



The Tokyo Gas Group FY2018-2020  
management plan

# GPS2020

Initiatives towards achieving  
the plan



October 11, 2018

Tokyo Gas Co., Ltd.



## Introduction:

# The Tokyo Gas Group's Business Environment



- In the second year following the full deregulation of the gas retail market, not only **newly deregulated switching of small scale customers to other companies** but also already deregulated **switching of large scale customers and wholesale customers is increasing**. In the electric power retail market, which is in the third year following the full deregulation, **switching to various players are increasing** in the Tokyo Metropolitan area.  
We **recognize that the competition in gas and electricity is intensifying, that energy competition in the Tokyo Metropolitan area is stepping up**, and that **providing added value is becoming increasingly important** for the Tokyo Gas Group to be chosen by customers.
- Natural gas, which is the least GHG-emitting among fossil fuels and playing a central role in middle-load electricity, is positioned as **“an important energy source that will play an expanding role for long-term reduction in environmental impact”** in the Fifth Basic Energy Plan. We **believe that shift to natural gas will progress in each field**.
- Recent devastation from earthquakes and typhoons across Japan raised people's awareness of preventing large-scale natural disasters. We have **renewed our recognition of our mission of ensuring stable supply of energy to customers** with measures against large-scale disasters in the Tokyo Metropolitan Area as the heart of Japanese economy.
- We found high value of natural gas, accepted LNG for the first time in Japan in 1969, and will celebrate the **“50th anniversary of LNG use”** next year. To **open up “the next half a century”**, we **believe that we must take on challenges for various reforms, including more advanced use of natural gas** for low-carbon society and **renewable energy** initiatives.





# Important Points to Be Communicated to Stakeholders



## Upward revision of the target number of electricity contracts

- Past By **cross-industrial cooperation** and enhancing the sales structure through **campaigns**, we are **supplying electric power to about 1.45 million customers (supply basis)** as of September 30, 2018.
- Future With **upward revision of the target number of electricity contracts (supply basis)** to achieve by the end of FY2020 **from 2.2 million to 2.4 million**, we aim to deliver electric power of Tokyo Gas to more customers.

## Global LNG alliance to improve flexibility and enhance competitiveness

- Past We have built alliances with domestic partners, e.g., Kansai Electric Power and Kyushu Electric Power, and overseas partners, e.g., Europe-based Centrica, for **optimized management of assets, including LNG agreements and ships.**
- Future We will **deepen our relationship with Centrica in new procurement and LNG trading**, and promote **LNG procurement that contribute to the realization of growth strategy** through **global alliance** with partners in and outside Japan.

## Enhancing services that meet customer needs

- Past We have delivered **sales/repair of gas appliances, implementation**, and other services to residential customers, as well as **engineering services/energy services (ES)** to commercial and industrial customers **in various areas.**
- Future For residential customers, we will expand **"co-creation services"** to be developed **with business partners.** For commercial and industrial customers, we will **expand services across Japan by enhancing ES menus.**

## Acquiring renewable energy power sources and working on distributed energy systems

- Past We have **started initiatives for photovoltaic and offshore wind power generation** in addition to onshore wind power generation. We have also **started demand response services to build a virtual power plant.**
- Future With a focus on **"offshore wind power generation"**, we will **accelerate participation in projects outside Japan**, not just in Japan. We will also work on distributed energy systems by considering **service of purchasing photovoltaic power for which the period of the feed-in tariff system will end.**



# Outline of FY2018-2020 Management Plan GPS2020



- The Tokyo Gas Group formulated FY2018-2020 management plan “GPS2020” in October 2017 as a culmination of “the Challenge 2020 Vision”.
- In light of “the era of natural gas,” “the era of single-source providers of electricity and gas,” and “the era of multi-dimensional innovation fueled by rapid digital evolution,” we will launch the Tokyo Gas Group’s “GPSxG” to ensure growth in the 2020s.
- We will deliver optimal uses to **our domestic and overseas customers** through a variety of means combined **gas and power along with services that meet our customers’ needs**.

## Strengthening Bonds with Customers and Providing New Value (Key Strategy)

Recommend Optimal Uses for “GPS (Gas & Power + Services)” (pp 4–10)

Residential customers

Commercial & industrial customers

Various means

**G** (Gas)  
City & LP gas

&

**P** (Power)

+

**S** (Service)  
Residential  
Commercial/  
industrial

**S** Urban  
development  
services

Achieve Environmentally-  
friendly Energy Supply,  
Mainly for Natural Gas, in  
Overseas Markets  
(p 11)

Apply Aggressive Alliance Strategy with Various Players to Quickly Realize “GPSxG” (p 9)

## Initiatives for Strengthening Management Foundation for Supporting Key Strategies

Enhance Energy  
Infrastructure  
(pp 12–15)

Digitalization/Innovation,  
and Technology  
Development Initiatives  
(p 16)

ESG (Environment,  
Society, Governance)  
Initiatives  
(p 17–20)

Strengthen  
Organization and  
Personnel Platform  
(p 21)



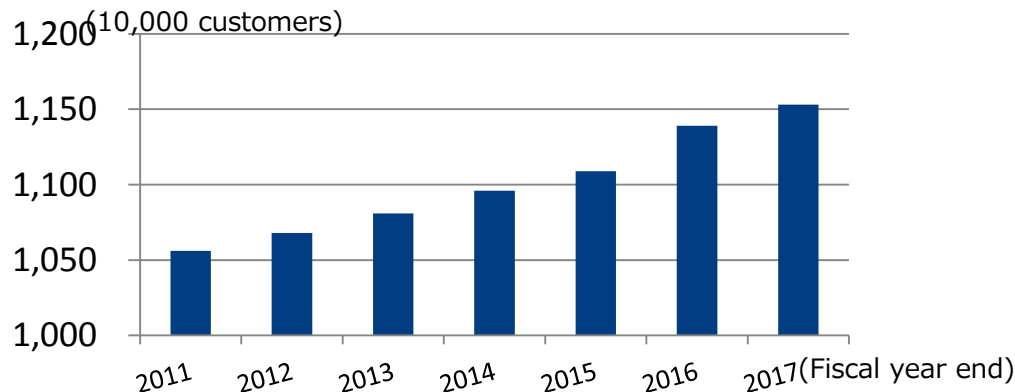
# City Gas Initiatives



- Past** • Entering the second year following the full deregulation of the gas retail market, intensifying competition continues with **about 500,000 customers switched to other companies** (as of September 30, 2018). Meanwhile, we are increasing **the value delivered to customers** further through taking **appropriate actions for deregulation**.
- Future** • We will provide integrated recommendations of gas plus electric power and services so that customers will continue to choose city gas of Tokyo Gas. We will also continue to recommend fuel conversion to city gas and gas appliances to expand the **foundation of city gas** together with wholesalers in light of **the expansion of natural gas use, which is one of the objectives of gas system reforms**.

