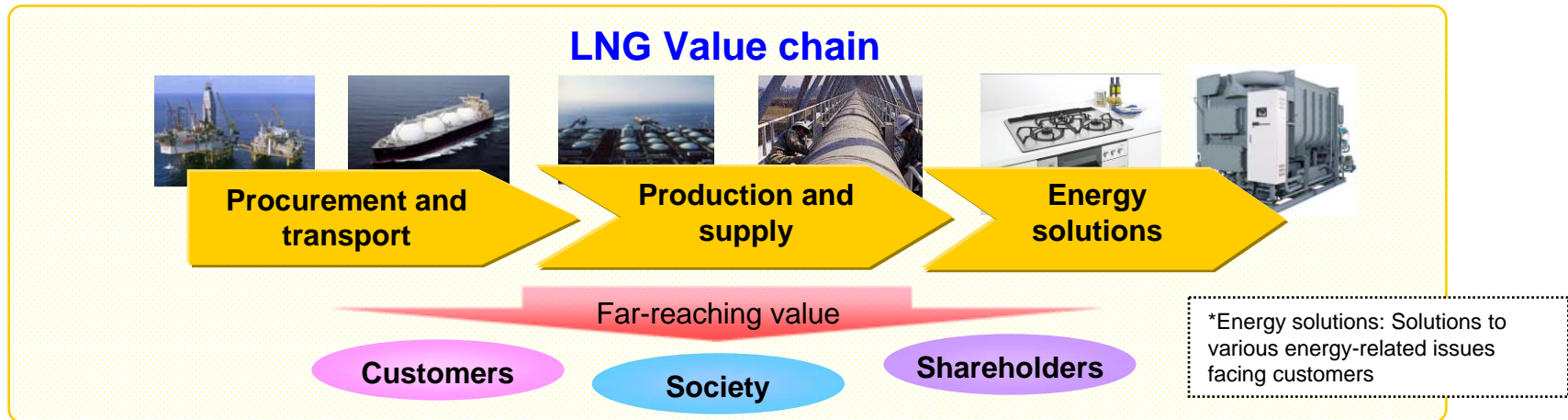
(5) Realize a leaner, stronger business structure.

3. Enhancing the LNG Value Chain



What is the LNG value chain?

- The Tokyo Gas Group engages in a chain of business activities that extends from LNG procurement to transport, the production and supply of city gas, and the provision of energy solutions.
- The **value of LNG** is maximized through balanced overall operation as these business activities interconnect.
- The Tokyo Gas group has worked for many years to establish and reinforce this value chain and deliver the resulting value to stakeholders.



Far-Reaching Value

Customers: prosperity and fulfillment, convenience, economic efficiency, energy conservation, CO2 emissions reduction

Society: Supply stability, environmental performance, contribution to economic growth, safety and peace of mind

Shareholders: Corporate value enhancement

3. Enhancing the LNG Value Chain



What does 'enhancing the LNG value chain' involve ?

• The Tokyo Gas Group aims to **enhance the LNG Value Chain** by engaging in the following activities:

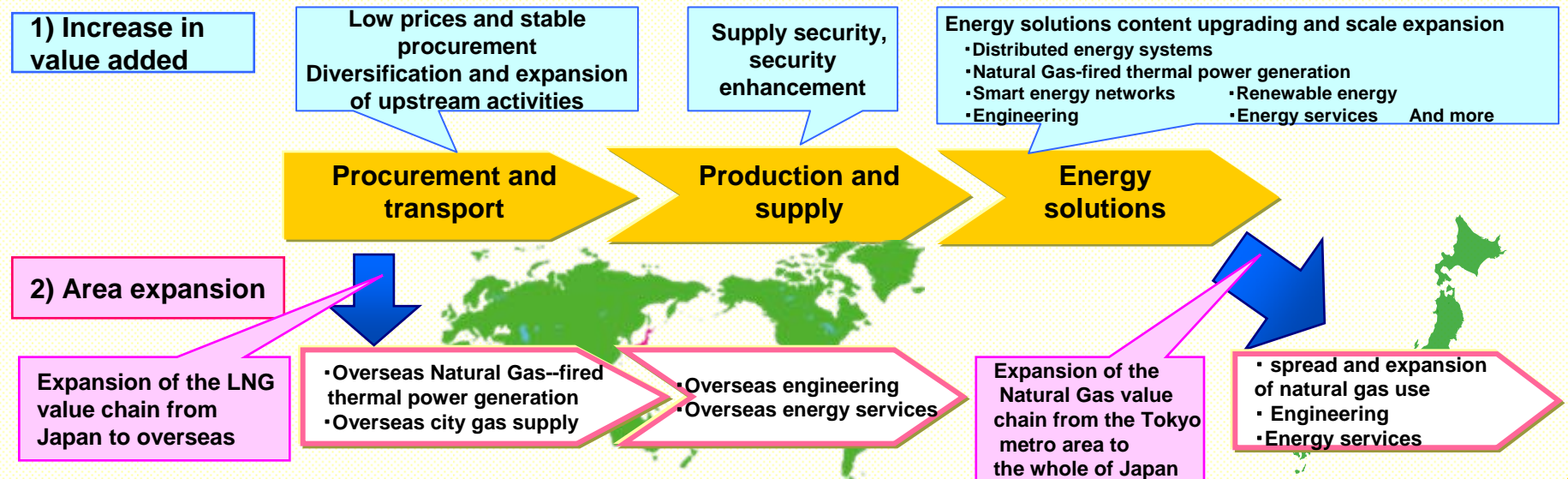
(1) Enhancement of added value delivered through the LNG value chain

Seek to enhance value in line with business needs and increase value added.

(2) Expansion of the areas covered by the LNG value chain

Expand each business area and strive to create new value.

Diagram Showing Steps Involved in Enhancing the LNG Value Chain



4. Action Plan to Enhance the LNG Value Chain

(1) Strive to reduce raw materials prices and expand overseas operations

- 1) Diversify and expand raw materials procurement and overseas upstream projects
- 2) Construct an overseas LNG value chain
- 3) Pursue overseas expansion of energy services and engineering

(2) Deliver a safe and stable supply of energy

- 1) Strengthen resistance to disaster and ensure safe supply
- 2) Upgrade and expand optimal infrastructure in step with the spread and expansion of natural gas use.

(3) Provide energy solutions adapted to a variety of needs

- 1) Promote the spread and expansion of distributed energy systems
- 2) Promote the spread and expand gas equipment that contributes to peak saving, energy conservation, and CO2 emissions reduction
- 3) Build a “smart energy society” that uses energy wisely
- 4) Expand the electric power business (Natural Gas-fired thermal power generation)
- 5) Implement renewable energy initiatives
- 6) Promote advanced utilization of natural gas and fuel conversion
- 7) Promote the spread and expansion of natural gas use and nationwide development of energy services

(4) Pursue technical development and IT utilization with a focus on the future

- 1) Develop technology for energy and the future
- 2) Use IT to enable closer communication with customers

(5) Realize a leaner, stronger business structure.

4 (1) Strive to reduce raw materials prices and expand overseas operations.



1) Diversify and expand raw materials procurement and overseas upstream projects.

• In addition to procurement from existing large-scale LNG projects and interests acquisition, seek **further diversification and expansion of supply sources and overseas upstream projects and lower raw materials prices** (the realization of appropriate Asian market prices*) through involvement in unconventional gas and small- and medium-scale LNG projects.

* In East Asia, a region poor in pipeline gas and domestically produced gas, alternatives to LNG, it is possible that LNG prices will remain higher than in the U.S. and Europe.

Details of Involvement

- Procure from diverse sources including unconventional gas (CBM, shale gas) and upstream project participation
- Procure from small- and medium-scale LNG projects, floating LNG, and other new concept projects
- Pursuit of joint procurement with other companies as necessary
- Upgrade the LNG tanker fleet in step with increases in procurement volume



Darwin LNG Project
(Bayu-Undan Gas Field)



Queensland Curtis LNG Project
(CBM Processing Plant)



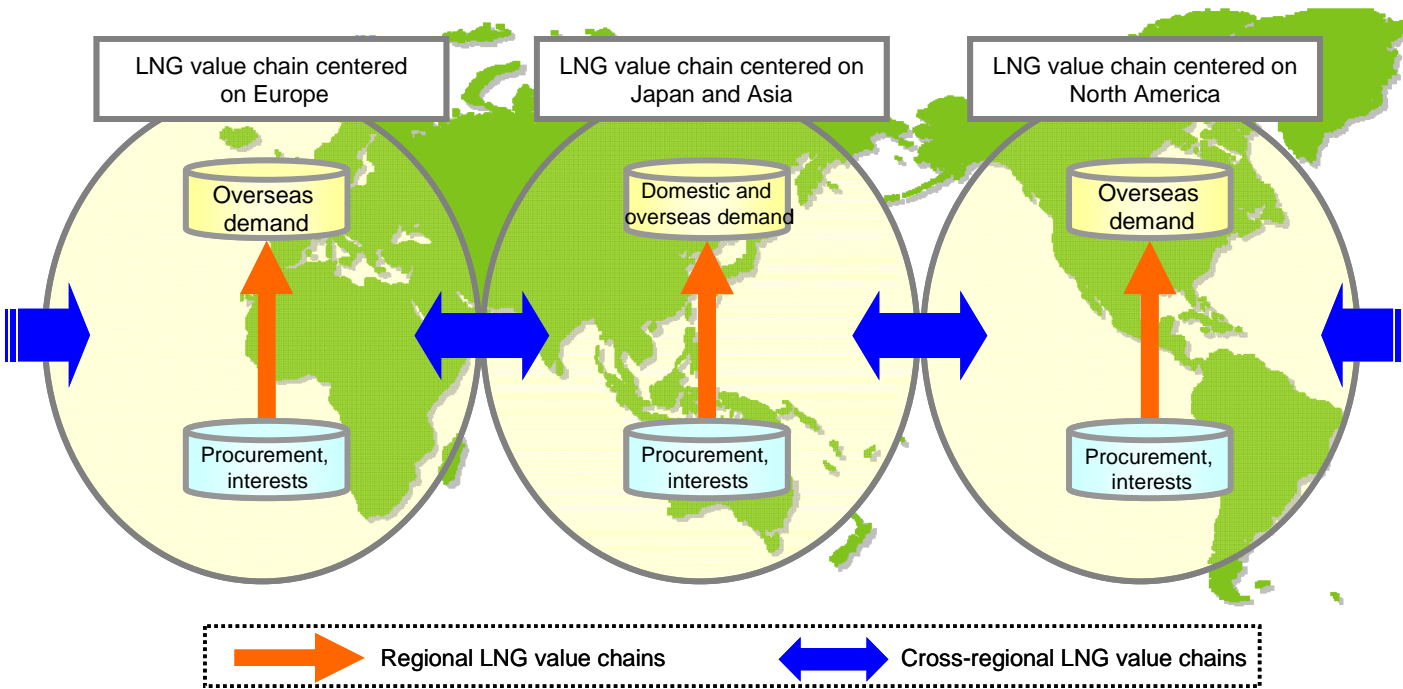
Energy Horizon

4 (1) Strive to reduce raw materials prices and expand overseas operations.



