Cev CSR Activity

Enhancement of Energy Security

Always striving to deliver better service, the Tokyo Gas Group pursues the steady, low-cost procurement of LNG while also ensuring the safety of customers. We are accelerating the pace of business expansion overseas and establishing our LNG value chain, both at home and abroad, so that we can contribute to regional development. We do this by providing stable energy supply and energy infrastructure while offering energy solutions in Japan and other countries in which we do business.



Stable Supply

Pursuing Steady, Cost Competitive LNG Procurement

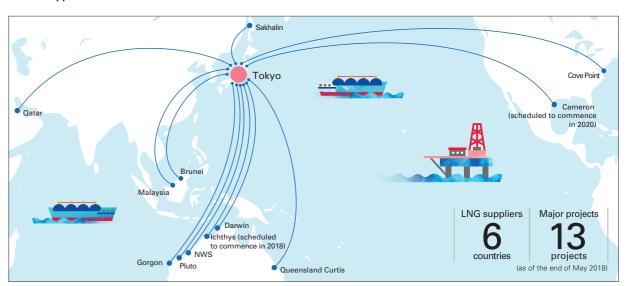
Tokyo Gas currently imports LNG under long-term contracts from countries in the Asia-Pacific region and Russia as well as others. In May 2018, we began procuring LNG from the Cove Point Project in the United States.



TOKYO GAS TOP > CSR Report > Enhancement of Energy Security > Targets and Performance

https://tokyo-gas.disclosure.site/en/themes/97

LNG Suppliers



Developing Our Natural Gas Infrastructure in Japan

Under the Medium-term management plan GPS2020, the Tokyo Gas Group has been developing and augmenting an infrastructure that is optimal for achieving a wider use of natural gas. To meet demand for natural gas primarily for industrial use in Ibaraki and Tochigi prefectures, we completed construction of a transmission pipeline between Koga and Moka in fiscal 2017. As a result, we extended the total length of our high-pressure pipeline network in the Greater Tokyo Area to about 982 kilometers. Additionally, construction of the Ibaraki Line is underway to complete the looped network of highpressure pipelines that will serve the entire area. It will also improve the stability of supply and increase transport capacity across our gas supply network.

Evolving into a Total Energy Business

In our liquid gas business, which includes LPG, we are targeting one million or more customers by 2020 through partnerships. Toward ensuring a steady, efficient supply, we signed a basic agreement in February 2018 with Astomos Energy Corporation and ENEOS GLOBE Corporation to explore partnerships for jointly handling operations such as the filling and delivery of LPG.

While making a focused effort to expand our electric power business, we will nearly double our proprietary power sources from approximately 1.6 million kW as of the end of March 2018 to 3.0 million kW by 2020, at which point we plan to have already purchased a power source from Kobelco Power Moka Inc. in 2019.

Tokyo Gas Group

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84.1%

Expanding Our Overseas Business

Driven by outstanding economic growth, global demand for energy is rising rapidly. Subsequently, Tokyo Gas participates in new overseas projects and is developing business in new areas. Together with Tokyo Gas Engineering Solutions Corporation, we now operate businesses in nine countries and are involved in as many as 22 major projects as of the end of March 2018.

Demand for natural gas is projected to grow in Southeast Asia, where we are forming partnerships with leading local companies to expand businesses particularly in the mid- and downstream sectors. In fiscal 2017, we concluded a strategic alliance agreement with PetroVietnam Low Pressure Gas Distribution Joint Stock Company (PVGD) of Vietnam and extended capital investments in PT Panji Raya Alamindo (PRA) of Indonesia and Gulf WHA MT Natural Gas Distribution Co., Ltd. (GWHAMT) of Thailand.

In North America, where there is greater progress being made in the development of shale gas and other types of natural gas, in addition to LNG, we are working to establish our energy infrastructure by participating in upstream businesses and power generation projects. In fiscal 2017, we invested in the gas development company Castleton Resources LLC and participated in a natural gasfired power plant business in Birdsboro.

The Tokyo Gas Group will continue to build energy infrastructure and provide energy solutions by leveraging its technology and know-how. At the same time it will further expand its value chain by forging closer cooperative relationships with overseas subsidiaries.

Seeking Greater Breadth and Depth in Our Overseas Business

Promising Initiatives on Energy Resource Procurement

In May 2017, Tokyo Gas America Ltd. acquired a 30% equity interest in

Castleton Resources LLC (CR) to develop gas in Texas. This is the third gas development project in which Tokyo Gas has participated, and the first capital investment in a U.S. gas developer.

