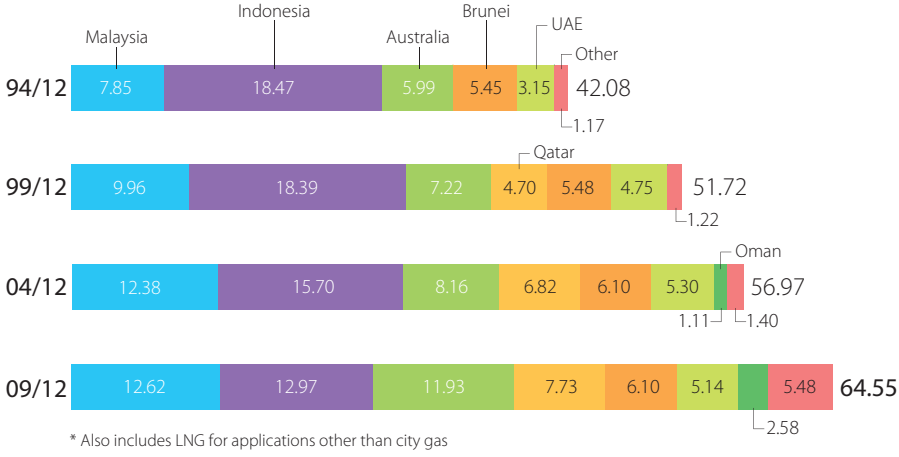
Characteristics of the Japanese Gas Business

There are 211 gas companies in Japan, but the majority of gas sales by volume is accounted for by a few major companies. Japan relies on imported LNG for most of the gas supplied in the country. It was first imported in 1969. In contrast to many other countries, Japan does not have any international gas pipelines or gas pipelines interlinked nationally. Furthermore, the gas business is operated in an integrated manner — from importation, storage, production and sales.

Comparison of gas business: Japan and western nations

	Japan	Western nations
Procurement	Dependent on imported LNG	Domestically produced or procured from neighboring countries via pipelines
Infrastructure	Pipelines that link to major gas markets are under-developed	Well-developed pipeline network that links gas supply and markets
Competitive environment	Strong inter-fuel competition New players participate in the market	Competition exists only between suppliers of the same kinds of energy
Technology development	Mostly gas suppliers	Mostly manufacturers
Security and safety	Responsible for consumers' assets (even house gas pipes and gas appliances)	Not responsible for customers' assets (only up to gas meter)

Japan's LNG imports (Unit: million tons)



* Also includes LNG for applications other than city gas

Source: Ministry of Finance Japan, Trade Statistics of Japan

◆ Characteristics of Natural Gas

Natural gas has the following characteristics. Compared to other fossil fuels, the environmental footprint of natural gas is small and, unlike oil, its reserves are distributed in many regions of the world. Compared to oil, natural gas reserves* are relatively abundant. In these times of heightened environmental awareness, the environmental advantages of natural gas make it a particularly attractive energy source. Therefore, demand can be expected to grow further in the future.

* Please refer to International Energy Businesses along the Energy Value Chain on pages 30 through 33.

Reserve/production ratios for natural gas and oil (Years)

Source: BP Statistical Review of World Energy 2010

Emissions of combustion by-products from fossil fuels (Coal = 100)

	CO_2	SOx	NOx
Coal	100	100	100
Oil	80	68	71
Natural Gas	57	0	20–37

Sources: Institute of Applied Energy (IAE) Report on Thermal Power Plant Atmospheric Impact Assessment Technology Demonstration Survey (1990/3); International Energy Agency (IEA) Natural Gas Prospects (1986)

Deregulation of the Gas Industry in Japan

Ever since partial retail liberalization was adopted in 1995, deregulation of the Japanese gas business has progressed steadily and market opening has expanded. Currently, deregulation applies to customers with annual contract volumes of 100,000 cubic meters or more. Measured by sales volume, approximately 60% of the gas industry is now deregulated.

Deregulation timeline in the electric power and natural gas sectors

	Electric power sector			Natural gas sector			Customers
	Scope of liberalization	% of national sales open for competition	Features	Scope of liberalization	% of national sales open for competition	Features	
1995	—	—	Introduction of IPP and fuel cost adjustment system	2 million m^3 or more per year	47%	Introduction of third-party access to pipelines and fuel cost adjustment system	Large factories and large commercial facilities
1999/ 2000	More than 2,000kW	26%	Creation of retail power generation and supply business	1 million m^3 or more per year	52%	Third-party access to pipelines made mandatory (four major companies only)	
2004	More than 500kW	40%	Abolishment of zone-based transmission tariff (pancake pricing)	500,000m^3 or more per year	55%	Third-party access to pipelines made fully mandatory	Medium-sized factories, city hotels, etc.
2005	More than 50kW	63%	Creation of power exchange market	—	—	—	Small factories, hospitals, business hotels, supermarkets, etc.
2007	—	—	—	100,000m^3 or more per year	62%	—	

Sources: Denki Shimbun, "Description of Electric Power Liberalization and New Systems," and Market Monitoring Subcommittee, Urban Thermal Energy Subcommittee of the 2009 Advisory Committee on Energy and Natural Resources

Characteristics of the Gas Rate System

The price of gas is determined on the basis of the fuel cost adjustment mechanism by reflecting the external factors of foreign exchange rate and crude oil prices. Due to this system, the impact of exchange rate and crude oil price fluctuations on Company performance is neutral over the medium to long term. However, over the short term, performance is affected by changes in these factors because of the time lag between when fuel costs change and when they are incorporated into gas rates.

The fuel cost adjustment system