## Expansion of natural gas use

- We will take initiatives to develop demand, e.g., enhancing the gas pipeline network and fuel conversion to city gas.
- Number of customers (with city gas meters) reached 11.58 million (as of August 31, 2018).



- FY2018 forecast of gas handling volume is about 19.3 billion m<sup>3</sup>.
- Together with wholesalers, we will aggressively promote integrated recommendation of gas, power and services for the expansion of city gas use.

## Progress of deregulation and response

- **About 500,000 customers switched to other companies** (as of September 30, 2018). Switching of large scale customers and wholesalers are also increasing.
- We are developing systems that **enable customers to safely use gas** even in the era of deregulation, e.g., **being entrusted with appliance safety service for retailers as new entrants** and partnering with such new retailers for disaster prevention.





# LP Gas Initiatives



- Past** We recommend the Tokyo Gas Group's LP gas to customers inaccessible to city gas. We founded Gas Crew Co., Ltd.\*, an LP gas filling/distribution company and started its business for **cost reduction with joint distribution for about 1 million customers and advanced customer safety.**
- Future** We will work on integrated recommendation of LP gas plus electric power and service by **enhancing partnership** with housing manufacturers and collective housing management companies. We will also recommend commercial gas engines, heat pumps, and air conditioners to promote the use of air conditioning at schools and evacuation centers.

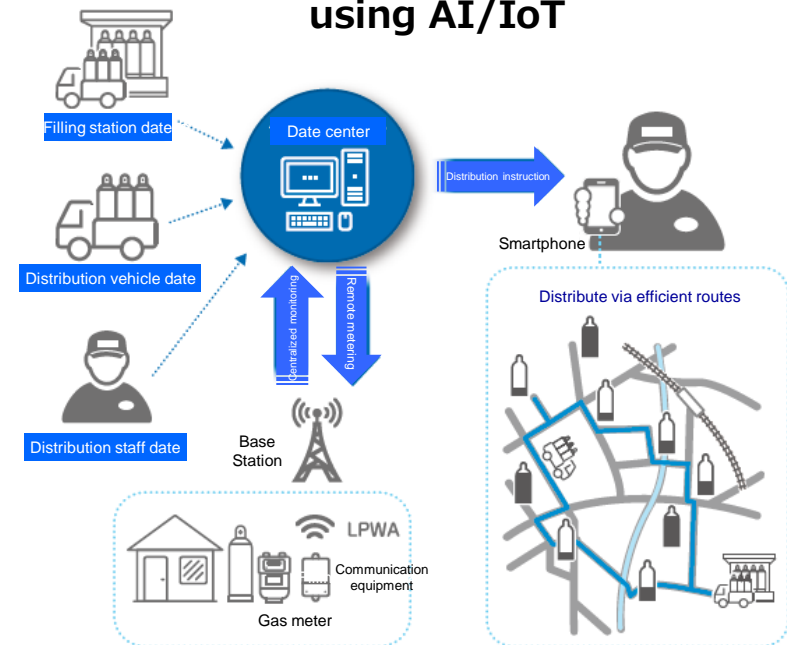
\* Jointly funded by Astomos Energy Corp., ENEOS GLOBE Corp., and Tokyo Gas Liquid Holdings Co., Ltd.

## Streamlined and advanced distribution and customer safety systems

- Gas Crew will introduce **a distribution planning system using AI/IoT** (under development at the Tokyo Gas Group) that (1) minimizes remaining gas at the time of changing LP gas cylinders with remote metering and (2) minimizes transportation distance and time by optimizing distribution order and route.
- We will use know-how in city gas safety and education systems for **advanced safety operation** imposed on LP gas sellers.
- Taking advantage of these strengths, we will invite other companies' participation in Gas Crew collaborative distribution to achieve the target of 1 million customers.



