

# Joint development of a gas differential pressure power generation system that significantly reduces installation space and installation costs

–Contributing to CO<sub>2</sub> reduction by utilizing unused energy–

July 24, 2023  
Toho Gas Co., Ltd.  
TB Global Technologies Ltd.

Toho Gas Co., Ltd. (President: Nobuyuki Masuda, hereinafter referred to as “Toho Gas”) and TB Global Technologies Ltd. (President: Laurent Poidevin, hereinafter referred to as “TB Global Technologies”) have jointly developed a gas differential pressure power generator (hereinafter referred to as “this system”) which significantly reduces installation space and introduction costs that contributes to the reduction of CO<sub>2</sub> by utilizing unused energy. This system has started operation at Toho Gas’s Yokkaichi terminal and is expected to reduce approximately 900 tons of CO<sub>2</sub> per year (approximately 10% of the amount of CO<sub>2</sub> generated during gas production at the Yokkaichi terminal).

In the supply process of city gas, the gas is transported at high pressure and the pressure is reduced using a governor (pressure regulator) according to the usage at the customer’s site. Gas expansion energy is generated when the pressure is reduced, but in order to utilize this energy, it has been necessary to install turbines, generators, and other incidental equipment, etc., which has hindered the dissemination of such technology.

This system, which integrates a turbine and a generator, has achieved a reduction in installation space of more than 50%\* and that in introduction cost of more than 30%\* compared to conventional systems. In the future, we will promote the use of unused energy and contribute to the reduction of CO<sub>2</sub> by expanding the use of this system among large-scale customers such as city gas companies and factories, including our company.

The development of this system has been adopted as a subsidized project of the “Technology Development and Demonstration Project to Strengthen Measures to Reduce CO<sub>2</sub> Emissions” of the Ministry of the Environment.

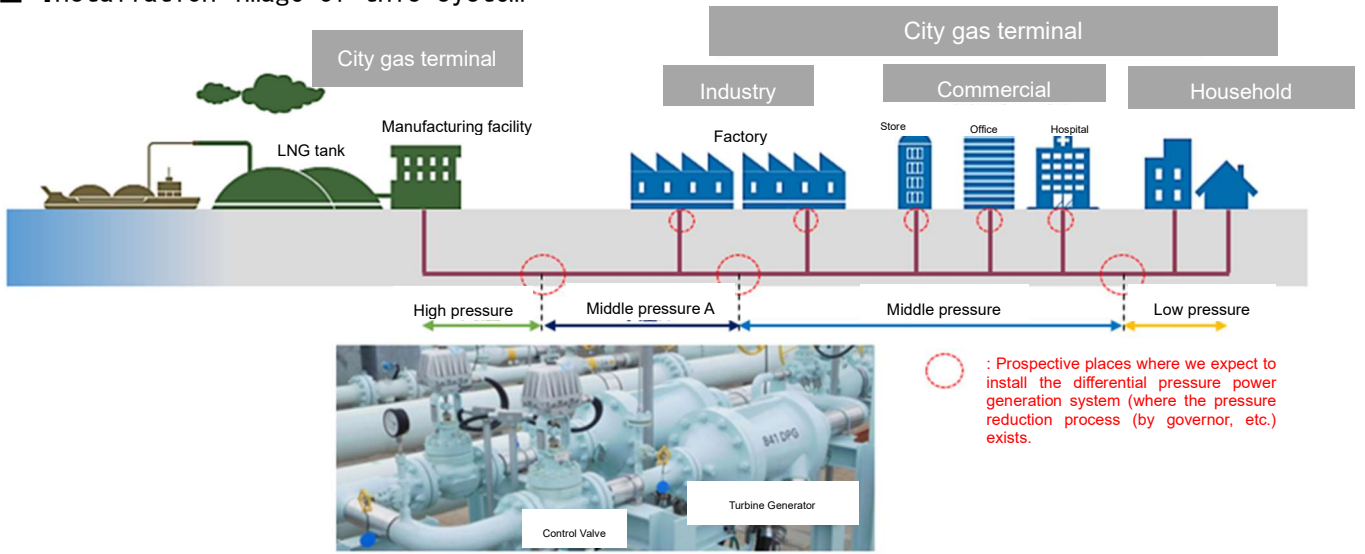
Toho Gas and TB Global Technologies will continue to contribute to the society through the development and dissemination of new technologies.

\* Estimated by our company

## Overview of the system that started operation at Toho Gas Yokkaichi terminal

Installation location	1-22-5 Kasumi, Yokkaichi City, Mie Prefecture (Toho Gas Yokkaichi terminal)
output	Turbine generator 125 kW : 1 unit, 280 kW : 1 unit
feature	· Since the turbine and generator are integrated, it saves space (there is no need for a building to reduce noise). Reduce CO <sub>2</sub> emission by utilizing unused energy when decompressing city gas.

■ Installation image of this system



Outlook of the system

[ Company Profile]

• Toho Gas Co., Ltd.

Established	June 26, 1922
Head office location	19-18 Sakurad-acho, Atsuta Ward, Nagoya City, Aichi Prefecture
Representative	Nobuyuki Masuda, Representative Director, President
Business content	Gas business, electricity business, etc.

• TB Global Technologies Co., Ltd.

Established	October 1, 2006
Head office location	28th floor Kyobashi Edogrand, 2-2-1 Kyobashi, Chuo-ku, Tokyo
representative	President and Representative Director Laurent Poidevin
Business content	Development, design, manufacturing, sales, after-sales service, etc. of the energy-related system such as fluid handling equipment and other machineries

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