

# **“Regulatory Reform in the City Gas industry, and Competition between Energy Companies”**

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## **1. Introduction**

From the latter half of the 1980s to the first half of the 1990s, deregulation was initiated in the U.S., Europe, and Japan in such public-service fields as telecommunications and electric power and gas, and also in the oil industry. In Japan’s gas industry deregulation got under way in 1995, starting with the liberalization of gas supply to large-volume users. Over the ten years or so that have elapsed since then, two rounds of major regulatory reforms have taken place, including the introduction of a transportation service and the phased expansion of the scope of the liberalization.

Deregulation is a global phenomenon, but Japan’s gas industry has a number of characteristics that differ from those in the U.S. gas industry, and therefore regulatory reform in Japan’s gas industry has assumed a different look than in the U.S. regarding both its processes and its results.

The main subjects of this report are an overview of regulatory reform in Japan’s city gas industry, the current situation as regards gas-versus-gas competition, in addition to competition with the other energy sources of oil and electric power, and the issues to be addressed in pursuing ongoing regulatory reform.

## **2. Regulatory reform in the energy sector**

Japan's deregulation of its electric power and gas industries in the 1990s was conducted against the backdrop of various factors that led to growing demands, particularly in the industrial sector, for lower electricity and gas rates. These included

- a) The advance of deregulation globally
- b) Concerns about a hollowing-out of domestic industry caused by the gap between domestic and external energy prices arising from factors such as the strength of the yen, and
- c) Demands for the simplification of regulations due to the mismatch between public regulations and changes in the economic structure.

Accordingly, the deregulation was directed at lowering energy rates, simplifying regulations, and achieving a free and fair socioeconomic system based on market principles. This was to be attained by amending regulations to give companies more incentives to enhance their efficiency, and to open up the market to new entrants.

Within Japan's energy sector it was the oil industry that was the first to introduce regulatory reforms of this kind.

### **(1) Regulatory reform in the oil industry**

Japan is a country with very few domestic petroleum resources and with no alternative but to rely heavily on imports for most of its oil. In consequence, to ensure the country's ability to secure stable supplies of crude oil and to produce a stable supply of petroleum products, up until the 1980s the importation, refining, and sale of oil was regulated by the government. However, owing to the importance of responding to the internationalization of the petroleum-products market and of making domestic distribution more efficient, a series of large-scale deregulation measures and steps to liberalize market entry were implemented. These included, in 1986, the partial liberalization of imports of petroleum products for oil companies that met certain capacity criteria; in 1996 the total liberalization of imports of petroleum products; and in 2002 the removal, through the repeal of the Petroleum Industry Law, of regulations for adjusting oil supply and demand. As a result, progress was made in such areas as the concentration of refinery plants and equipments and the rationalization of distribution, and increasingly fierce competition was accompanied by large-scale industry reorganization and other developments.

This is how greater efficiency based on market principles has been fostered in the oil industry, but in the current circumstances of soaring oil prices and continuing importance of

securing a required volume of supplies, some commentators are questioning whether the present liberalization alone is sufficient to ensure the stability of oil supplies at a national level.

## **(2) Regulatory reform in the electric power industry**

Liberalization in the electric power industry started in 1995 -- around the same time as in the gas industry -- with the introduction of a system of wholesale electric power tendering by IPPs (independent power producers). Subsequently, the first step in partial liberalization was taken in the year 2000, when entities other than the general electric power companies were permitted to supply electric power on a transmission basis to specified users demanding in excess of 2,000 kilowatts and obtaining their supply through extra-high-voltage lines of above 20,000 volts. Since then, the discussion on regulatory reforms in both the gas and electric power industries has proceeded on approximately the same timescale, and the scope of liberalization has also been reviewed. Regarding the scope of liberalization, regulations on entry and rates are now being liberalized at the retail level, for supplies to users such as small and medium-sized factories and buildings with demand in excess of 50 kilowatts at high voltages.

Also, primarily to create an effective competitive environment that puts new market entrants on an equal footing with electric power companies with distribution networks, in 2000 usage rules were drawn up for the electricity distribution networks owned, maintained and operated by electric power companies.

As a result of these regulatory reforms, as of March 2004 the market share of new entrants that own their own power generation plants -- for example trading companies, steel makers, and gas companies -- stood at approximately 2%.

## **3. Regulatory reform in the gas industry**

### **(1) Characteristics of regulatory reform in the gas industry in Japan**

In the United States, regulatory reform proceeded in a phased manner from upstream to downstream operations, starting with the phased easing of regulations on wellhead prices of natural gas, followed by the unbundling of interstate pipelines, and then deregulation at the local distribution company level. In Japan, however, because of structural differences, the process started with the easing of regulations on rates levied by gas companies on large-volume users.

I would say that there are five characteristics that distinguish the gas industry in Japan from that in the U.S.

First, because there are no big gas fields within the country, as there are in the U.S., pipelines mainly form regional distribution networks centered on LNG receiving terminals, rather than large-scale trunk lines traversing the country.

Second, as a result of this, the structure of the industry is not divided into production, transport, and distribution as it is in the U.S. Instead, major city gas companies themselves import LNG and construct and operate receiving terminals and distribution networks. LNG, the principal source of gas, started to be imported from Alaska in 1969, and today individual gas companies mainly import LNG under long-term contracts from such areas as Southeast Asia and Australia. The volume of imports by all gas companies currently totals around 20 million tons (annually), and Japan's total imports, primarily by electric power companies, stands at approximately 60 million tons.

Third, gas companies have broader safety responsibilities than their counterparts in Europe and the U.S., including responsibility for the internal pipes and facilities within users' premises and buildings.