2) Construct an overseas LNG value chain.

- Construct an overseas LNG value chain and expand the overseas Natural Gas-fired thermal power generation business and gas supply business. By doing this, contribute to the supply of energy in overseas countries and secure flexible supply of raw materials for Japan, leading to earnings increases for the Group.
- Construct an LNG value chain in each region in which Tokyo Gas operates, and seek to engage in value chain activities across regions.



Bajío (power project in Mexico)



MT Falcon (power project in Mexico)

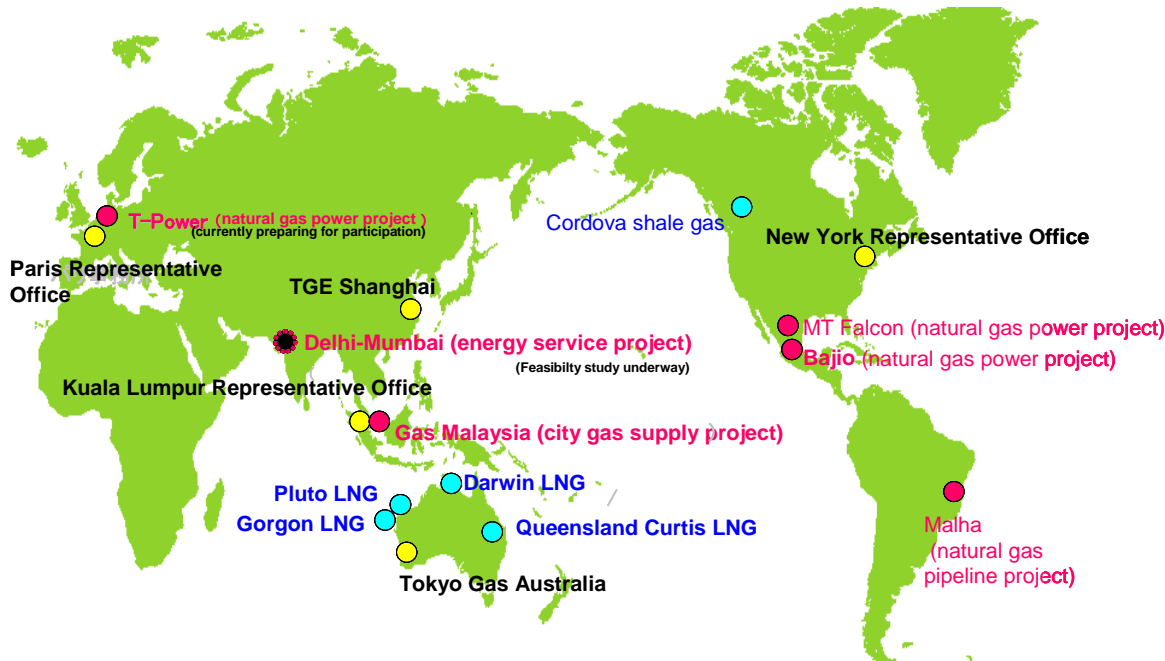


4 (1) Strive to reduce raw materials prices and expand overseas operations.



3) Pursue overseas expansion of energy services and engineering.

- Focusing on natural gas, pursue overseas expansion of the energy services and engineering businesses, which leverage the Group's strengths.
- Also, with a view to Japan's new growth strategy (overseas infrastructure development), seek to participate in LNG and natural gas infrastructure development projects in developing countries that hold promise for robust economic growth and where many Japanese companies set up operations.
- Through these activities, meet needs for infrastructure development, energy conservation, and CO2 emissions reduction in developing countries and the energy-related needs of Japanese companies doing business overseas.



Markets Targeted for Overseas Business Expansion

- 1) Markets where natural gas use will increase
- 2) Markets with prospects for growth in energy conservation and environmental businesses, distributed energy systems, and smart energy businesses
- 3) Markets connected with support for Japanese companies

- ※ Current Overseas Projects and Tokyo Gas Group Overseas Business Sites
- Overseas representative office
- Upstream project
- Midstream or downstream project

4 (2) Deliver a safe and stable supply of energy.



1) Strengthen resistance to disaster and ensure safe supply.

Preparedness for Earthquakes, Tsunamis, and Other Disasters

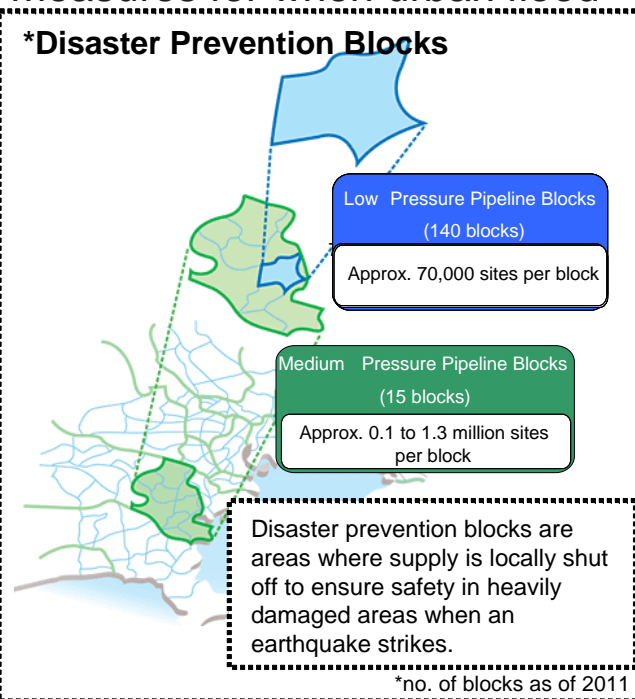
- Ensure greater speed in gas restoration when an earthquake occurs.
(Aim for **restoration within 30 days except for badly damaged areas** (assuming an earthquake directly beneath an urban area on the scale of the Great Hanshin-Awaji Earthquake)) *Current situation: restoration within 55 days
- Taking into account the Great East Japan Earthquake, increase earthquake and tsunami preparedness of gas supply equipment (seawall liquefaction countermeasures, subdivision of disaster prevention blocks*, etc.) and implement flood control measures for when urban flood damage (such as localized torrential rain) occurs.

Power Failure Protection

- Reinforce power failure protection at terminals, such as **upgrading of private power generation facilities.**

Security Measures

- Reinforce measures to ensure security, such as measures for aging main and branch pipes and other facilities and improve security of energy-consuming equipment.

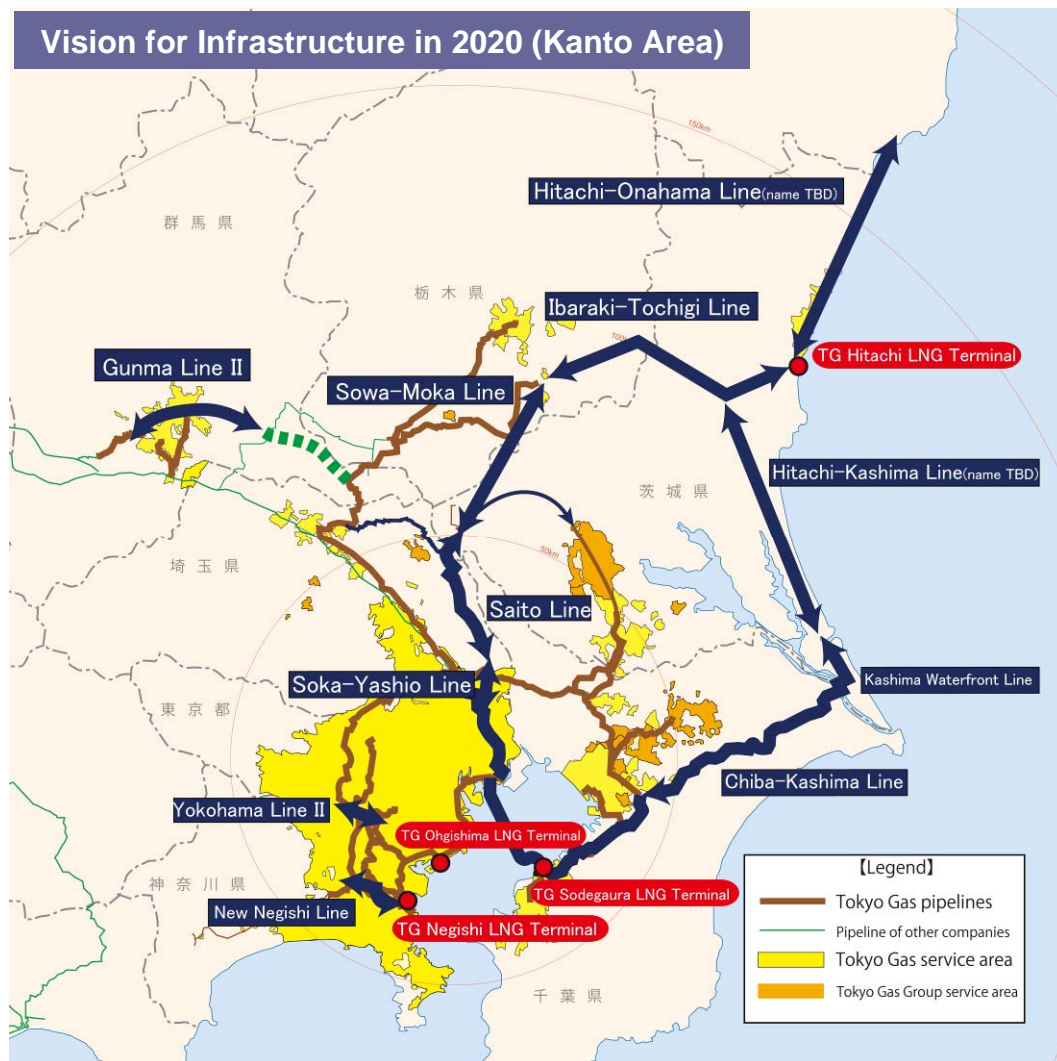


4 (2) Deliver a safe, stable supply of energy.



