

“The lower barriers of market entry provide Osaka Gas with an opportunity to expand its energy business. Osaka Gas remains proactive in turning challenges resulting from deregulation into business opportunities based on its strategy of shifting to multiple energy services and geographically expanding operations.”



Deregulation in the Electricity and Gas Sectors

Background to Deregulation and Future Direction

	Electricity Sector			Gas Sector		
	Scope of Liberalization	Share of national sales volume	Main points	Scope of Liberalization	Share of national sales volume	Main points
1996	—	—	Introduction of independent power producer (IPP) and fuel cost adjustment system	More than 2,000,000 m ³ per year	36%	Introduction of third party access to pipelines and fuel cost adjustment system
2000	More than 2MW	26%	Creation of power producer and supplier (PPS) system	More than 1,000,000 m ³ per year	40%	Third party access to pipelines made mandatory (major four companies)
2004	More than 0.5MW	40%	Abolishment of transfer supply fees	More than 500,000 m ³ per year	44%	Third party access to pipelines made mandatory
2005	More than 0.05MW	63%	Creation of wholesale power market			
2007				More than 100,000 m ³ per year	50%	

Source: Denki Shimbun's "Description of Electric Power Liberalization and New Systems" and 2002 Urban Thermal Energy Committee materials

Characteristics of the Japanese Gas Industry

- While there are more than 200 gas companies in Japan, the market is dominated by a few major gas suppliers, such as Osaka Gas, which by itself accounts for approximately 30% of total gas sales volume in Japan. The four top gas suppliers control approximately 80% of the domestic market.
- Almost all of Japan's natural gas is imported from overseas in the form of LNG.
- Each of the major gas companies supply gas through proprietary pipeline networks in their own service areas. In contrast to other countries, Japan does not have any gas distribution trunk lines interlinked nationally or internationally.

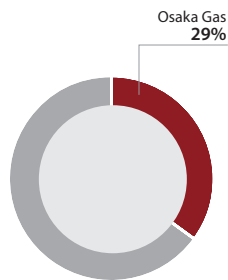
Special Qualities of Natural Gas

- 1) Natural gas reserves are more abundant than those of crude oil and, unlike crude oil, are not concentrated in specific geographical locations.
- 2) Compared to other fossil fuels, natural gas has a less adverse impact on the environment.

From this standpoint, demand for natural gas is expected to increase in the future as the preferred fuel for the 21st century.

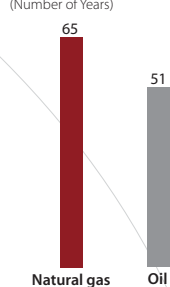
The Osaka Gas Group mainly handles energy resources that are friendlier to the environment, giving it an advantage in business development.

Osaka Gas in Japanese Gas Market



Sales volume from April 2003 to March 2004
Source: The Japan Gas Association Web site

Reserve-Production Ratio of Natural Gas and Oil
(Number of Years)



Source: Oil and Gas Journal
2003/12, 2004/3

Emissions of Combustion Product by Fossil Fuel (Coal = 100)

	CO ₂	SO _x	NO _x
Coal	100	100	100
Oil	80	68	71
Natural gas	57	0	20-37

Source: Field test on technology for measuring air pollution caused by thermal power plants Report (1990.3 The Institute of Applied Energy)
IEA (International Energy Agency) Natural Gas Prospects (1986)

150MW power plant at Torishima Energy Center (Osaka) that uses natural gas as fuel