### Distribution efficiency improvement using AI/IoT





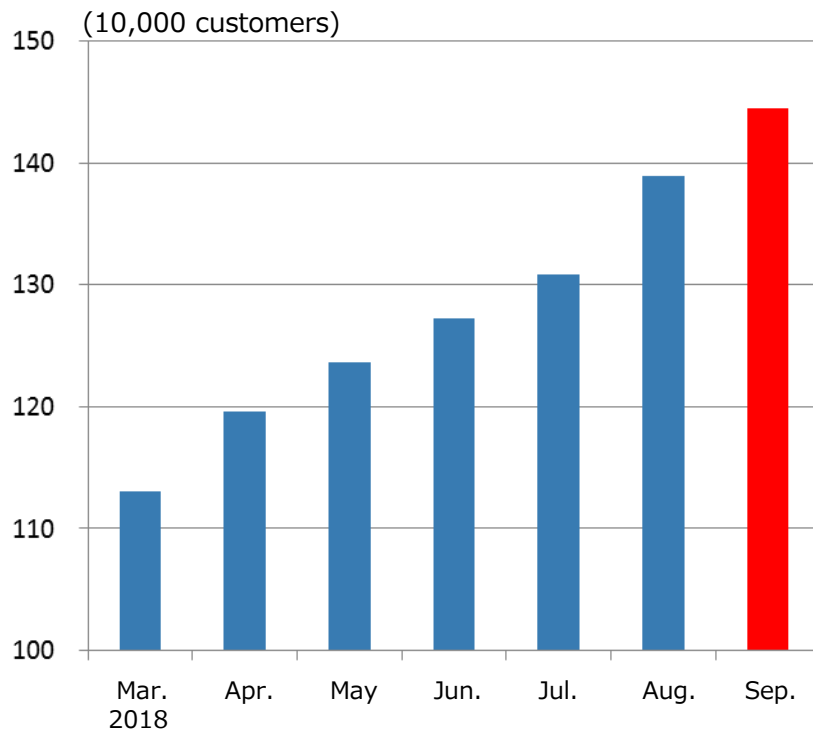
# Electric Power Initiatives



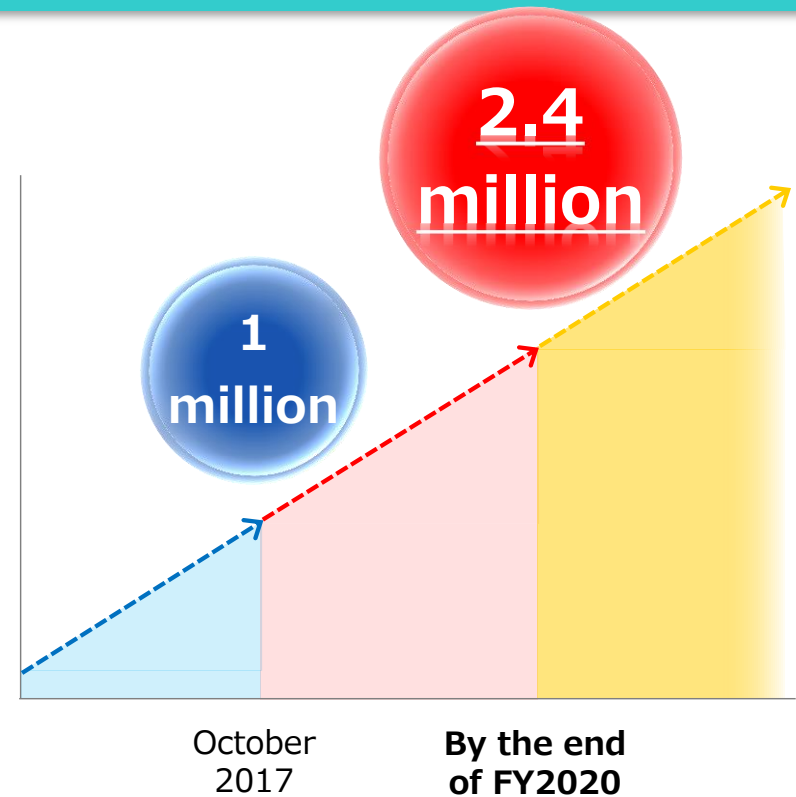
**Past** During the "Denki de Lucky Campaign" period from mid-July to late-September 2018, we received applications from many customers, so that, as of September 30, **we are supplying our electricity to about 1.45 million customers.**

**Future** With **upward revision of the target number of electricity contracts(supply basis)** to achieve by the end of FY2020 **from 2.2 million to 2.4 million**, we aim to deliver electric power of Tokyo Gas to more customers.

## Successful acquisition of electricity contracts(supply basis)



## Upward revision of the target





# Expand Services for Residential Customers

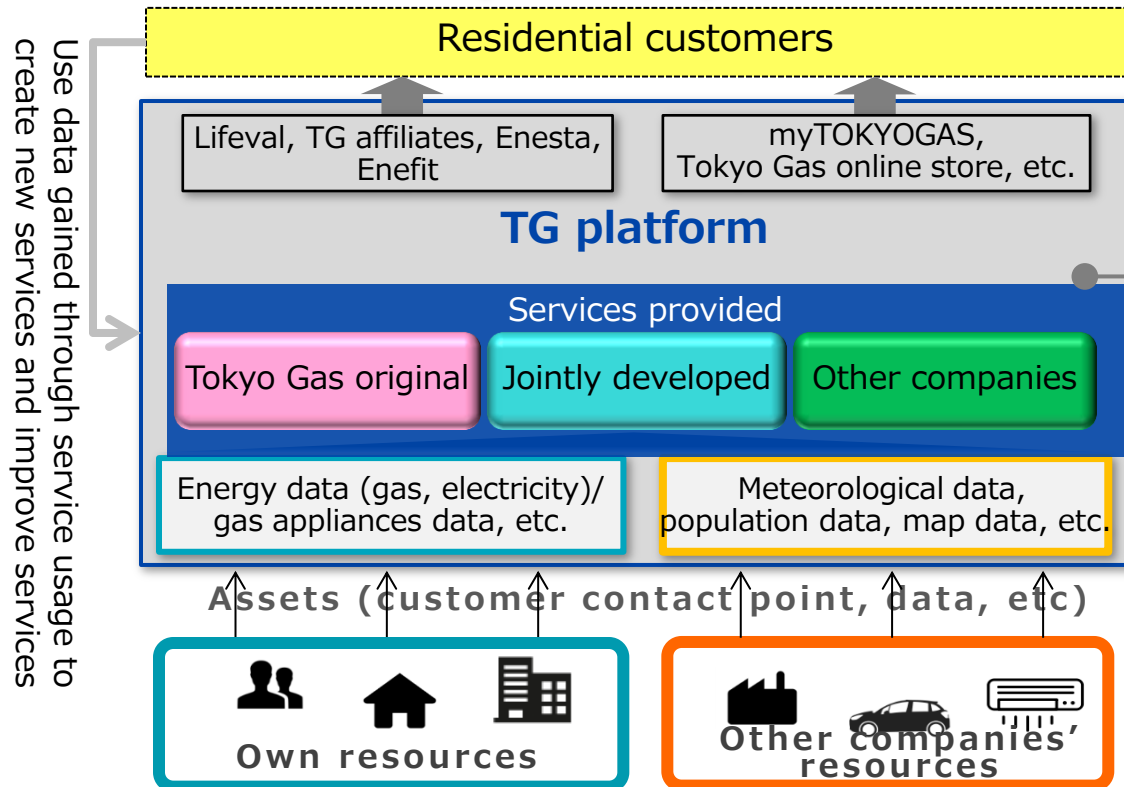
—Co-Creation Services of Tokyo Gas Group



- Past** Through **services in the comprehensive facility area, such as sales/repair of gas appliances and installation**, surrounding city gas, we have contributed to **comfortable and desirable lifestyles** of customers.
- Future** We will expand the service range of **"co-creation services"** that we will **develop with our business partners** by listening to **customer needs**. We will also deliver diverse services **through the platform of Tokyo Gas**.

Provide value with co-creation between partners and the Tokyo Gas Group

Expand diverse services



Cooking service, home service, etc.

Further expand

Repair & Assurance

Expand

Gas appliances sales, installation, maintenance, etc.