2) Upgrade and expand optimal infrastructure in step with the spread and expansion of natural gas use. (Part 1)

- Construction of the Hitachi LNG Terminal and linkage of the new terminal with the three terminals in Tokyo Bay will increase **the stability of the overall supply infrastructure.**
- In addition to constructing production and supply infrastructure to cope with increases in gas demand, **contribute to enhancement of energy security for the entire Kanto region** by creating a loop for trunk lines, etc.



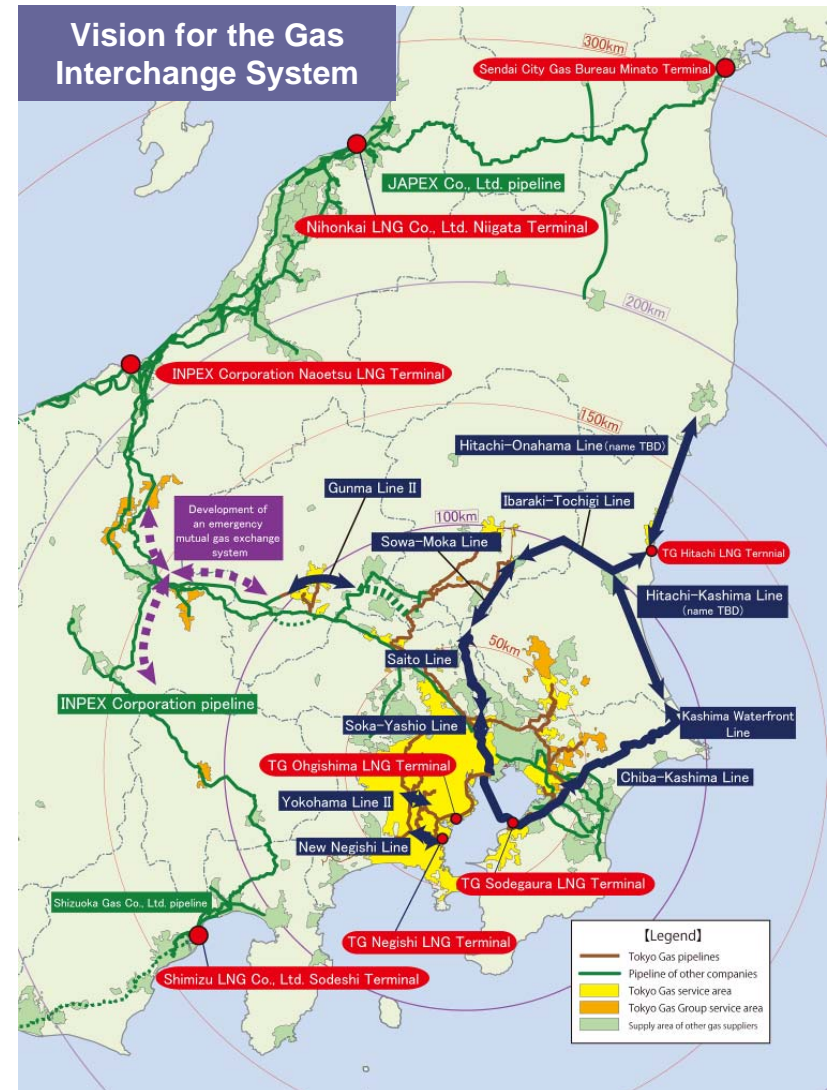
4 (2) Deliver a safe, stable supply of energy



2) Upgrade and expand optimal infrastructure in step with the spread and expansion of natural gas use. (Part 2)

• By developing a system for gas interchange during times of emergency by means of pipeline linkage, further strengthen the natural gas supply network in eastern Japan while also developing, upgrading, and expanding the company's infrastructure.

• Utilize the Hitachi LNG Terminal to strengthen the lorry supply system. At the same time, strengthen the small and large tanker domestic LNG supply system.



4 (3) Provide energy solutions adapted to a variety of needs.

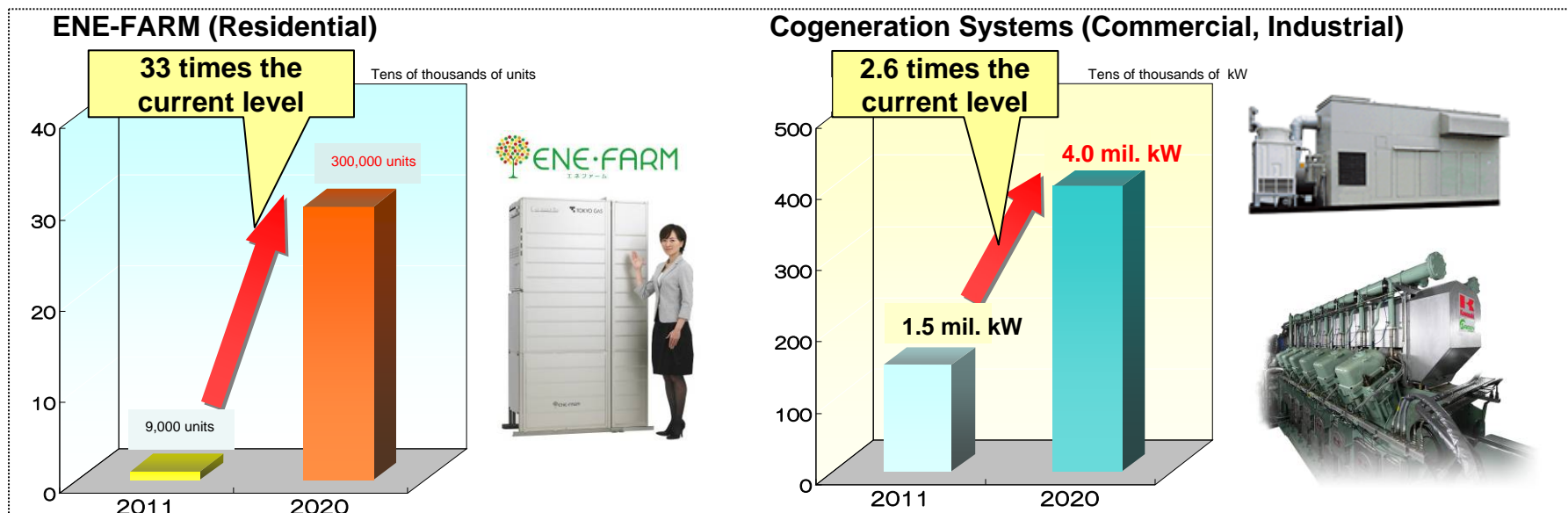


1) Promote the spread and expansion of distributed energy systems.

- Spread and expand the use of distributed energy systems (residential fuel cell ENE-FARM and cogeneration systems) that can enhance energy security and contribute to peak saving, energy conservation, and CO2 emissions reduction.
- Achieve technical development (efficiency enhancement, increased durability, etc.) and cost reduction to ensure spread and expansion.
- Implement a power outage response for ENE-FARM and cogeneration systems.

2020 Stock

- **ENE-FARM: 300,000 units** (33 times the 2011 level)
- **Cogeneration systems: 4.0 million kW** (2.6 times the 2011 level)



4 (3) Provide energy solutions adapted to a variety of needs.



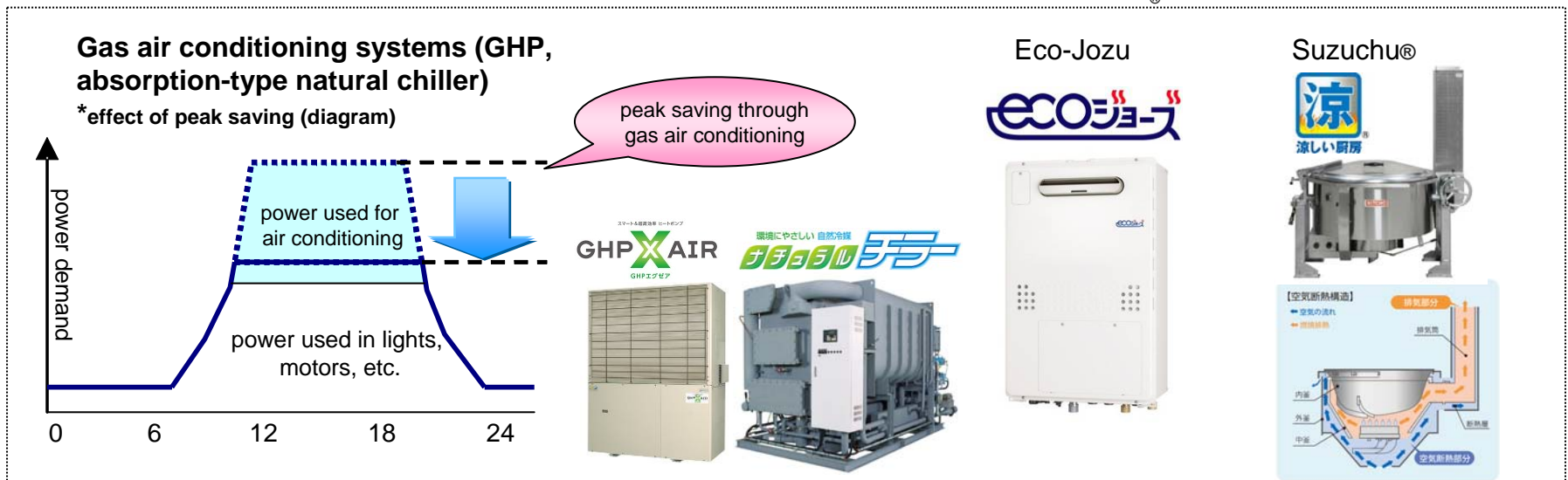
2) Promote the spread and expansion of gas equipment that contributes to peak saving, energy conservation, and CO2 emissions reduction.

• To contribute to peak saving, energy conservation, and CO2 emissions reduction, diffuse and expand the use of gas air conditioning systems (GHP, absorption-type natural chiller), commercial kitchen equipment (Suzuchu®, etc.), high-efficiency water heaters (Eco-Jozu), and gas floor heating systems.

