

Glossary

A

Aging pipelines	Gas pipelines under roads and customer sites that may have become corroded or otherwise degraded over time and must be replaced or repaired.
------------------------	--

B

Ballast water	Water pumped aboard a ship to assist in maintaining its balance when it is sailing with a small load and could become unstable. The seawater at ports of call is often used as ballast water, and the aquatic organisms it contains may become invasive and adversely affect ecosystems when discharged in other locations.
BCP	Abbreviation for business continuity plan. Documented preparations by a company for an emergency, such as a natural disaster, major fire or terrorist attack. These plans describe actions to be taken under normal conditions, and the means, methods and other arrangements to be implemented during emergencies to ensure the continuation of business while minimizing loss or damage to operating assets, and maintaining or immediately restoring core operations.
BELS	Abbreviation for Building-Housing Energy-efficiency Labeling System. A system in which third-party evaluation agencies assess and certify new and older buildings for their energy-saving performance.
Biomass	Organic matter other than fossil resources derived from renewable sources such as waste wood and kitchen waste. Biomass is expected to contribute to the reduction of CO ₂ emissions by replacing fossil energy.

C

Carbon offsets	Credit for reduction in emissions of greenhouse gases achieved by one source purchased to offset emissions from other sources such as human and economic activities that cannot be otherwise reduced; may include planting trees, protecting forests or producing clean energy (purchased emission rights).
CASBEE	Abbreviation for Comprehensive Assessment System for Built Environment Efficiency. Buildings are assessed on the basis of their environmental performance and assigned a rating on a five-point scale.
Coastal carrier	A ship that operates between domestic ports.
Combined heat and power (CHP) system	Distributed energy system that generates electricity through various means, including engines, turbines and fuel cells, fueled by natural gas and other fuels, and using waste heat to simultaneously generate steam and hot water. This environmentally sound system diversifies power

	sources and saves electricity.
Cryogenic power generation	Liquefied natural gas (LNG) is a liquid at -162°C, and 1 kg of LNG has the cryogenic energy to turn 2.5 kg of water into ice. This cold energy is recovered to generate electricity.
CSR Procurement/Supply Chain Management	Activities for promoting CSR across the entire supply chain, from the procurement of raw materials to the delivery of products and services to customers, in which a company requires suppliers to meet CSR criteria including the environment, labor conditions and human rights, in addition to specifications, pricing and delivery period.

■ D

Destination	The country or region in which is located the final port of call for which LNG is bound. LNG contracts have traditionally contained "destination clauses" which restrict where LNG can be landed.
Distributed energy system	A system for independently procuring and managing heat and power by locating power sources close to the demand, in cooperation with major power grids. Solar and wind power generation and combined heat and power (CHP) systems fall under this category. Compared with conventional centralized power sources, this system offers benefits such as eliminating transmission loss and providing the possibility of using waste heat for the CHP systems.
Diversity	Promoting diversity in a business context means respecting and accepting all people, regardless of gender, age, disability, nationality, values and other attributes, by creating an inclusive work environment; ultimately contributes to sustainable corporate growth and development.

■ E

Energy services	Bundle of services efficiently delivered to customers by energy service providers to solve energy-related problems. May include provision of heat, electricity and water generated by combined heat and power systems, boilers, air conditioners, water treatment plants or other facilities.
Environmental management system (EMS)	The establishment of policies and targets by an enterprise to guide its voluntary actions for protecting the environment; encompasses the associated implementation systems, procedures and other arrangements in factories and offices.
Excavated soil	Soil and waste asphalt generated by work such as laying gas pipelines under roads.

■ F

Fuel cell	A system that generates electricity through an electrochemical reaction between oxygen in the air and hydrogen extracted from sources such as the natural gas used to make city gas.
------------------	--

■ G

Gas pressure differential power generation	Generation of electricity utilizing differential pressure of city gas flowing through gas pipelines to drive a turbine. This type of system conserves energy by not consuming gas. Using the cold energy produced during the generation of electricity yields further energy savings.
Gas turbine combined cycle	Highly efficient means of generating electricity combining two methods. A fuel, such as natural gas, is combusted to drive a gas turbine. The heat of the exhaust gas from the turbine is then recycled to convert water into steam, which in turn is used to drive a steam turbine.

■ H

HEMS	Abbreviation for Home Energy Management System. A mechanism for optimizing energy use by making household consumption of energy, including electricity, gas and water, visible on the screens of TVs, computers and smartphones, and by automatically controlling energy consumption.
Henry Hub (U.S. natural gas market) price	Name for the benchmark price of natural gas in the U.S., derived from the Henry Hub distribution node in Louisiana in the southern U.S. The price of natural gas bought and sold is used as the index or benchmark value for the price of futures on the New York Mercantile Exchange (NYMEX).
High-pressure gas pipeline	Also known as a trunk line. A gas pipeline operating at a gas pressure of at least 1 MPa with a typical diameter of 65 cm to 75 cm that is used to transport city gas from an LNG terminal. Gas is supplied through this kind of pipeline using governor stations to transfer to medium-pressure pipelines, and then by district pressure regulators to the low-pressure pipelines that deliver city gas to residential users.
Human rights due diligence	The process of identifying and assessing the impacts on human rights of business activities as a whole, including the implementation measures for preventing or mitigating these impacts.