## Examples of new services in FY2018

Special gas equipment support (Started)

Cooking service (To start in the 2nd half)

Home service (To start in the 2nd half)





# Expand Services for Commercial/Industrial Customers

## —Co-Creation Services of Tokyo Gas Group



**Past** From our bases expanded to Kyushu, Nagano and Okinawa, we are providing customers, including owners of chain stores located in and outside our supply areas, with recommendations taking advantage of **energy supply and fuel conversion in re-development, in various areas, not just in the Tokyo Metropolitan areas.**

**Future** We will **enhance energy service menus** using IoT and big data analysis to **meet new customer needs**, while **working with local energy providers** to **expand our service area.**

### Shikoku × LNG engineering

- Established Niihama LNG in April 2018, opened the local office in June, and started LNG terminal construction in October (to start operation in FY2021).

### Nagano × Natural gas cogeneration

- Replaced gas cogeneration and air conditioning systems at Nagano Municipal Hospital to improve efficiency for energy saving.

### Hokkaido × Natural gas cogeneration

- Installing the first gas cogeneration system with an LNG satellite in the eastern Hokkaido at Morinaga Milk Industry Saroma Plant to save energy and CO<sub>2</sub> (to start in January 2019).

### Kyushu × Energy center

- To establish an energy center with Nangoku Corp. for a re-development project in Kagoshima, Kirameki Terrace (to start in FY2020).
- To achieve efficient electricity and heat supply to save energy and cost.



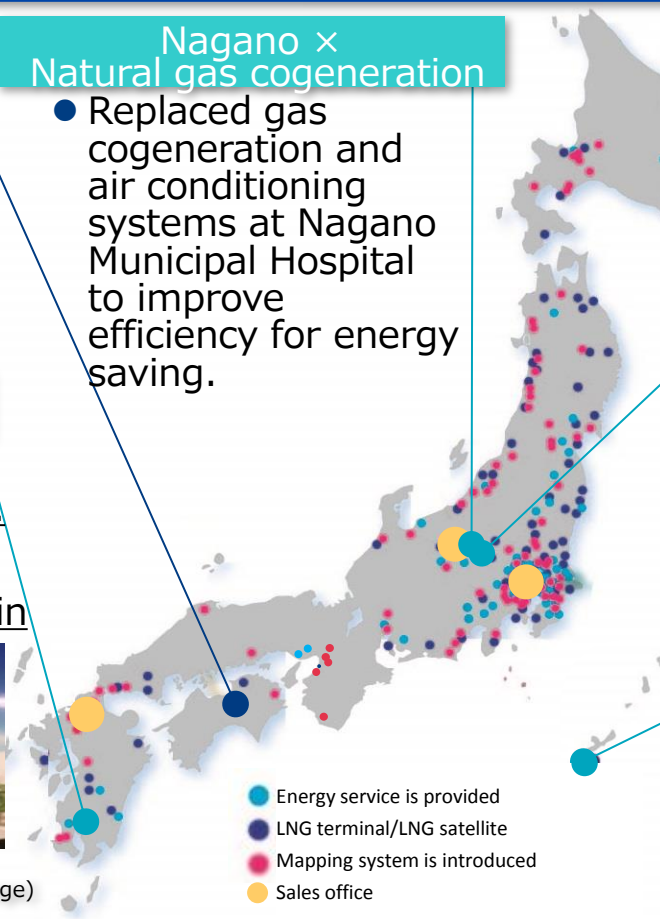
Kirameki Terrace completion (image)

### Nagano × Water treatment consulting

- Saving energy and reducing sludge by optimizing water treatment and improving operation in effluent treatment system replacement at Nichikon High-Tech Foil Ohmachi Factory, to which we supply LNG.

### Okinawa × Biogas cogeneration

- To introduce gas cogeneration using biogas with participation and investment in Itoman Bioenergy (tentative name), a joint venture with Okinawa Gas etc. (to start in April 2019)





# Expand "GPS" through alliances with Business Partners



- Past** We **signed a gas agency agreement** in some of our city gas supply areas\* **with** the cable TV giant **Jupiter Telecommunications (J:COM)** and 19 J:COM Group companies(42 channel).  
With various partners, we are promoting business alliance on electricity sales and joint development for service menus.
- Future** **In the service area**, we will **further expand** synergetic **alliance with business partners**, which includes considering **investment**, to accelerate initiatives to provide gas, electricity and services as a packaged service.

\*Tokyo area and Gunma area among city gas supply areas of Tokyo Gas

## Alliance on gas

- In our city gas supply areas, we will provide customers living in **J:COM** service areas and using J:COM broadcasting & communication services with city gas retail service (To start accepting applications in the 1st half of FY2019).

**J:COM**

## Alliance on electricity

- We are enhancing the electricity sales structure through **cross-industrial alliance with partners**, including real estate companies who have contact points and relationships with customers.

### Examples of companies in alliance

Cable TV	Real estate agency
Energy saving service	Management company
Home service	Moving

## Alliance on service

- In addition to the existing audio book service with OTOBANK, we will promote alliance with business partners, such as **KAJITAKU as cooking service etc.** and **Enechange which has basis for new service.**

  
**OTOBANK**

**KAJI  
TAKU**

家事の宅配

**ENECHANGE**



# Expand Urban Development Services



- Past**
- We are contributing to local communities through the provision of comfortable housing (rental housing) and offices (rental office building) and urban development, primarily in city centers.
- Future**
- While steadily working on **urban development** in Toyosu, Tamachi, etc., we will **accelerate development of our small and medium-sized lots**. We will also expand urban development services through **joint projects with business partners** and **acquisition of new real estate**.

## Contribute to urban development

- In conjunction with the opening of the Toyosu Market on October 11, 2018, we **fully started to supply energy using smart energy network**. We will accelerate development of the Toyosu site by supplying energy to hotels and offices to be built and attracting facilities that will make the area bustling.



- Phase I of msb Tamachi (Tamachi Station Tower S and Pullman Tokyo Tamachi), directly connected to JR Tamachi Station, was completed, opening a **new block**. We are constructing Phase II (Tamachi Station Tower N) which is to be completed in summer 2020.

## Accelerate joint projects and new real estate acquisition

- We jointly acquired **Shiba Park Building** with Kanden Realty & Development in March 2018 to contribute to revitalizing the area with long-term rental management.