2020 Stock

- **Gas air conditioning systems:** 5.7 million RT (1.4 times the 2011 level)
- **Suzuchu®:** 100,000 units (7.4 times the 2011 level)
- **Eco-Jozu:** 2.8 million units* (4.5 times the 2011 level) *Including ENE-FARM systems
- **Floor heating systems:** 1.3 million sites (1.6 times the 2011 level)

Suzuchu®: Cool kitchen for commercial use



4 (3) Provide energy solutions adapted to a variety of needs.

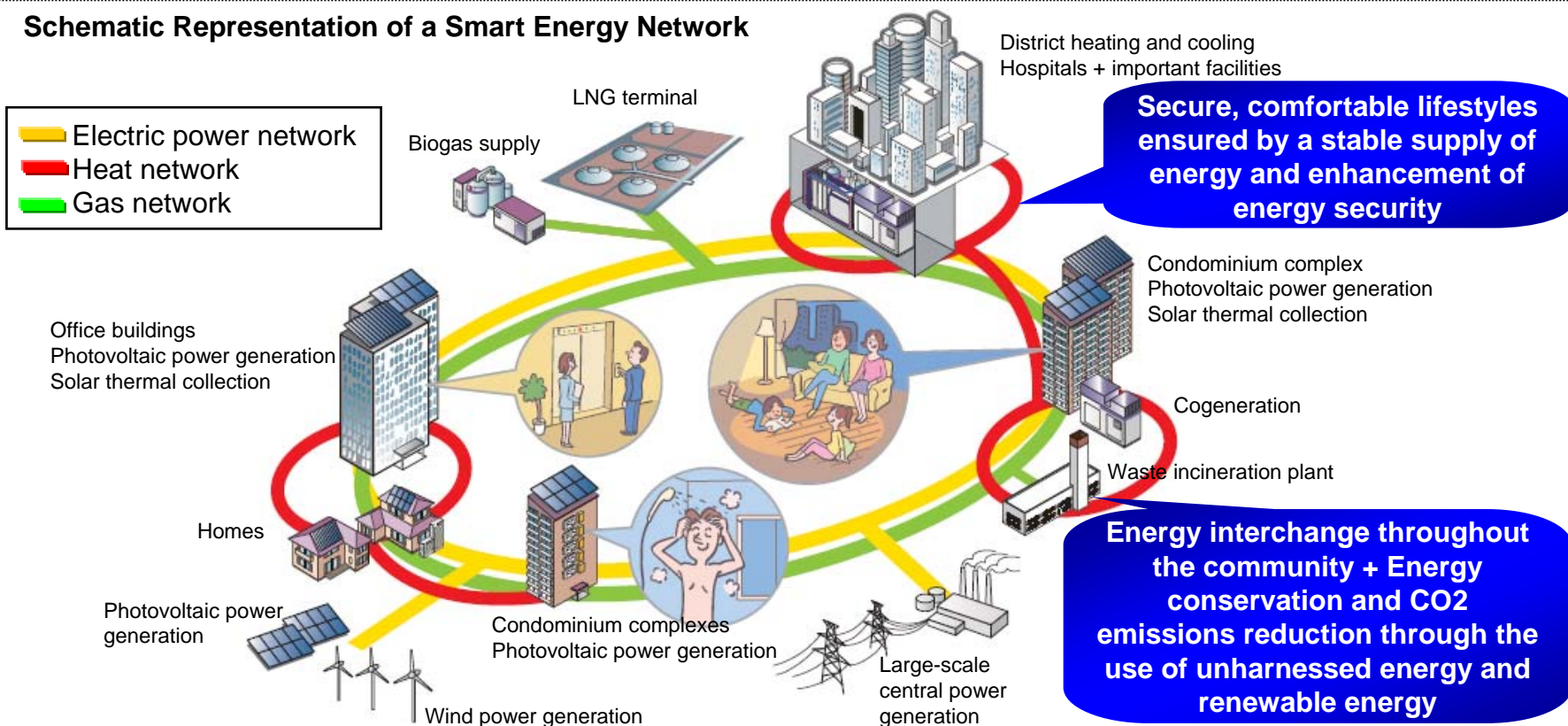


3) Build a “smart energy society” that uses energy wisely. (Part 1)

Bringing Smart Energy to Communities and Buildings (Construction of a Smart Energy Network)

• Through urban redevelopment and support for reconstruction of the Tohoku Region, implement **smart energy networks** that can contribute to energy conservation, CO2 emissions reduction, and the stable supply of energy by enabling optimal use of energy throughout entire communities through **heat networking**.

Schematic Representation of a Smart Energy Network

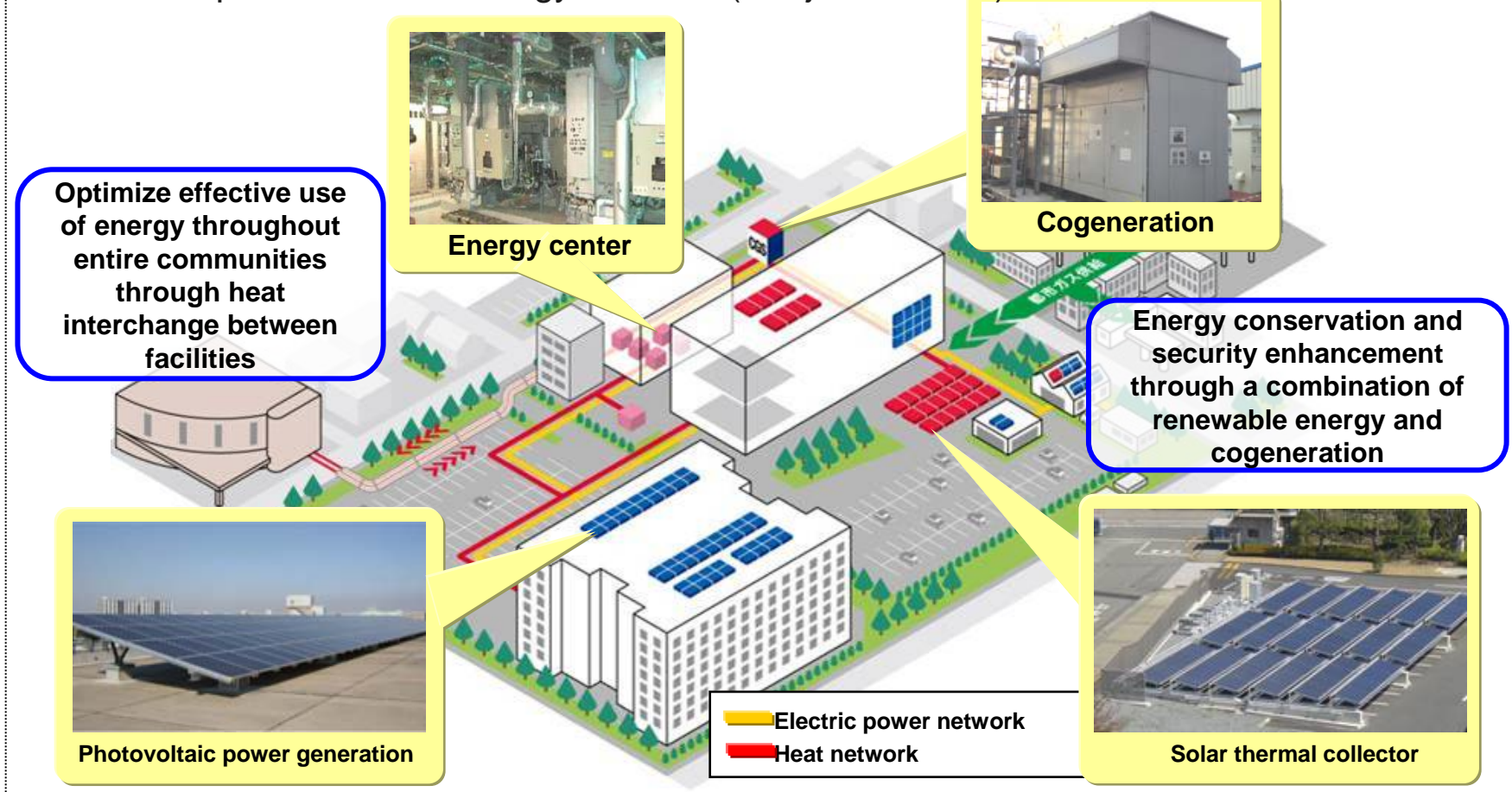


4 (3) Provide energy solutions adapted to a variety of needs.



3) Build a “smart energy society” that uses energy wisely. (Part 2)

Actual Example of a Smart Energy Network (Senju Ei-WALK)



Note: In addition to the above project, similar projects are under consideration for implementation at redevelopment areas such as Tamachi and Toyosu and for Fujisawa Sustainable Smart Town.

