



SERVICE BUSINESS

Engineering Solutions

Outline

For almost half a century, since introducing LNG to Japan for the first time in 1969, Tokyo Gas has consistently handled processes across the entire LNG value chain, including both upstream and downstream processes, from procurement and transportation to manufacturing and supply, sales and energy solutions.

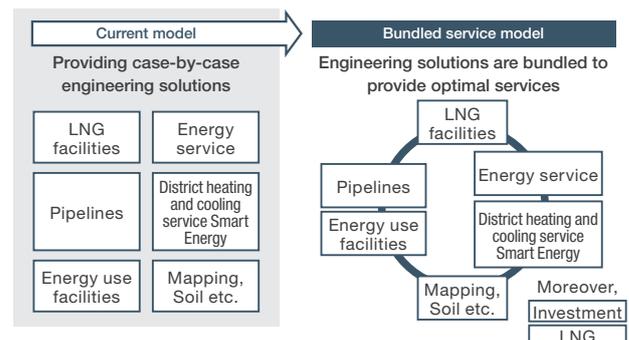
Utilizing the technological capabilities and know-how developed through these processes, Tokyo Gas provides one-stop solutions to match the needs of customers both in Japan and overseas, including LNG terminals, pipelines, district heating and cooling, and energy services.

Net sales **¥146.9** billion FY2018

Segment profits **¥6.2** billion FY2018

Providing individual solutions as a bundle

We offer optimal services by bundling a selection of engineering solutions that meet the needs of customers based on those owned by Tokyo Gas Engineering Solutions Corporation (hereinafter "TGES").



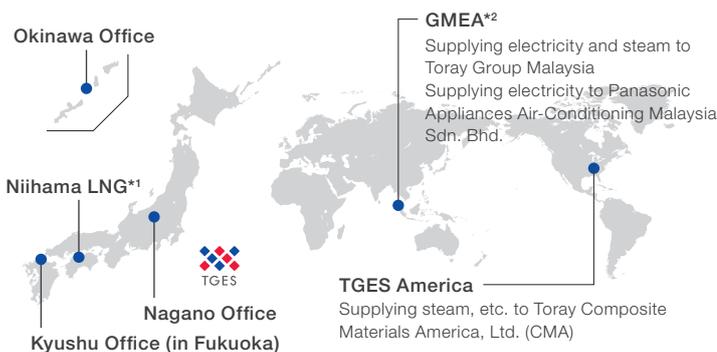
From Kanto to the whole of Japan, and to the world

TGES was established in April 2015 to integrate the Tokyo Gas Group's capabilities in engineering and energy solutions. It has branches in Nagano, Fukuoka and Okinawa. In Ehime, it jointly established Niihama LNG Co., Ltd. with four companies that are engaged in business with local firms and other organizations.

Overseas, it operates an energy service business through

Gas Malaysia Energy Advance Sdn. Bhd. (GMEA) in Malaysia and through TGES America Ltd. in the U.S. An LNG terminal construction project is in progress in Thailand.

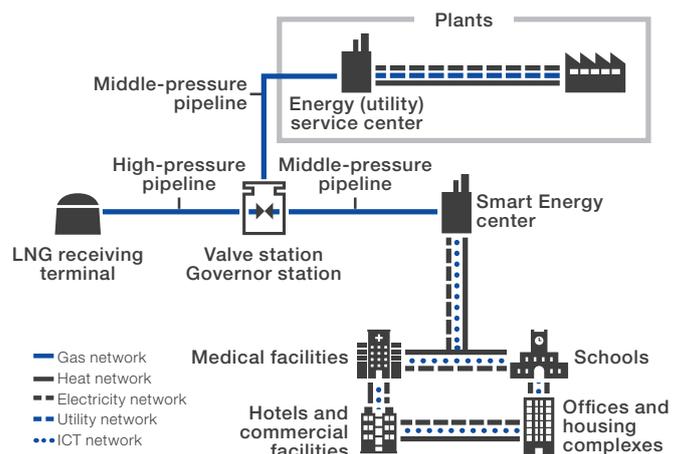
By partnering with energy suppliers in various regions and utilizing its technological capabilities and know-how, TGES provides engineering solutions to customers both in Japan and overseas.