- We are constructing Toyotama Rental Housing (tentative name), 2-minute walk from the Seibu Line Nerima Station (to complete in October 2019).

- We are also acquiring rental housing (renting Viequ Bright Nakano/Nogata and Ipse Omori which we acquired in June 2018).



<Viequ Bright Nakano/Nogata>





# Expand Business in Overseas Markets

- Past** In “the era of natural gas,” we are working on initiatives to expand natural gas use primarily in **Asia where infrastructure development is ongoing**. In addition to upstream projects in Australia and North America, we have participated in multiple projects, including **gas distribution business and a gas-fired power generation project in Southeast Asia**.
- Future** We will further expand business by **taking advantage of our strength nurtured in Japan**, including engineering ability for LNG terminal construction and fuel conversion and energy-saving recommendations with advanced energy use.

## Engage in gas distribution business in Asia

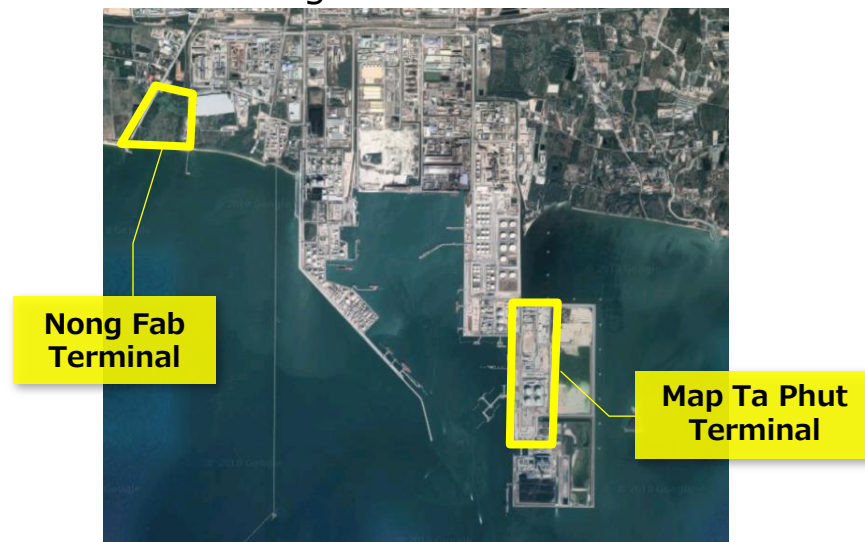
- We invested in Thai-based gas distributor GWHAMT (January 2018), and are now laying gas pipelines in two industrial complexes.
- Starting FY2018, we will complete gas pipelines and start to supply gas in stages.



<Pipeline construction for industrial park in Thailand>

## Engage in LNG terminal construction in Asia

- In Thailand, we received an order for project management consultancy for the Nong Fab LNG Receiving Terminal construction (January 2018), following the Map Ta Phut LNG Receiving Terminal.



<Planned construction site for Nong Fab Terminal>



# Strengthen LNG Value Chain

- Past** Having started to receive LNG from Cove Point, U.S.A., we achieved **LNG procurement for improved flexibility and enhanced competitiveness**. We also **signed heads of agreements to purchase LNG from the very first large scale project in Canada and from Mozambique**. By signing these agreements, **we are contributing to start-up of LNG production projects** and promoting diversification of procurement.
- Future** To improve flexibility and enhance competitiveness, we will **promote global alliance with partners in and outside Japan, including Centrica**, in **new procurement and LNG trading** for optimized management of our own assets.

## Acquire LNG agreement to enhance competitiveness

- As we started to receive LNG from Cove Point, U.S.A., we achieved:
  - **LNG procurement linked to U.S. natural gas price**, which is different from conventional oil price-linked procurement
  - **Procurement from U.S.A.** with great reserves
- On October 10, 2018, we **signed heads of agreement to purchase LNG from LNG Canada with the seller**. Our first procurement from Canada will contribute to further diversification of procurement sources.



<Energy Liberty>

## Promote global alliance

- For Mozambique LNG project in reserve-rich East Africa, Tokyo Gas and Centrica signed a heads of agreement on LNG purchase with the seller as **the world's first joint procurement of Japan and Europe-based companies**.
- With Centrica, we will **deepen LNG trading**, including location swap for transportation cost reduction, for **optimized management of assets, such as LNG agreements and ships**.
- We will promote **global alliance** with partners in Japan, including Kansai Electric Power and Kyushu Electric Power, and partners outside Japan.





# Manage More Competitive LNG Terminals and Power Plants



- Past**
- At the Hitachi LNG Terminal, which started operation in March 2016, we began construction of No. 2 LNG storage tank to **meet a further demand increase of city gas**.
- Future**
- To meet increasing electricity sales**, we consider **expanding power sources to 5million kW** in 2020's. Using digital technology, we will work on **more competitive LNG terminal and power plant management** based on stable supply and ensured safety.

## For a further demand increase and stable supply

- We started to construct No. 2 storage tank (ground PC LNG tank, 230,000 kl) at the Hitachi LNG Terminal, which will start operation in FY2020.



- We will add an LNG vaporization system and emergency power generator to the Hitachi LNG Terminal in FY2018.

That will complete the in-house generation system enhancement at the LNG Terminal, on which we have worked following the Great East Japan Earthquake, and achieve stable supply even in the event of a power outage.

## Securing power source and improvement competitiveness

- We will secure power capacity of **3 million kW** after completion of Kobelco Power Moka power plant. (To start operation in FY2019 and FY2020)
- Based on future system design and market environment, we will make optimal power generation portfolio toward securing power capacity of **5 million kW**.
- We will improve capacity and function of gas turbines at Ohgishima Power in stages from FY2018 to FY2019 to improve output and efficiency and extend the time interval between inspections.

## Develop new demand with LNG bunkering

- We will contribute to expanded the use of LNG as shipping fuel by using LNG terminal facilities.



# Take Measures Against Large-Scale Disasters



- Past** While introducing an earthquake prevention system, SUPREME, based on the knowledge gained from past disaster responses, we have sophisticated disaster prevention measures in light of recent large-scale disasters, including earthquakes and wind and flood damage. We have also conducted **joint disaster prevention education/training for cooperation and partnership** with new gas retailers to secure disaster response ability following the full deregulation of the gas retail market.
- Future** In the event of a large-scale disaster, we will prevent secondary disaster by properly suspending supply and achieve **earlier recovery** by **expanding the system for remote restarting of pressure regulators**, which have already been introduced in some areas.