CR owns a leasehold in Texas where it develops shale gas and tight sand gas, which show promising potential as new sources of energy, through an affiliated operating company. We believe that our latest investment will contribute to the sustainable and stable supply of energy.



East Texas tight sand and shale

Developing Business in Southeast Asia Based on Proprietary Resources

In July 2017, Tokyo Gas Asia Pte. Ltd. acquired a 24.9% equity interest of

PetroVietnam Low Pressure Gas Distribution Joint Stock Company (PVGD), a Vietnamese gas distributor, and concluded a strategic alliance agreement. Tokyo Gas had signed a comprehensive cooperation agreement on developing an LNG value chain with PVGD's parent company PetroVietnam Gas Joint Stock Corporation in March 2012, and our latest agreement resulted from continuous negotiations on the substance of cooperation. The acquisition of PVGD stock is the second case in which we have expanded our business domain in Vietnam under a comprehensive cooperation agreement. In the years ahead, we will strive to enhance the value of PVGD's business by applying the Tokyo Gas Group's know-how on developing demand and energy-saving technologies.

Tokyo Gas Asia Pte. Ltd. established a joint venture with Development

Bank of Japan Inc. in October 2017 to acquire a 33% equity interest of PT Panji Raya Alamindo (PRA), a gas distributor and subsidiary of PT Rukun Raharja Tbk, the largest private gas company in Indonesia. This is Tokyo Gas's third investment in an overseas gas distributor. Indonesia is experiencing remarkable economic growth, and demand for energy in the industrial and commercial sectors is expanding rapidly. We will seek to raise the value of PRA's business by making use of the Tokyo Gas Group's know-how and human resources.

Service Framework for Providing Everyday Comfort

The Tokyo Gas Group set up the Tokyo Gas LIFEVAL network as a one-stop shop for products and services that improve quality of life. As of April 1, 2018, the network consisted of 32 corporations in 62 regional blocks. Tokyo Gas LIFEVAL performs a number of tasks such as periodic safety inspections of gas equipment, meter readings, opening and closing of gas valves, the sale, repair and installation of gas appliances, and processing of applications for gas and electricity services. In addition, they provide information related to energy and daily life, such as plumbing renovations, energy conservation and power generation, to help local residents enjoy safe, environmentally friendly, comfortable lives.

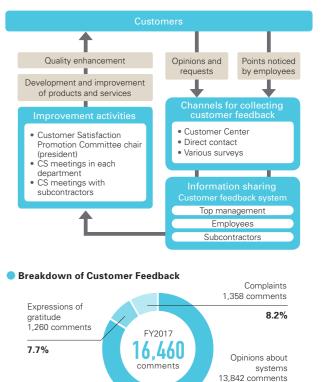
We also seek to deliver peace of mind in general through our services. To address a range of daily needs, the broad lineup of services we offer customers includes Emergency Home Assist Services, Gas Fixture Troubleshooting Support, Residential Monitoring Services, Electricity Troubleshooting Support and Gas Fixture Special Support. And we are helping to enhance energy security for customers by providing better products and services.

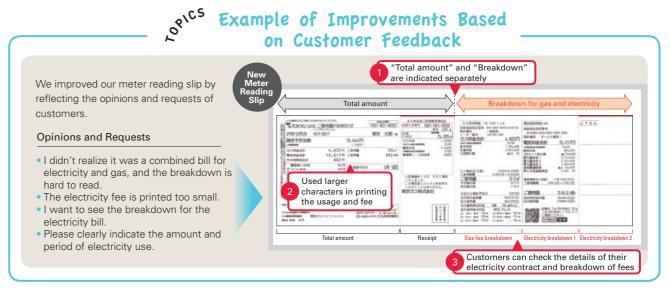
Customer Feedback in Management

For Tokyo Gas, delivering customer satisfaction is far more important than simply delivering a product or service. We understand the importance of improving the quality of management by incorporating customer feedback into our products and services, and we seek feedback from

customers through calls to our Customer Center, direct contact and various surveys. The opinions and requests we receive are shared within the company and all the way up to top management. Moreover, they are incorporated into our daily activities as we make improvements and enhance quality. We report back to customers on some of these efforts through our corporate website.