*1 Niihama LNG Co., Ltd. (TGES: 50.1%, Shikoku Electric Power Co., Inc.: 30.0%, SUMITOMO CHEMICAL COMPANY, LIMITED: 9.9%, SUMITOMO JOINT ELECTRIC POWER CO., LTD.: 5.0%, Shikoku-Gas Co., Ltd.: 5.0%)

*2 Gas Malaysia Energy Advance Sdn. Bhd. (GAS MALAYSIA ENERGY ADVANCE Sdn. Bhd. (Gas Malaysia Co.:66%, TGES:34%))

Diagram of Engineering Solution Supply



Providing engineering solutions leveraging technological capabilities and know-how developed over almost half a century

The Tokyo Gas Group has handled processes across the entire LNG value chain for almost half a century, including both upstream and downstream processes. We offer the knowledge and expertise that we have accumulated through actually using

the LNG terminals, pipelines, district heating and cooling centers and various other facilities and equipment that we have designed and built during that time as engineering solutions based on user's know-how, to clients both in Japan and overseas.

Engineering business

Based on accumulated user's know-how, the Tokyo Gas Group provides total, optimal engineering solutions, including those for after facilities commence operation. Since the 1980s, the Group has built up a track record of achievements both in Japan and overseas, and is involved in numerous projects in regions such as Asia, where growth in demand is becoming increasingly evident.

Energy service business

Through its energy service business, TGES supplies heat, electricity, water and air by building systems—which focus primarily around gas cogeneration, but also incorporate renewable and unharnessed energy sources—to meet customer needs that include energy-saving, CO₂-reducing, cost and labor saving, and BCP (Business Continuity Planning) solutions. We also continue to evolve and adapt by engaging in new initiatives such as smart energy networks and regional lending.

Case 1

Thailand: LNG receiving terminal construction PMC (January 2018)

In 2014, TGES was awarded an order for assignment as a project management contractor (PMC) for the capacity expansion construction project at PPT LNG Map Ta Phut LNG Receiving Terminals, Thailand. TGES was subsequently awarded another PMC contract by PTT LNG to manage its Nong Fab LNG Receiving Terminal construction project, and is currently engaged in associated project management duties.

In recognition of its technological strengths and abundant experience accumulated through the construction, operation and maintenance management at LNG receiving terminals in Japan and overseas, TGES won this order. It will carry out the overall management of the project, including the technological and contractual aspects, to ensure the design, procurement, construction (safety, quality and process) and trial operation performed by the construction contractor will be implemented as planned.



Nong Fab LNG Receiving Terminal

Case 2

Utility services at the Iwaki City Medical Center (Iwaki City, Fukushima Prefecture)

Reconstructed at a new location in winter 2018 and designated as a core disaster hospital, Iwaki City Medical Center has introduced gas cogeneration to enhance its business continuity and reduce the environmental impact. TGES carried out one-stop management of gas cogeneration and other energy equipment and built facilities through stationed personnel to provide an environment that allows the client to concentrate on hospital management. During the introduction, it collaborated with Jobankyodogas Co., Ltd. on gas supply and energy services. The client, the gas operators and service operators respectively contribute to local medical care in their own roles.



Iwaki City Medical Center

Example of bundled services

Implementation of the Niihama LNG Project

It is a joint project with four other companies: Shikoku Electric Power Co., Inc., Sumitomo Chemical Co., Ltd., Sumitomo Joint Electric Power Co., Ltd., and Shikoku-Gas Co., Ltd. The five companies made joint investments to establish Niihama LNG. Currently, a new LNG terminal is being constructed on the premises of the Ehime Works of Sumitomo Chemical. Niihama LNG will accept LNG at the terminal and operate the terminal, including gasification. Natural gas and LNG will be supplied to the Ehime Works, the natural gas thermal power plant built by Sumitomo Joint Electric Power and the neighboring district. This project will spread the use of natural gas.

TGES will capitalize on its engineering abilities in design, construction and operation for the construction of the terminal and the pipeline. It will push ahead with demand cultivation using its diverse know-how gained by engaging in energy solutions.



Niihama LNG Terminal

New business development in Southeast Asia

My duties are to develop the district heating and cooling business outside Japan. In Southeast Asia, economic growth is accelerating urban development. The introduction of district heating and cooling systems is predicted to quicken. TGES has around 50 years of experience as Japan's largest district heating and cooling operator, although it is a new entrant overseas, where it lacks a track record. In the tough competitive environment, we are careful to respond swiftly and sincerely in business talks and involve concerned parties to persistently advertise the Tokyo Gas Group's latest technologies, proven track record and reliability. Now it is vital to win a first project that will serve regional development using the technologies cultivated in Japan. We will continue to work with an eye towards developing peripheral businesses, such as energy services and the expansion of the smart energy network.