## Sophisticate disaster prevention with SUPREME

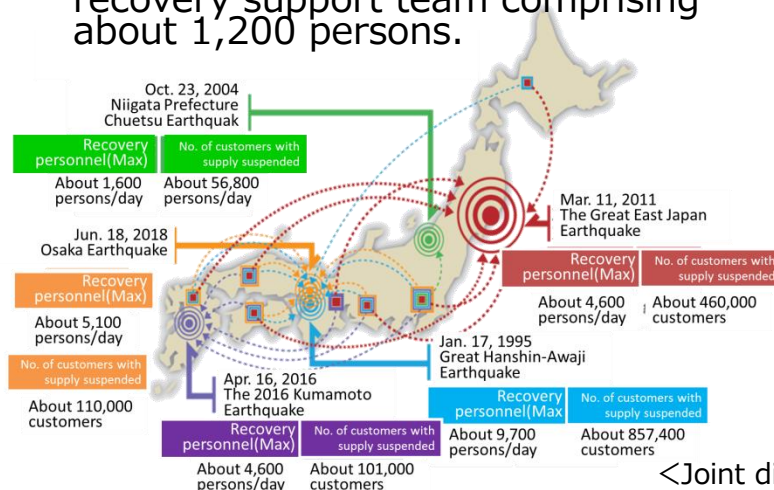
- In the event of an earthquake, we will properly stop supply only in severely damaged areas based on data from sensors (seismometers) installed at about 4,000 sites.
- We will promote introduction of the system for remote restarting of pressure regulators, which allow recovery within the day of disaster in unaffected areas.



<Remote operation of gas facility in supply control center>

## Support recovery efforts of city gas companies across Japan

- City gas companies across Japan have developed **a system for cooperation** regarding personnel, material and equipment required for recovery efforts following large-scale disasters.
- Following the Osaka Earthquake, the Tokyo Gas Group sent a recovery support team comprising about 1,200 persons.



## Partnership with new gas retailers

- We conduct annual comprehensive disaster training for all employees to put in place a system that allows individuals to take appropriate actions in the event of a disaster.
- We conduct regular joint disaster prevention education/training for **cooperation and partnership with new gas retailers**.



<Joint disaster training with new gas retailers>



# Become a Slim yet Powerful Pipeline Business Operator

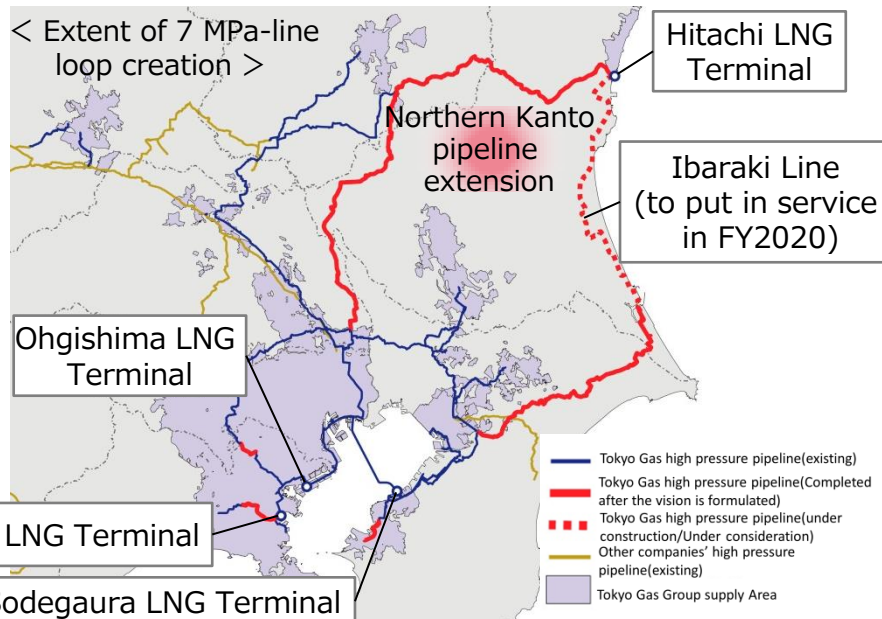
Enhance Energy Infrastructure



- Past** For **the expansion of city gas use** in “**the era of natural gas**,” we have expanded our pipeline network of over 60,000 km, secured demand, implemented safety measures in order to ensure the safe and stable supply required for the use expansion, and secured transparency, neutrality, and fairness after reinventing ourselves as a gas pipeline operator under the newly deregulated conditions.
- Future** We will **extend our pipelines to the Northern Kanto area** with promising natural gas demand and **further improve operational efficiency to reduce the price for transportation service**, with the goal of increasing gas transportation volume.

## Improve stability of supply and increase transportation capability

- We started construction of the Ibaraki Line in January 2018 to step up stability of supply and transportation capability with 7 MPa-line loop creation (to complete by the end of FY2020).



## Ensure security and reduce the price for transportation service

- We established Tokyo Gas Pipe Network Co., Ltd., specializing in pipeline fieldwork (April 2018), and started its operation by consolidating pipeline maintenance and management operations, which we used to entrust to multiple subsidiaries, into the new company (October 2018).
- We aim to be a pipeline operator that is efficient, low-cost, tolerant to changes, and competitive, and has growth potential (slim and powerful pipeline operator).







# Create New Energy Business for Further Growth in the Future



- Past**
- Along with investment in **two U.S. venture capitals** by Acario Ventures established in Silicon Valley, conclusion of one partner agreement, and participation in two accelerator programs, Tokyo Gas has **invested in a domestic venture, Digital Grid Corp.** and **signed a memorandum on corporate venture capital investment with UK-based Centrica.**
- Future**
- In light of 3D (Decentralization, De-Carbonization, and Digitalization) trends, we will **create new energy business** by combining new services in energy trading and combining cogeneration systems and storage cells.

## Apply advanced cases around the world to the Japanese Market

- With **direct access to leading-edge energy and service business areas around the world**, including Silicon Valley, we will apply such business to the Japanese market by taking advantage of our strength.