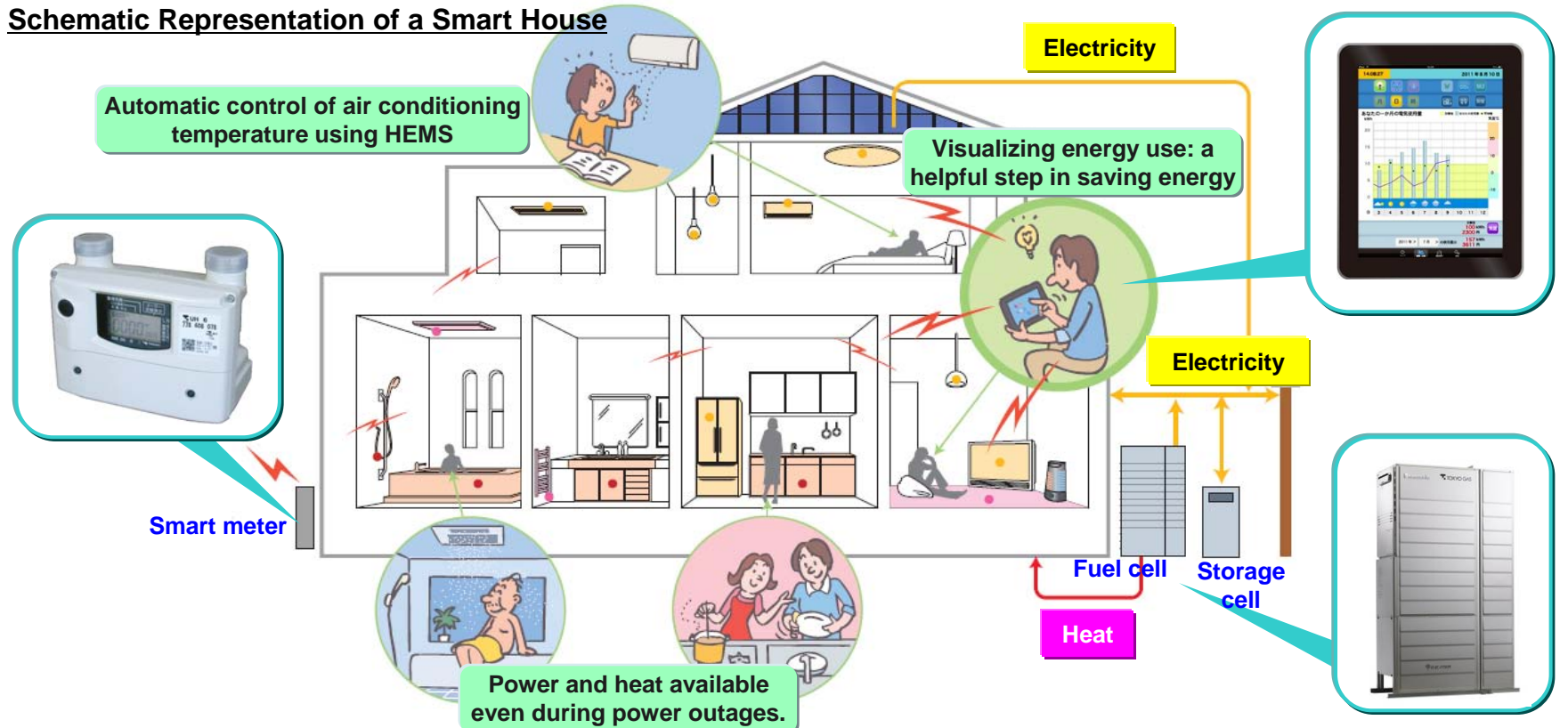
4 (3) Provide energy solutions adapted to a variety of needs.

3) Build a “smart energy society” that uses energy wisely. (Part 3)

Smart energy for the home

- Actively seek to promote the spread of smart houses equipped with ENE-FARM, solar power, solar heat, storage cells, HEMS systems, and smart meters and provide wide-ranging services, including energy-saving services (consultation, advice, renovation proposals, etc.) through LIFEVAL.

Schematic Representation of a Smart House



* HEMS: Home energy management system

4 (3) Provide energy solutions adapted to a variety of needs.

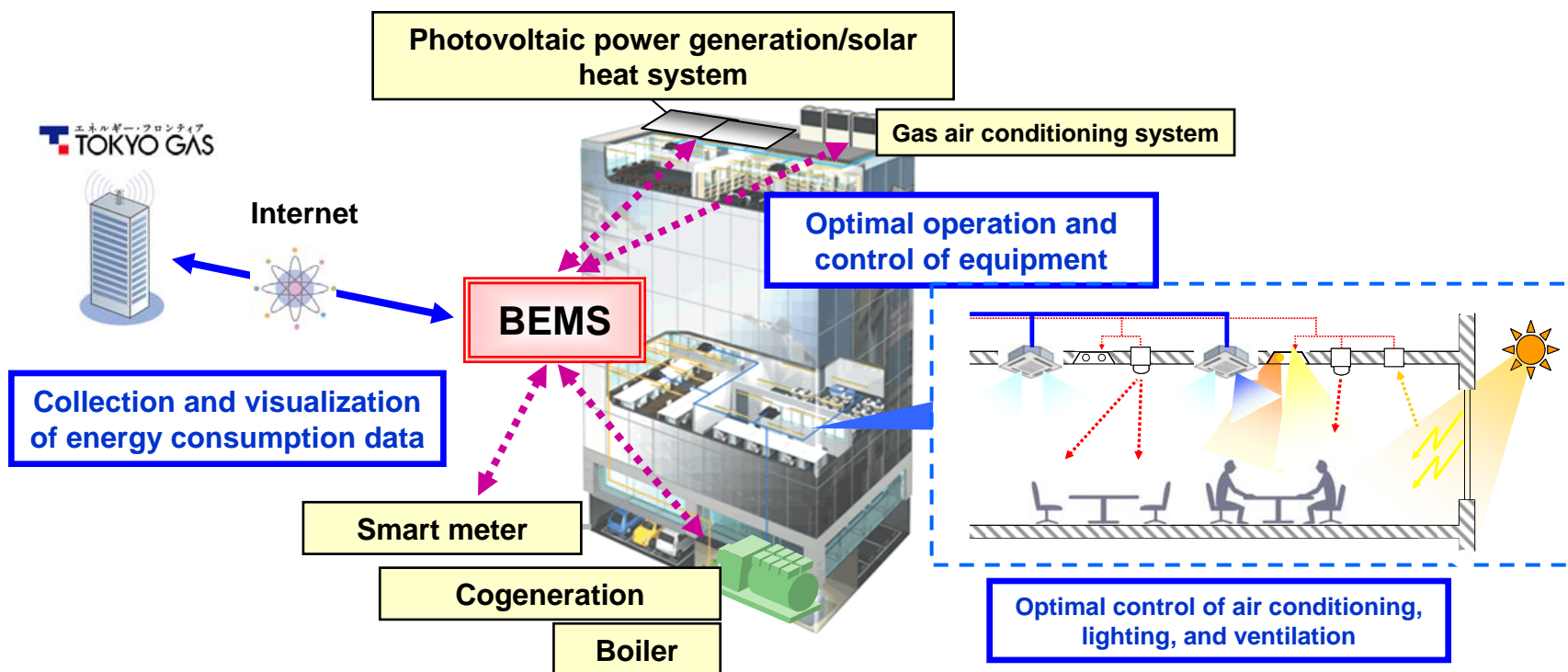


3) Build a “smart energy society” that uses energy wisely. (Part 4)

Smart energy for office buildings and plants

• Upgrade the energy services menu and satisfy diverse needs, starting with needs for energy conservation, by using BEMS and smart meters for the visualization of energy use and optimal operation and control of cogeneration systems, air conditioning, boilers, and other equipment at office buildings, plants, and other business sites.

Schematic Representation of a Smart Office Building



* BEMS: Building energy management system

4 (3) Provide energy solutions adapted to a variety of needs.



4) Expand the electric power business (Natural Gas-fired thermal power generation).

- To contribute to solving the electric power supply problem, Tokyo Gas will expand the Natural Gas-fired thermal power generation business using high efficient combined cycle power generation to leverage the Group's strengths: LNG terminals, pipeline facilities, and LNG procurement capabilities.
- In the domestic power generation business, aim for **capacity of 3.0 to 5.0 million kW by 2020.**

Ohgishima Power
(0.80 mil. kW, 75% stake)



Kawasaki Natural Gas Power Generation
(0.80 mil. kW, 49% stake)



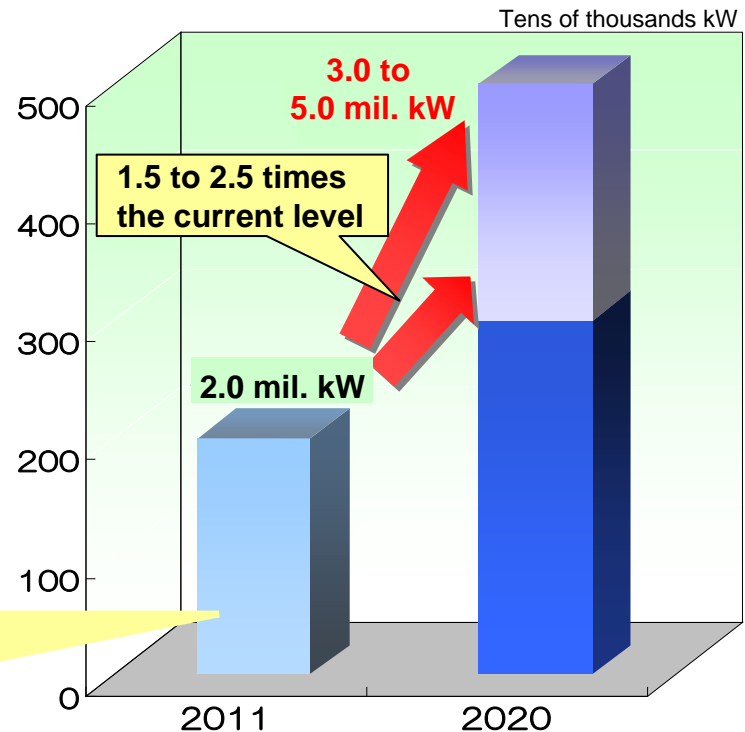
Tokyo Gas Yokosuka Power
(0.24 mil. kW, 75% stake)



Tokyo Gas Baypower
(0.10 mil. kW, 100% stake)



Scale of the Power Generation Business
(Including Interests of Other Companies)



4 (3) Provide energy solutions adapted to a variety of needs.

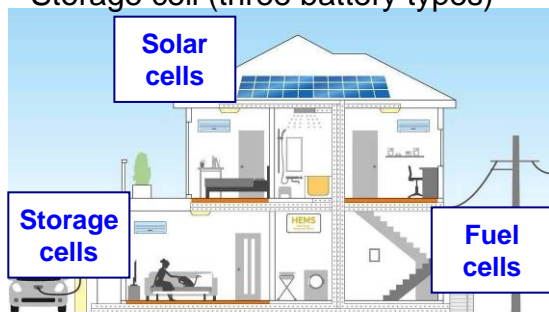


5) Implement renewable energy initiatives. (Part 1)

- Expand **services that combine renewable energy sources such as solar heat, sunlight, and biomass** to meet customers' energy conservation and CO2 emissions reduction needs, including ZEB, ZEH, and smart energy.
- Pursue the commercialization of renewable energy utilization technologies (combined control technology for solar cells + fuel cells + storage cells (3 battery types), biomass utilization technologies, etc.).