Message

Masahiro Suzuki

Overseas Business Division
 Tokyo Gas Engineering
 Solutions Corporation



SERVICE BUSINESS

Urban Development Service (Real Estate)

Outline

Over the course of 130 years in business, the Tokyo Gas Group has acquired large-scale and medium-scale properties (areas of land) with high utilization value, in high-profile areas such as Shinjuku, Ginza, Tamachi and Toyosu. Utilizing sites which it owns but which are no longer required for business purposes, and with a primary focus on city center areas, the Group operates an office and residential real estate leasing business, working around the basic concept of securing stable revenues and improving asset value. It will work on joint projects with business partners in an effort to expand the regional development services business.

Net sales **¥44.6** billion FY2018

Segment profits **¥9.1** billion FY2018



Office leasing business msb Tamachi (musubu Tamachi)

At our property which connects directly to the East Exit of Tamachi Station on the JR Yamanote Line, we are engaged in the development of a smart energy network and enhanced Business Continuity Planning (BCP) functionality (such as by installing dual-fuel emergency generators that can run on both heavy fuel oil and city gas). Through this project, we aim to contribute to the local community by creating an advanced and appealing urban development and real estate leasing business. Phase I of the development (Tamachi Station Tower S and Pullman Tokyo Tamachi) was completed in May 2018, and it is now followed by Phase II (Tamachi Station Tower N). We are striving to finish it in fiscal 2020.

Note: Phase I: Land leasing business, Phase II: Office leasing business (based on Tokyo Gas capital investment)

Type 1 Urban Redevelopment Project in the Toranomon 2-Chome District

The Tokyo Gas Group takes part in the consortium for the construction of a large complex that will mainly accommodate offices (scheduled to be completed in November 2023) and for the acquisition of its reserve floor area in the redevelopment project at the former site of the Toranomon Hospital, near Toranomon Station on the Tokyo Metro Ginza Line and Tameike-Sanno Station on the Ginza Line and on the Namboku Line.

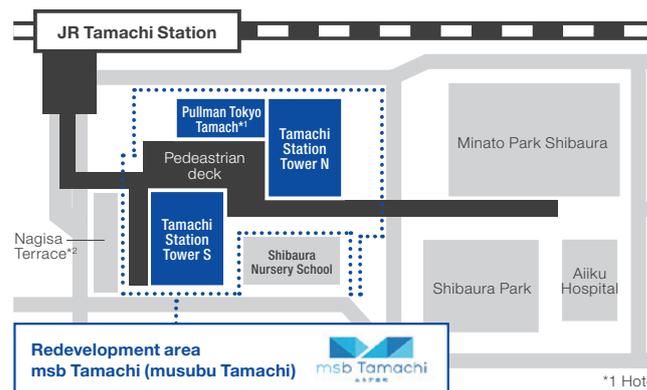
Around the project site, there are a number of other ongoing redevelopment projects. The district is gaining significant attention, because it will undergo a dramatic change in the next couple of years. We will be committed to the project to contribute to energization of the entire area.



msb Tamachi (musubu Tamachi)

Type 1 Urban Redevelopment Project in the Toranomon 2-Chome District

Shiba Park Building



*1 Hotel
*2 Commercial Building

Shiba Park Building

It is a rare, large office building in Tokyo, with a single floor area of approximately 6,000m² and located within walking distance from JR Hamamatsucho Station, and Daimon Station and Shiba-Koen Station on the Toei Subway. We have acquired it and now jointly operate it with five companies, including Kanden Realty & Development Co., Ltd.

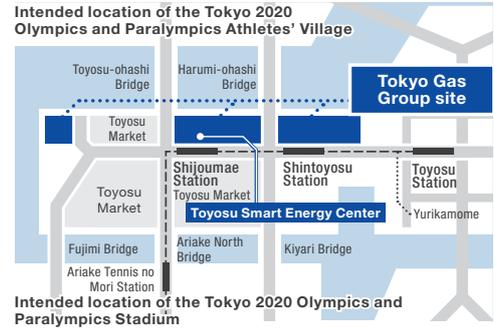
We and Kansai Electric Power Co., Inc., a parent company of Kanden Realty & Development, Co., Ltd. have concluded a strategic partnership in the real estate business. Acquisition of this property is the first achievement of the partnership between the two companies. We will continue to share know-how, consider joint projects and take other actions that enrich the partnership.