■ I

Inclusive society	A society based on mutual recognition and respect and support for the rights of every individual to pursue happiness and a fulfilling life, regardless of age, gender or disability.
ISO 14001	The international standard for EMS developed by the International Organization for Standardization (ISO). Intended to align management with the mitigation of environmental risk and contribution to the environment as well as to encourage continuous improvements in EMS standards.

■ J

J-Credit Scheme	A program in which reductions and sequestrations of emissions of greenhouse gases such as CO ₂ achieved by such means as the installation of energy-saving equipment and planting trees are certified by the government as "credits." These credits can then be used to offset other carbon emissions
------------------------	--

toward achieving the targets for achieving a low carbon society.

■ L

LCA	Abbreviation for Life Cycle Assessment. A method of assessing how a product affects the environment at each stage of its life, from production to use and disposal.
LGBT	Collectively refers to lesbian, gay, bisexual, and transgender individuals.
Lifecycle CO₂ emissions assessment	Method for assessing the total amount of CO ₂ emissions of a product throughout its lifecycle, from the consumption of resources and energy during the production of raw materials to the environmental load during final waste disposal.
LNG (liquefied natural gas)	A gas consisting principally of methane (CH ₄) that has been liquefied by cooling to around -160°C. It is a clean energy source that produces virtually no SO _x or particulate emissions and is primarily used in Japan as fuel for power stations and as city gas.
LNG tank lorry	Tank lorries are used to transport LNG to areas not served by gas pipelines.
LNG value chain	The series of business activities that add value at each stage from procurement of LNG to delivery of products and services to the customer. The Tokyo Gas Group considers the "LNG value chain" to be the chain of all business activities, extending from the procurement of LNG to the transportation, production and supply of city gas, power generation, and delivery of energy solutions.
Low voltage power	Mainly refers to residential-use 100-volt or 200-volt electricity.

■ M

Material Balance	Relationship between the amount of resources and energy required for business activities and the residual volume of waste and emissions.
-------------------------	--

■ N

NGV (Natural Gas Vehicles)	Abbreviation for Natural Gas Vehicle. Compared to vehicles fueled by gasoline or diesel, these natural gas fueled vehicles emit 10% to 20% less CO ₂ , little NO _x or HC, and no black smoke or particulate matter (PM). Expectations are high that NGVs will play a decisive role in preventing global warming and improving air quality.
-----------------------------------	--

■ P

Participating interest	Interest a trading company or other entity obtains when it finances, through a loan or investment, a development project in a resource-producing country, granting it the right to acquire resources produced as a result of the
-------------------------------	--

	project in proportion to the scale of its financial stake.
Polyethylene pipe	Gas pipe made of highly corrosion and quake resistant polyethylene and used for buried sections of pipeline. Tokyo Gas is increasing its use of these pipes for the low-pressure pipelines that make up 90% of its network to minimize damage from earthquakes.

■ R

Regenerative burner system	An energy-saving system that combines high combustion efficiency with low NOx emissions. Two burners are alternately fired and the heat of the exhaust gas when one burner is fired is recovered by a heat reservoir to preheat the air for the next combustion cycle. The system saves energy consumption by 30% to 50% while reducing CO2 emissions.
Renewable energy	Inexhaustible energy sources such as sunlight, solar heat, hydropower, wind power, biomass and geothermal energy, which can be replenished relatively quickly.
RPA	Abbreviation for Robotic Process Automation. The use of robot software to automate standard PC operations that were conventionally handled by humans.

■ S

SENEMS	Abbreviation for Smart Energy Network Energy Management System. A mechanism that applies ICT to link the demand data of buildings and supply data of energy centers. Provides energy savings and cost reductions and enhances energy security by combining data on energy use for individual buildings with climate and other data for optimal operation.
Shale gas	Methane gas trapped in shale, which are thin, flakey rock formations formed from ancient mud deposits. Shale gas resources are abundant and expected to have a major impact on world energy production and consumption.
Smart Energy Networks (SENs)	An optimal local energy system centered on combined heat and power (CHP) systems for making maximum use of renewable and underused energy sources and controlled through ICT energy management.
Stakeholder engagement	Efforts undertaken by companies to understand stakeholders' expectations for corporate business activities. Stakeholder dialogues are one form of stakeholder engagement.
Supply chain management/CSR procurement	Activities for promoting CSR across the entire supply chain, from the procurement of raw materials to the delivery of products and services to customers, in which a company requires suppliers to meet CSR criteria including the environment, labor conditions and human rights, in addition to specifications, pricing and delivery period.

■ T

TES	Abbreviation for Tokyogas Eco System. A Tokyo Gas residential water heating system that uses heated water from a single heat source to provide hot water for bathing, space heating, underfloor heating, bathroom heating and drying.
------------	---

Tight sand gas

A type of unconventional natural gas that has accumulated in sandstone layers, which are harder than layers in which conventional gas accumulates. Developed extensively since the late 1980s, as technological progress improved the prospects for commercial production.

■ U**Unconventional gas**

Gas produced from sources other than ordinary gas fields. In addition to tight sand gas, coalbed methane, biomass gas and shale gas currently being produced commercially, unconventional gas also includes methane hydrate, deep earth gas and other gas sources that are expected to become commercially viable energy sources in the future.

■ W**Wholesale distribution**

Wholesale delivery of gas via pipelines to other general gas utilities, domestic natural gas utilities and electric power companies.

■ Z**ZEB**

Abbreviation for Zero Energy Building. A building designed to achieve a zero annual balance between primary energy consumption and generation through major energy-saving features in combination with the use of renewable energy sources.