Examples of Services That Combine Renewable Energy Sources

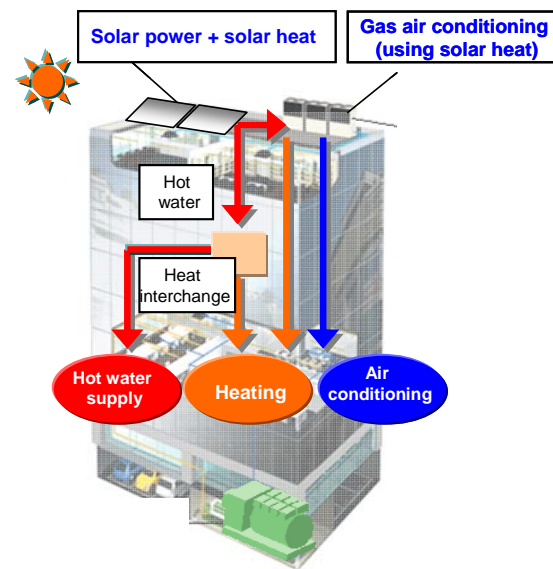
1) Solar cells + Fuel cell + Storage cell (three battery types)



2) SOLAMO + Eco-Jozu

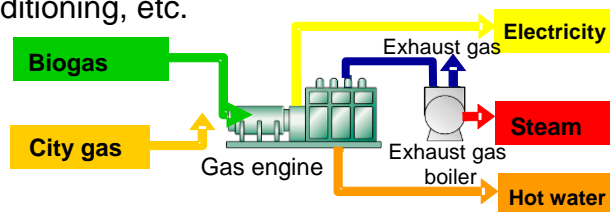


2) Commercial solar power, solar heat + hot water supply, and air conditioning



4) Biomass + Cogeneration, boiler, etc.

*Use of biogas collected from sewage, domestic waste, and other sources in cogeneration, boilers, air conditioning, etc.



*ZEB, ZEH: Net-zero energy building, Net-zero energy home

4 (3) Provide energy solutions adapted to a variety of needs.



5) Implement renewable energy initiatives. (Part 2)

- Step up involvement in zero emission power sources such as wind power to promote the economical, stable procurement of environmental value (tradable green certificates, etc.) in response to customers' CO2 emissions reduction needs and contribute to a low-carbon society.
- Aim for wind power generation capacity of 150,000 kW by 2020.

Current Participation in Wind Power Generation

Sodegaura wind power generation
(From 2005, 1,990 kW)



Shonai Wind-Power Generation
(From 2011, 15,910 kW, 30% interest)



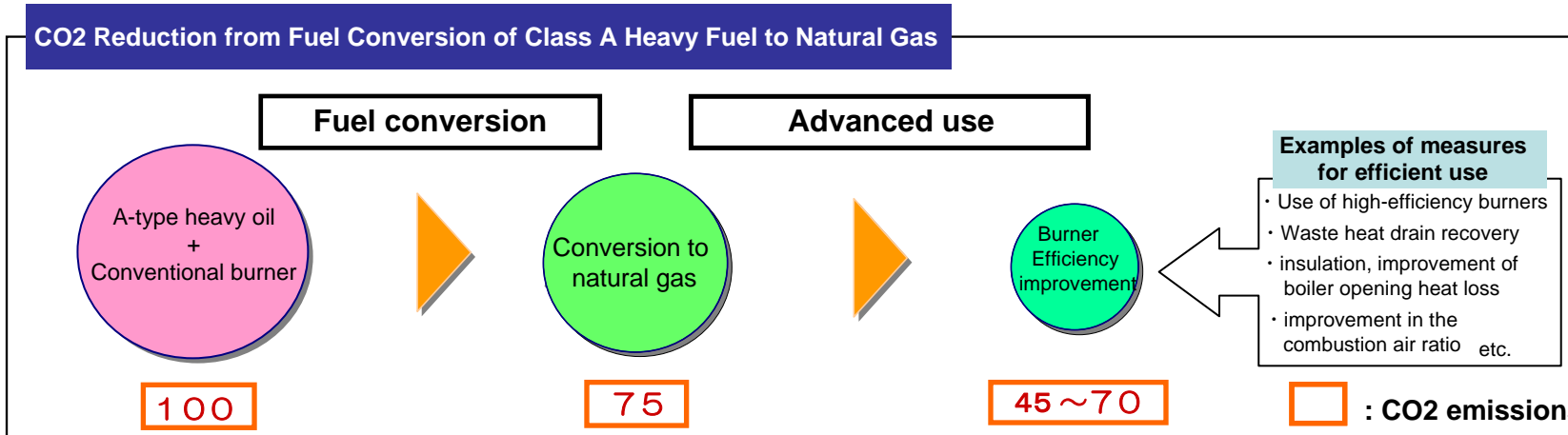
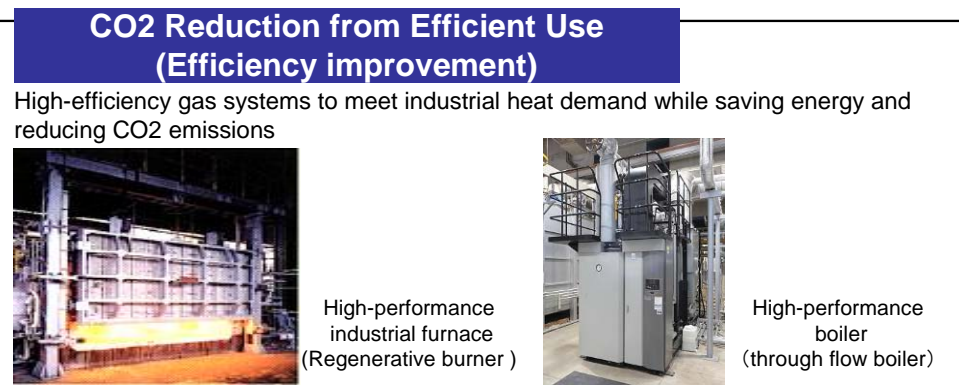
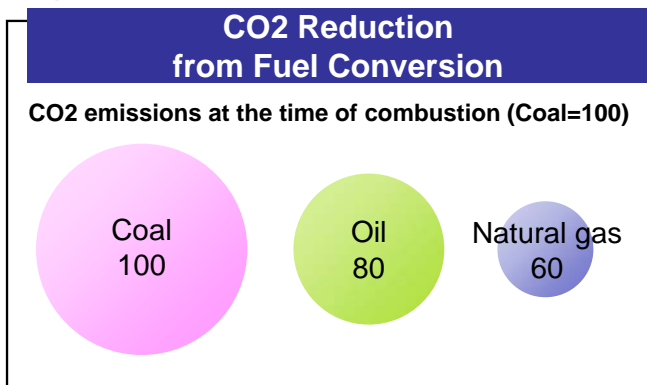
4 (3) Provide energy solutions adapted to a variety of needs.



6) Promote advanced utilization of natural gas and fuel conversion.

- Contribute to customers' energy conservation and CO2 emissions reduction efforts by fully leveraging the Tokyo Gas Group's technological capabilities and promoting advanced use of natural gas and fuel conversion.

Progress with Fuel Conversion by 2020 **Approx. 2.5 billion m³**



4 (3) Provide energy solutions adapted to a variety of needs.



7) Promote the spread and expansion of natural gas use and nationwide development of energy services.

• In addition to promoting the spread and expansion of natural gas use in the Tokyo metropolitan area through locally based activities, Tokyo Gas will expand LNG supply coverage to all of Japan by means of lorries, ocean-going tankers, and coastal tankers. We will also contribute to the spread and expansion of natural gas use by taking maximum advantage of the Group's marketing and technological capabilities, such as energy services and engineering, to meet the needs of domestic gas and other companies.

Energy Services, Engineering, etc.



LNG Supply by Means of Coastal and Ocean-Going Tankers

JX Nippon Oil & Energy Corporation	Hachinohe LNG Terminal	Currently supplied
Hokkaido Gas Co., Ltd.	Hakodate Minato Plant	Currently supplied
	Ishikari LNG Terminal	From 2012
Saibu Gas Co., Ltd.	Hibiki LNG Terminal	From 2014

LNG Supply by Means of Lorries and Coastal and Ocean-Going Tankers



4 (4) Pursue technical development and IT utilization with a focus on the future.



1) Engage in technical development with a focus on the future. (Part 1)

- Engage in technical development of distributed energy systems, renewable energy, smart energy, and other innovations.

Energy

Energy Conservation



Use of Renewable Energy

Systems

Spread and Expansion of Distributed Energy System Use

Residential Fuel Cell Systems (ENE-FARM)

- Cost reduction, efficiency improvement
- Adaptation for collective housing through space saving

Cogeneration Systems

- Efficiency improvement and cost reduction through the development of new combustion technologies and advanced control

Utilization of Renewable Energy

Use of Solar Power and Heat

- Technology to combine solar power and heat with water heaters, air conditioners and cogeneration equipment

Use of Biogas

- Reduce equipment size, save space, and improve efficiency to enable use in commercial buildings

Stand-alone



Interface

Provision of New Lifestyle Value

Smart Meters

- Development of meters equipped with low-cost, sophisticated telecommunication functions

Energy Management (HEMS, BEMS)

- Development of wide-ranging content centered on visualization of gas, electricity, and hot and cold water use and energy conservation advice