Residential leasing business

We are also engaged in proactive leasing business operations on small to medium-sized properties (as of March 2019, 13 buildings with 326 residential units). As we head towards the 2020s, we will aim to achieve further business growth and expansion, as we acquire more real estate properties in order to create good quality assets that are well-suited to leasing. In October 2019, construction of a rental housing complex in Nerima-ku, Tokyo, provisionally named Toyotama Rental Housing Complex, is scheduled for completion.

Toyosu mixed land area property development

The Toyosu area is situated in a prime location, approximately 4km away from Tokyo Station. With significant events such as the opening of the new Toyosu Fish Market in October 2018 and the coming hosting of the Olympic and Paralympic Games in 2020, the area is now attracting even greater attention. The Tokyo Gas Group aims to create a new mixed land area development in Toyosu that will include both residential and commercial properties, in a development area covering approximately 17ha.



Initiatives Towards Achieving the Sustainable Development Goals (SDGs)

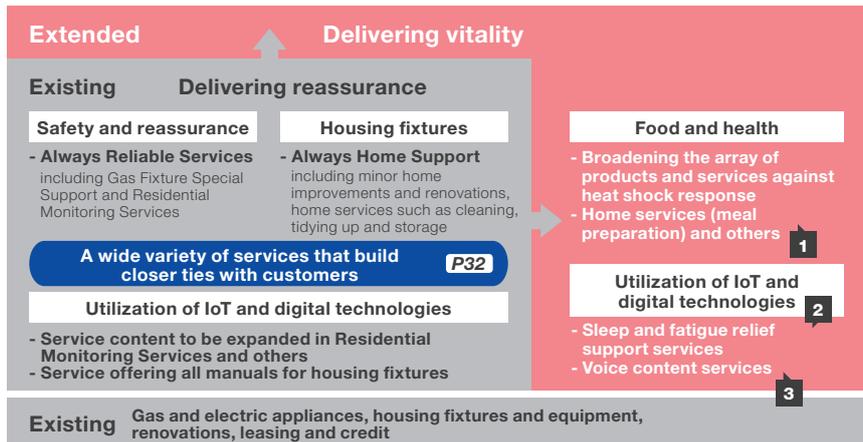
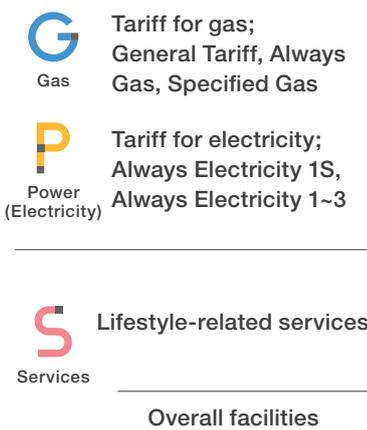
We are conducting urban development to construct urban districts where communities are in harmony with the environment. Using gas cogeneration systems, renewable energy and suchlike, the smart energy network improves energy conservation, eco-friendliness and disaster control qualities.



Promotion of GPS for households

Broadening the array of Service items through co-creation

The Tokyo Gas Group will combine services matched with customers' lifestyles through its proposal of gas and electricity supply to provide greater economic value, peace of mind, simplicity and convenience for customers. To further satisfy their requests, we are expanding the co-creation of services developed with business partners, including business ventures. We will consider investing in partner companies if a higher level of synergy is expected.



Expansion of co-creation and consideration of investment

We will integrate our knowledge and expertise with business partners to provide vitality in addition to reassurance.

1 (Co-creation) Home services

We offer home services to customers in collaboration with Kajitaku Co., Ltd., which operates meal preparation, cleaning and tidying and storage services. Especially for the meal preparation service, Tokyo Gas offers premade recipes to KAJITAKU CO., Ltd based on its know-how cultivated by running cooking classes since 1913 and giving food preparation guidance to its employees.

2 (Co-creation and investment) Sleep and fatigue relief support services

We have formed a capital and business partnership with EcoNaviSta Co., Ltd. to jointly develop services that will support customers' health.

3 (Co-creation and investment) Voice content services

We have formed a capital and business alliance with OTOBANK Inc. to jointly develop voice content that is helpful for putting young children to sleep, meal preparation and other daily situations.