● Framework for Incorporating Customer Feedback





Tokyo Gas Group

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The Pursuit of Safety

Three Key Areas of Earthquake Countermeasures

The Tokyo Gas Group is strengthening the disaster-resilience and safety of its gas supply operations so that customers can continue to use gas confidently, even after the Japanese gas retail market is fully liberalized. Our countermeasures for earthquakes and disasters address the three key areas of prevention, emergency and restoration

1 Prevention

Highly Earthquake Resistant Facilities

To minimize potential damage, critical facilities are being reinforced to withstand earthquakes and tsunamis.



>> LNG Tanks

Tanks used for storing imported I NG are designed to maintain high structural integrity that can fully withstand major earthquakes



>> High-pressure and Medium-pressure Gas Pipelines

These pipelines, connecting LNG terminals and district governor installations, are made of strong, flexible materials that can withstand the impact of ground movement caused by earthquakes

>> Gas Holders

These containers hold the gas supplied in response to demand and feature a robust structure of multiple steel

>>> Low-pressure Gas Pipelines

A low-pressure gas pipeline comprises about 90% of the total length of a gas pipeline, and newly installed low-pressure gas pipelines are made of polyethylene to minimize damage caused by earthquakes.

2 Emergency

Quick Shutdown of Gas Supply to Prevent Secondary Disasters

Our system is capable of remotely shutting down gas supply to individual buildings as well as to entire zones.



>> District Pressure Regulators

District pressure regulators reduce gas pressure from medium to low before it is sent to customers. Our service area includes approximately 4,000 district pressure regulators, each equipped with a seismic sensor and emergency shutdown device, which will cut off gas supply when a major earthquake is detected.

>> Supply Control Center

The Supply Control Center accurately controls gas production and supply around the clock, 365 days a year. In the event of an earthquake, it gathers information through the earthquake disaster prevention system and remotely suspends gas supply

>> Intelligent Gas Meters

Intelligent gas meters are equipped with a safety device that will automatically cut off gas supply to individual buildings when it detects earthquakes measuring 5 or greater on the Japanese seismic scale or an abnormal gas flow

>> Disaster Prevention Blocks

Medium-pressure and low-pressure pipeline networks are divided into several blocks, and emergency measures are taken at the block level according to the degree of damage.

Earthquake Damage Prevention System

SUPREME is our system for preventing earthquake damage by utilizing seismic sensors positioned in a highly dense layout of one per square kilometer.



3 Restoration

Safe and Swift Restoration of Gas Supply

We make maximum use of IT systems to efficiently shorten the time it takes to restore gas supply to areas where service has been suspended



>> Restoration System

In July 2014, we introduced a remotely controlled system for resuming gas supply within a day of a disaster in less damaged districts.

>> Information on Suspension and Restoration of **Gas Supply**

We provide customers with information on resetting gas meters and the status of suspension and restoration of gas supply via TV and the Internet. The reset procedure is also explained on a tag attached to



TV broadcast following

>> Mutual Support Structure

More than 200 city gas companies across Japan have signed onto a mutual support system for restoration through the Japan Gas Association in the event of a major disaster.

Maximum number of restoration staff (annroximate)

otan (approximato)
9,700 per day
1,600 per day
4,600 per day
4,600 per day
5,100 per day

Safety Measures for Customers

Periodic Safety Inspections of Gas Equipment

Under the Gas Business Act, we periodically inspect gas equipment at all customer sites at intervals mandated by law. As a general gas pipeline operator, we check for gas leaks on customer premises. As a gas retailer, we visit customers to inspect gas appliances as well as air supply and exhaust systems. Also, we recommend the installation of gas and carbon monoxide alarms and provide contact information at times when an industrial ventilation alarm goes off.

Emergency Safety Techniques and Skills Exhibition

We have continuously held emergency safety techniques and skills exhibitions for enhancing the quality of our emergency safety operations and passing on skills to the next generation of employees. In fiscal 2017, Tokyo Gas and subcontractors gathered to demonstrate and

mutually enhance their techniques and skills for daily operations such as gas pipe repairs and initial response to gas leaks, with 308 people in attendance. Through these efforts, we endeavor to raise awareness and ensure safety, security and reliability for customers.



Gaslight 24, a Round-the-Clock Emergency **Dispatch System**

Gaslight 24 teams, on call around the clock, immediately respond to a gas leak or other emergencies. Within the 5 blocks of the Tokyo Gas service area, about 600 experts are stationed at 49



Safety Measures for Gas Appliances and Equipment

Tokyo Gas promotes the switch to safer appliances through periodic safety inspections of gas equipment. We have also established a quality control department for the prompt investigation of causes of failures and incidents involving gas appliances, thereby ensuring customer safety and eliminating concerns.