Smart Energy

Smart Energy Networks

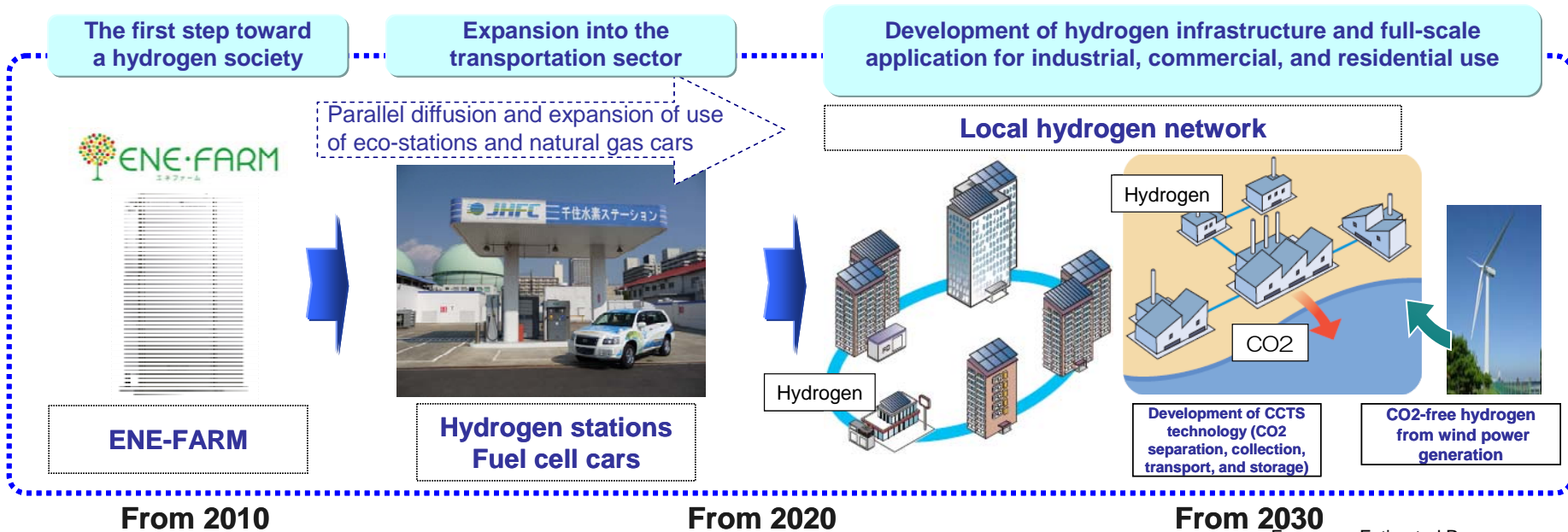
- Development of a business model and establishment of an optimal energy management system which includes renewable energy, unharnessed energy and storage cells based on demonstration projects conducted in various areas

4 (4) Pursue technical development and IT utilization with a focus on the future.



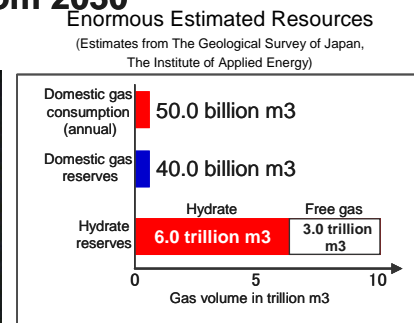
1) Engage in technical development with a focus on the future. (Part 1)

• With a view to the 2020s and beyond, engage in technical development for the realization of a hydrogen society, technical development in the separation, collection, transport, and storage of CO₂ (carbon capture, transport and storage, or CCTS), and research and development relating to methane hydrate.



Methane Hydrate

• In cooperation with the government of Japan, Tokyo Gas will explore the development potential of methane hydrate, which is said to exist in abundance under the seabed in waters close to Japan and is expected to become an important future gas resource.

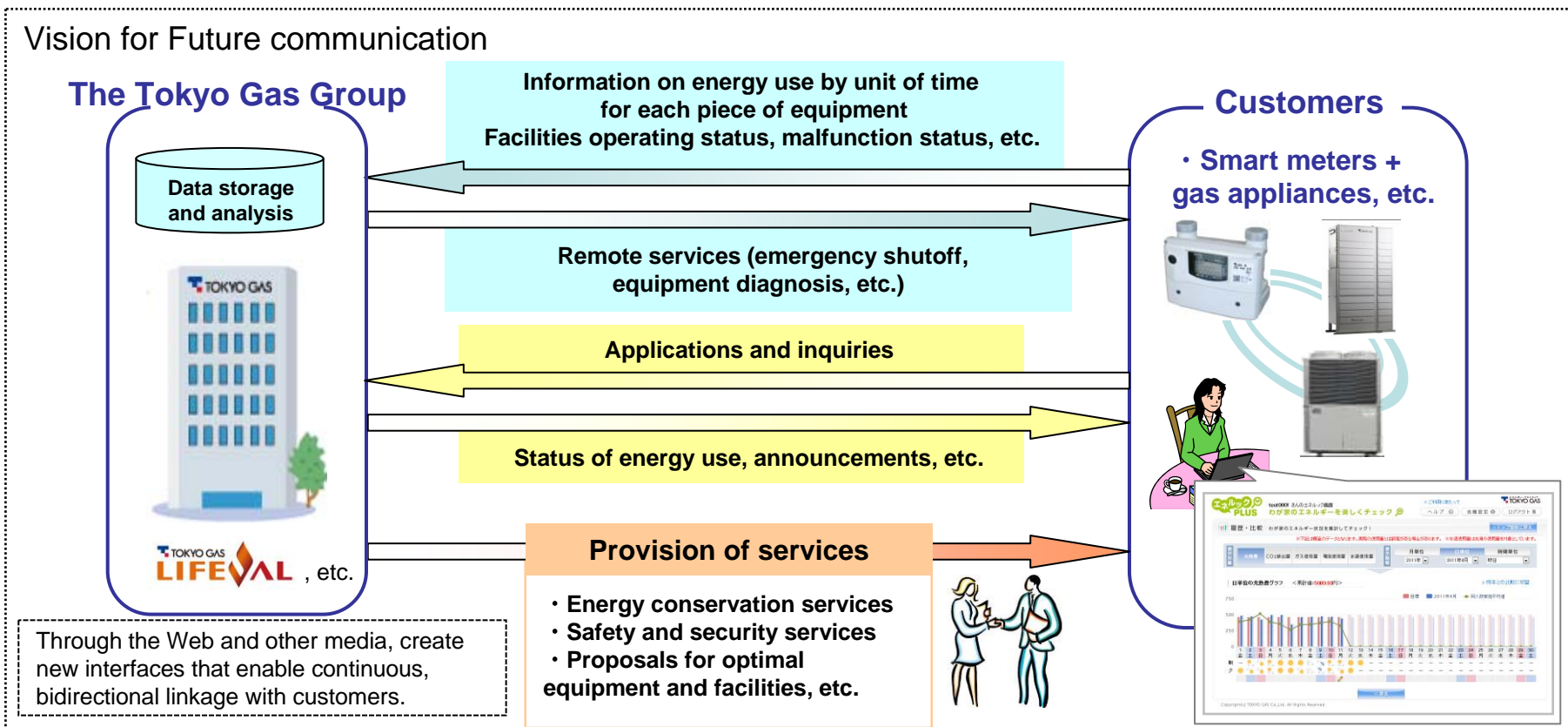


4 (4) Pursue technical development and IT utilization with a focus on the future.



2) Use IT to enable closer communication with customers

- In addition to meeting new needs, such as for smart houses and smart meters that apply IT, achieve closer communication with customers.
- Realize business-supporting information systems that are resistant to disasters and accidents and stable at all times.

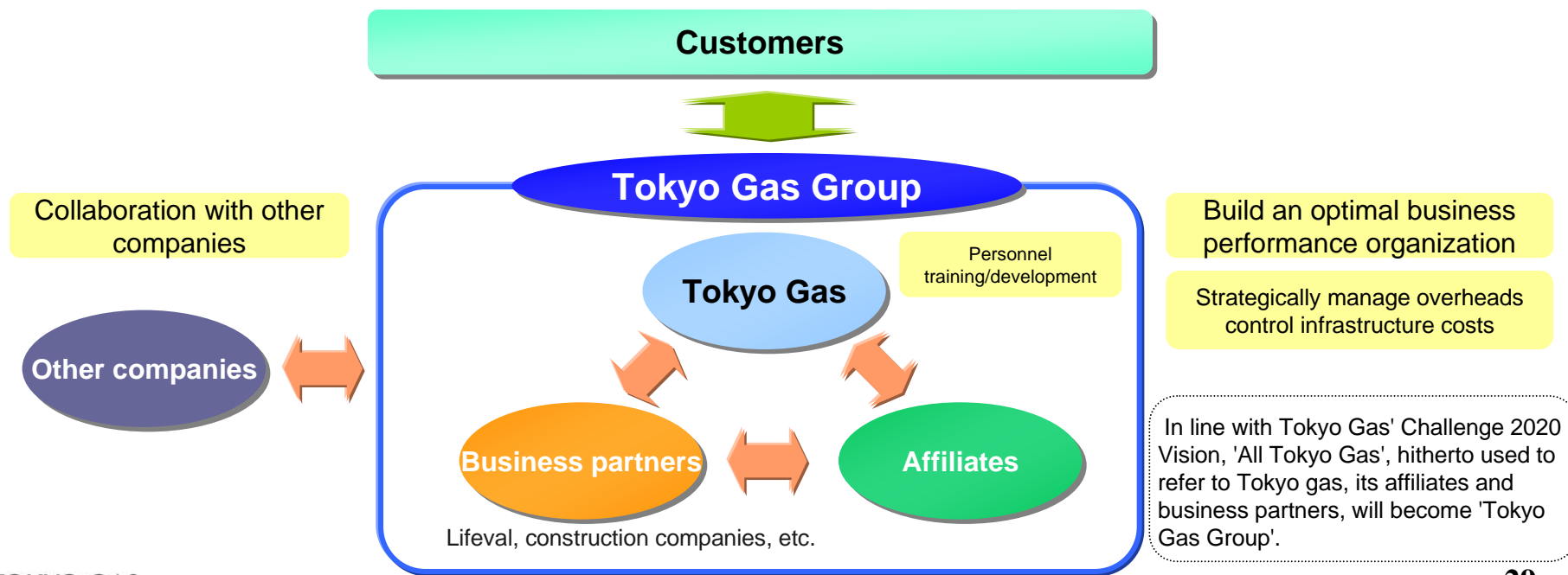


4 (5) Realize a leaner, stronger business structure.



Realize a leaner, stronger business structure.

- Build an optimal business performance organization from the whole Tokyo Gas Group (business partners such as affiliates, Lifeval, etc.) so as to realize the Group's collective strength. At the same time, implement a review of duties and ensure the suitable conduct of all group personnel. Consider and pursue collaboration with other companies in the performance of duties.
- Strategically manage overheads, control infrastructure costs, and pursue the establishment of efficient facilities.
- Develop and reinforce human resources throughout the group to enhance the LNG value chain.