## Consider new services in the energy field

- Together with Digital Grid Corp., we will **create new services** using block-chain or other advanced technologies, including trading for RE100 companies and P2P, in diversifying energy trading business.
- By combining energy-saving and eco-friendly gas cogeneration systems and storage cells, we will create new value, such as **advanced energy management** for customers and providing load adjustment capabilities required with the widespread use of renewable energy.



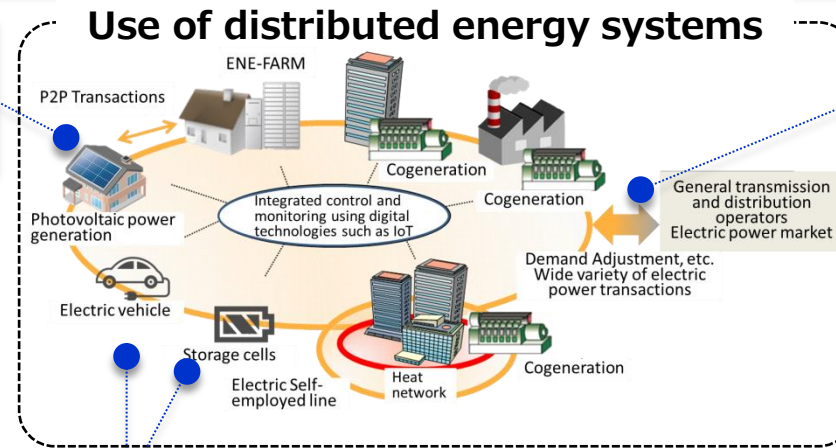
# Respond to Distributed Energy Systems



- Past** ● **Gas cogeneration system** and **ENE-FARM** contributed to the stable supply of energy at the time of power outage occurred in recent disasters. Distributed energy systems are gaining recognition in terms of **stability of supply in the event of a disaster, economical efficiency, and eco-friendliness**. While building smart energy networks for BCP response in Tamachi and Toyosu, we started **demand response (DR) services** to build a **virtual power plant**.
- Future** ● With **acquisition of renewable energy sources, acquisition of electricity from photovoltaic power generation for which the period for the feed-in tariff system will end (PV after FIT), use of storage cells, and alliance with electric vehicle manufacturers**, we will work on distributed energy systems.

Provide new services for future P2P power transactions

- We will start a service to **purchase surplus electricity** from customers whose purchase period for the FIT is ended, and expand the service with Tokyo Gas electric power contracts.



Provide load adjustment capabilities for renewable energy use expansion

- Having won a bid for load adjustment capabilities called from transmission and distribution operators, Tokyo Gas Engineering Solutions as an aggregator is providing DR services.

Optimize energy use with storage cells and respond to the expanding EV market

- To meet customer need for environmental value, we will consider a new service of using surplus electricity purchased to connect customers.
- We will introduce storage cells and EV chargers/dischargers in our sites to conduct characterization tests for private PV power generation and consumption and peak shaving.
- We will continue to develop alliances with automobile manufacturers in response to the expanding EV market. In the second half of this year, we will partner with **Nissan Motor Co., Ltd.** In the future, we will consider **a menu of electricity rates for electric vehicles.**







# Develop Renewable Energy Sources



- Past** ● We have worked on initiatives for renewable energy, including onshore wind power generation. Last fiscal year, we started initiatives for photovoltaic and offshore wind power generation and acquired a solar power plant (owned power: 13,000 kW) and **invested in a large-scale project of Kashima Port offshore wind power generation.**
- Future** ● While **aggressively work on offshore wind power generation**, we will **accelerate participation in projects jointly with business partners**, not just in Japan but **in various countries and areas outside Japan**. In doing so, we will aim to acquire renewable energy sources of **1 million kW (400,000 kW in Japan, 600,000 kW outside Japan).**

## Open up renewable energy in Japan

- We invested (15.6%) in a **large-scale project of Kashima Port offshore wind power generation** (total 187,000 kW), which is planned by Wind power Energy (April 2018).
- We acquired 6 photovoltaic power generation sites (9,000 kW) developed by photovoltaic power generation developer & operator, Photon Japan.
- We co-invested with Tokyo Century and Kyudenko in SFK Power (39%) to acquire 9,700 kW from 6 photovoltaic power generation sites (owned power: 4,000 kW).



<Kashima Port Offshore Wind Power Station Conceptual drawing of completed project site>



<Photovoltaic power generation in Kumagaya City, Saitama Prefecture>



<Photovoltaic power generation in Nankan-cho, Kumamoto Prefecture>

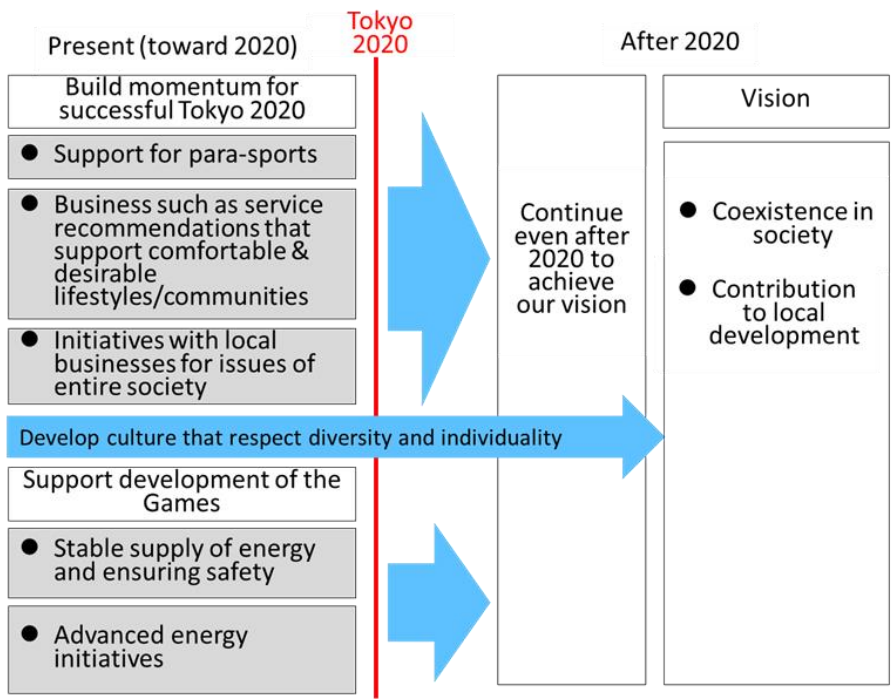


# Initiatives toward Ensuring a Successful Tokyo 2020 Olympic and Paralympic Games



- Past** We established the Tokyo 2020 Olympic and Paralympic Department to support operation of the Games and build momentum as a **Tokyo 2020 Olympic official partner** (in the gas & gas utility services category). We are particularly **focusing on ensuring a success of Tokyo 2020 Paralympic Games** to develop society that is friendly to anyone.
- Future** Viewing the Tokyo 2020 Olympic and Paralympic Games as **an opportunity to promote coexistence in society**, we are advancing initiatives towards achieving this vision. We will also work to ensure that the initiatives will be sustainable and continue after the games are over.

## Contribute to local development through support for the development of the Games



## Some of activities launched in FY2018

Area	Activity	Results
Watching para-sports	46th Japan Wheelchair Basket Ball Championship Japan Para Wheelchair Rugby Championship Japan Para Swimming Championship	About 3,000 persons in total
Operation volunteer	Japan para-sports events	About 110 persons in total
Promoting understanding of para-sports	Learn More about Tokyo 2020 Paralympic Games, All 22 Sports@Toyosu Gas Science Museum, Shinjuku, Yokohama	About 3,300 persons
Initiatives for coexistence in society	Group employees' acquisition of basic "service care fitter" certificate (2020 target: 1,000 persons) Para-athlete & family one-handed cooking class	About 460 persons in total
Tokyo 2020 Participation program	Traveling class on para-sports (resource energy version, eco food version)	About 4 times/year; Total 250 times with 8,000 persons (plan)
Advanced energy initiative	Introduction of eco cars (2020 target: 100 vehicles)	About 56 vehicles (plan)



# Contribute to Achieve SDGs

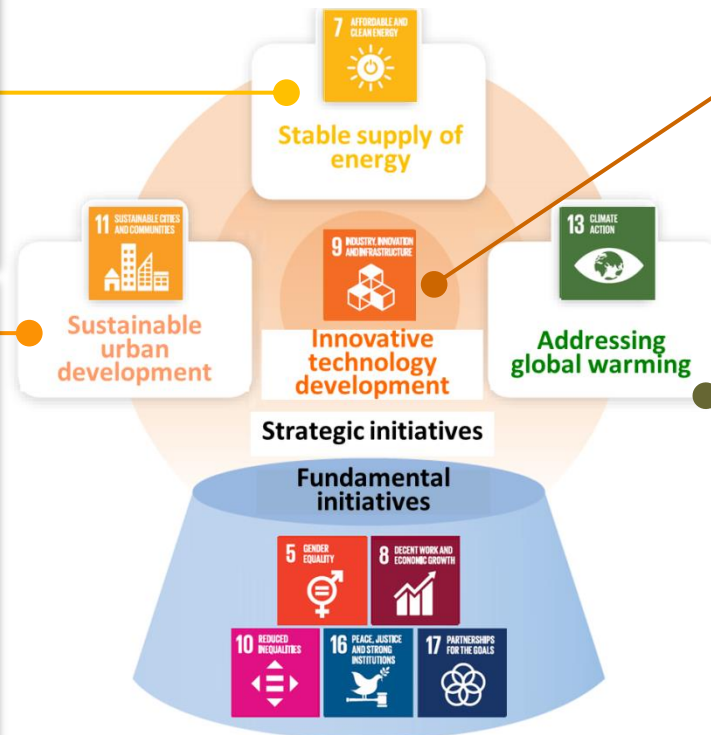


- Past** ● Becoming Japan's first LNG importer in 1969, we have converted raw materials into low-carbon natural gas, and promoted wider use of natural gas with the development of LNG terminals and pipeline networks, earthquake prevention measures, high-efficiency gas equipment to deliver city gas to many customers.
- Future** ● Through GPS×G initiatives, we will focus on areas of the sustainable development goals (SDGs) where the Tokyo Gas Group aim to contribute, with **safe and stable supply of clean energy** and **sustainable lifestyle and urban development**.

- Provide cleaner energy by converting to low-carbon natural gas, improving efficiency in gas production and power generation, and introducing renewable energy.

- With smart energy network initiative, enhance community-wide energy efficiency and disaster prevention function to make communities better places to live.
- Contribute to comfortable lifestyles through the provision of gas, electricity and services.

## SDGs to which the Tokyo Gas Group aims to contribute



- Develop technologies to significantly improve power generation efficiency in order to expand the use of environmentally friendly fuel cells.
- Build city gas pipeline networks that are reliable and resistant to disasters, and robust energy infrastructure in Southeast Asia.

- Reduce GHG emissions across the value chain, from LNG production and transportation, to gas production and power generation, and to use at customer sites.





# Strengthen systems through business reforms to promote priority strategies and infrastructure reinforcement



- Past**
- In order to steadily promote the key strategies and infrastructure reinforcement of the "GPS 2020" we have been working to strengthen our system by acquiring renewable energy sources and promoting open innovation.
- Future**
- With **further use of digital technologies, including IoT and AI**, we will strengthen our systems and functions to improve **further value creation** and **improved convenience for customers**, not jut improving core operational productivity.

## Production/power generation

## Supply

## Sales/services

### [Safety improvement at LNG terminals]

- We aim to improve safety and disaster prevention of fieldwork with sophistication of inspection quality using wearable cameras, etc. and vital sensors.

### [Reviewing gas equipment inspection]

- We will facilitate inspections at customer sites by using database of equipment that requires inspection via mobile devices.

### [Lifeval sales reform]

- We will provide services at the timing that customers desire by elaborating time to visit and completing work on-site using mobile devices.

### [Sophistication and efficiency improvement of operations]

- We will build data platforms for LNG terminals and power plants for sophistication and efficiency improvement of operations and facility management.

### [Expediting response to gas leak]

- We will use an automated emergency vehicle dispatch system to achieve vehicle dispatch regardless of the area and shorten the time to reach the site in emergencies.

### [Expanding means of communication]

- By combining automated telephone answering, web, SNS and chat, we will answer to customers by means and at timings that customers desire.

### [Operational reforms]

We will speed up operations by using digital technologies for low-cost and timely GPS delivery.

Supporting you Always and bettering every day