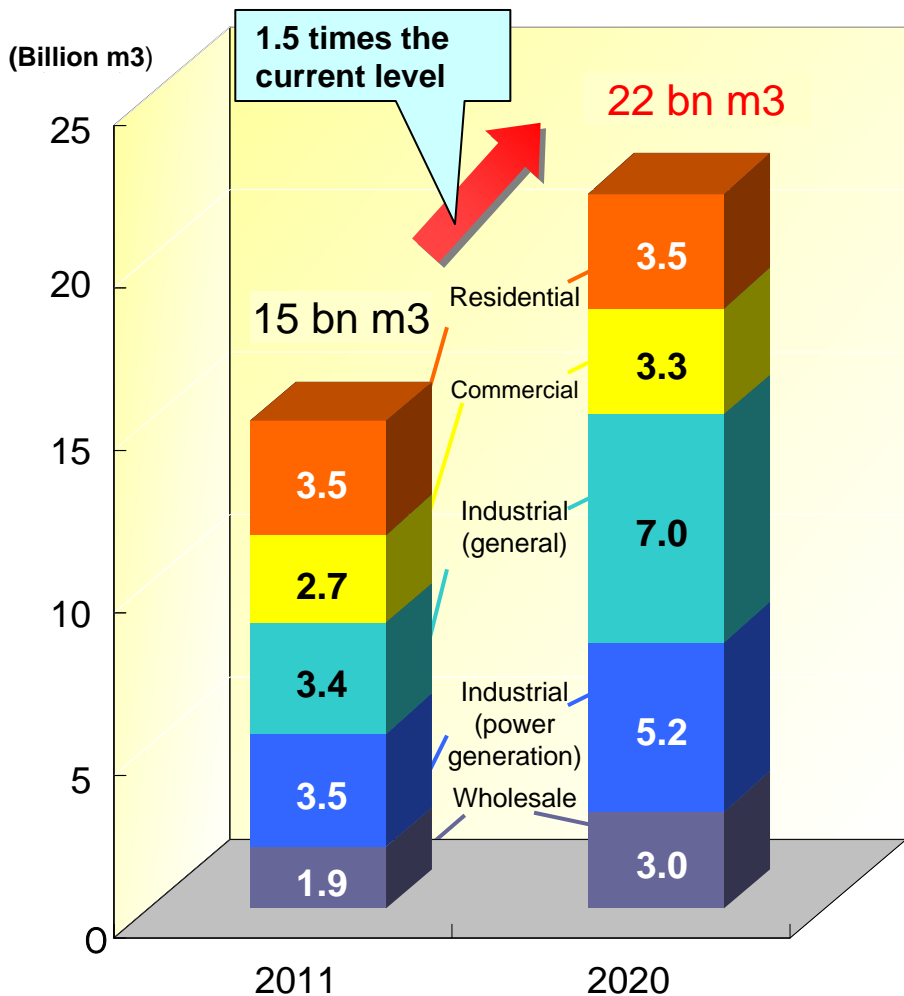
Key Indicators for the Spread and Expansion of Natural Gas

	Current Situation (Forecast for Fiscal 2011)	2020
Supply gas volume (including LNG supply)	15 billion m ³ /year	22 billion m ³ /year
ENE-FARM (stock)	9,000 units	300,000 units
Cogeneration (stock)	1.5 million kW	4.0 million kW
Gas air conditioning (stock)	4.0 million RT	5.7 million RT
Power generation business (including interests of other companies)	Domestic: 2.0 million kW Overseas: 3.3 million kW	Domestic: 3.0 to 5.0 million kW Overseas: 5.0 million kW

5. Challenge performance indicators for 2020



Gas Supply Volume



Gas Supply Volume by Application (100 million m3)

	Fiscal 2011 Forecast	Fiscal 2020	Average annual growth
Residential	35	35	0%
Commercial	27	33	2%
Industrial (general)	34	70	8%
Industrial (power generation)	35	52	4%
Wholesale	19	30	5%
Total	150	220	4%

5. Challenge performance indicators for 2020



Financial Performance Indicators

	Current Situation (2009–2011 average)	Future Vision (Fiscal 2020)
Consolidated operating cash flow	Approx. 210 bn ¥/yr	Approx. 250 bn ¥/yr (2012-2020 total : 2,240 bn ¥)
ROE	7.3%	Approx. 8%
ROA	3.3%	Approx. 4%
D/E ratio	0.7	Approx. 0.8 (each fiscal year)
Total payout ratio	60.6% (2009-2010 average)	Approx. 60%

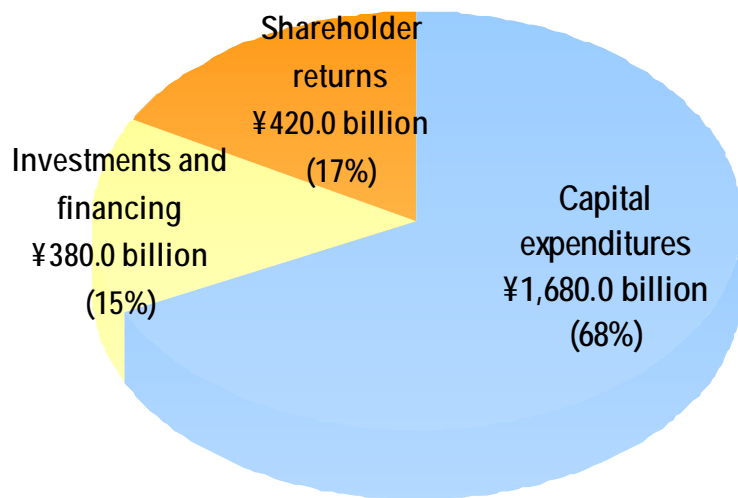
5. Challenge performance indicators for 2020



Cash Flow Distribution

Capex · Investments and financing · Shareholder return

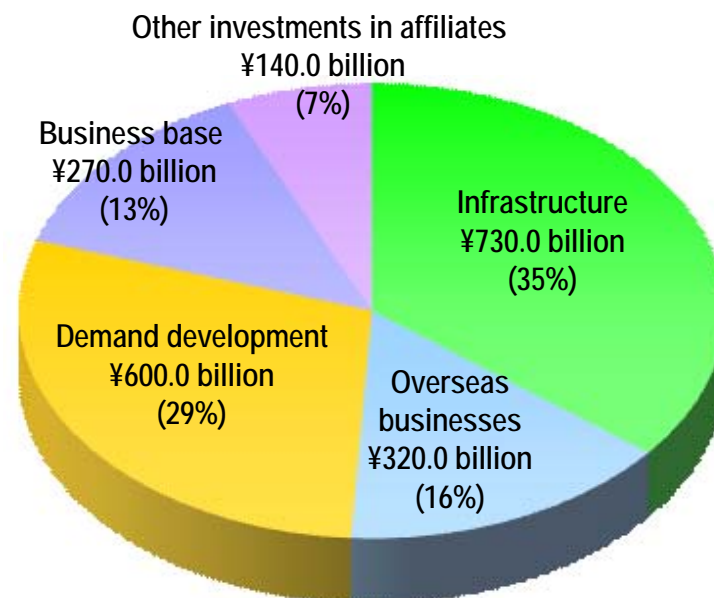
Fiscal 2012 to 2020 total: approx. ¥2,480 bn



Consolidated operating cash flow	¥2,240 bn
External debt (interest bearing debt) etc	¥240 bn
Capex · Investments and financing · Shareholder return	¥2,480 bn

Use of Capital Expenditures and Investments and Financing

Fiscal 2012 to 2020 total: approx. ¥2,060 bn
(Approx. ¥230.0 billion/year)



Reference: Capital investments and investments and financing in the medium-term management plan for FY 2009 to 2013 : Approx. ¥180.0 billion/year

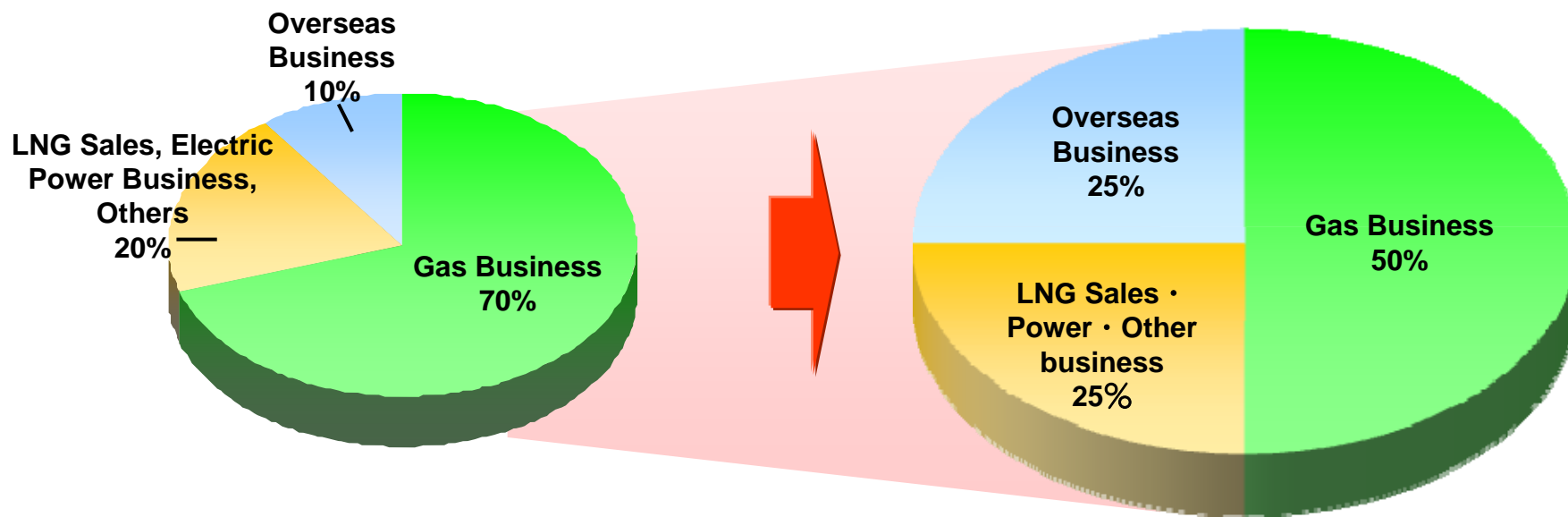
5. Challenge performance indicators for 2020



Business Structure (Consolidated Net Income Ratio by Business)

As of 2011
Fiscal 2009 to 2011 Average

By 2020



The Tokyo Gas Group will satisfy the needs of customers, society, and the times and strive to realize a prosperous, fulfilling way of life, competitive domestic industries, and an environment-friendly society where people can live in peace of mind. We will remain keenly aware of our corporate social responsibility and pursue sustained growth for the Group by engaging in transparent, fair management while aiming for harmonious coexistence with local communities.



For Energy and the Future