Fourth, electric power companies and gas companies specialize in their respective fields. There are no companies that combine the distribution of both electric power and gas, as there are in Europe and the U.S. Nevertheless, as I just mentioned, the electric power companies are the biggest LNG importers, and therefore from the standpoint of the gas companies, for the time being their biggest competitors in this liberalized field are the electric power companies, which like them are public-service utilities.

The fifth distinguishing characteristic relates to the type of regulatory authority. In the U.S., interstate pipelines are regulated by the Federal government, and local distribution companies fall under the jurisdiction of state regulators, whereas in Japan all electric power and gas companies are subject to the regulations of the Ministry of Economy, Trade and Industry, and regulatory reform is pursued on a centralized basis by that ministry at national level.

## **(2) Regulatory reform in the gas industry in 1995 and 1999**

As I said at the outset, the deregulation of the city gas industry in Japan started in 1995, when regulations governing market entry and gas rates were abolished for the supply of gas to large-volume users, defined as users supplied with at least 2 million cubic meters (70.66 million cf) under annual contracts.

Subsequently, regulatory reform was implemented in 1999, when out of consideration for factors such as business performance after liberalization, users' growing needs, and the need to stimulate new entrants, the scope of liberalization of the city gas retail market was extended to cover users of 1 million cubic meters (35.33 million cf) or more, and in addition the transportation service was passed into law. With this, it became obligatory for four major city gas companies, including Tokyo Gas and Osaka Gas, to prepare consignment supply agreements.

## **(3) Regulatory reform in the gas industry in 2004**

There was further regulatory reform in 2004. In that year the scope of liberalization was extended further, to gas users consuming an annual contracted volume of 500,000 cubic meters (17.665 million cf), a volume corresponding to the consumption of medium-scale factories and buildings.

In addition, to stimulate competition still further, the transportation service previously imposed on only four city gas companies was extended to cover them all, plus, when certain conditions were met, domestic natural gas producers that owned gas pipelines and electric power companies. Just as codes of conduct for gas companies -- that is LDCs -- were laid down in the U.S. to ensure fair competition between new entrant marketers and

LDC marketers, in Japan similar fair-trade guidelines were set out for such purposes as prohibiting the use of information for purposes other than that for which it was obtained, in order to make gas companies conduct themselves in a way that assured fair competition with new entrants.

As a result of these measures, as of May 1, 2005, there was a total of 63 cases of new market entries by 15 entities, including electric power companies, domestic natural gas producers, oil companies, and trading companies. In the liberalized market, the supply by these new entrants had reached approximately 8% of total supplies, which shows that new market entry has made strong progress compared to the share of new entrants in the electric power market. Nevertheless, the reason why the share of new entrants is still low is that in Japan the distribution of LNG -- the raw material -- is limited, and therefore under present circumstances the new entrants are only entities with their own sources of gas, such as electric power companies, trading companies, and oil companies.

It is also of note that recently there have been cases in which city gas companies have been supplying gas within the supply areas of other city gas companies, indicating a partial beginning of competition between city gas companies.

#### **4. How gas companies are addressing regulatory reform**

I gather that as a result of liberalization in the U.S. there has been a progressive separation of functions within the gas industry. Among the reasons for this are that LDCs face the risk of falling-off of demand, and as regards the supply of gas to large industrial customers, for which there is fierce price competition, gas procurement is being entrusted to competitive marketers, while the gas utilities themselves specialize in transportation services.

In Japan, however, the use of natural gas in the industrial sector is low relative to the U.S. and Europe, and up until now the gas companies have been devoting efforts to technology development and marketing, for example spreading and increasing the use of cogeneration. In view of this, under present circumstances it is expected that further expansion of demand for natural gas in the future will come from the cultivation of demand by the gas companies themselves. Also, for reasons such as gas companies themselves mainly importing LNG

under long-term contracts and owning and operating their own LNG receiving terminals, on the LNG-procurement side the gas companies face the risk of a fall-off in demand. Therefore, in the context of regulatory reform the gas companies are endeavoring, by cost-cutting and strengthening their marketing capabilities, to secure competitiveness in the field of supplying large industrial customers.

At present, the gas companies not only compete with new entrants in the gas market but also, because of reductions in other energy prices due to deregulation in the electric power and oil industries, they are also facing increasingly intense competition from the other conventional types of energy, electric power, gas, and oil.

In order to cope with the competition from different forms of energy arising from regulatory reform, in all markets, ranging from the supply of gas to homes to its supply to industry, gas companies are taking steps to reduce their rates by improving efficiency, as well as striving to enlarge the gas market and compete with new entrants by expanding their services, for example by providing energy service companies or ESCOs.

## **5. Future regulatory reform in the gas industry, and issues to address**

As for the future schedule for regulatory reform, in 2007 it is planned to widen the scope of liberalization to users such as small factories and buildings that consume an annual contracted volume of 100,000 cubic meters (3.5 million cf) of gas. That is expected to extend the scope of liberalization to nearly 60% of all gas demand. Also, during 2006 a decision will be taken on the advantages and disadvantages of extending the scope of liberalization to gas users, including households, that consume an annual contracted volume of less than 100,000 cubic meters.

For our part, we gas companies feel that regarding the extension of liberalization to cover demand by households, there is a danger that the safety of users, which at present is maintained by the gas companies, will cease to be assured appropriately if liberalization occurs. Also, there has not been a full discussion on how to configure supplies of last resort to cover cases in which new entrants are unable to supply gas. For these and other reasons we believe that it is essential to conduct a full study based on the needs of the users.

I understand that in the United States there were debates at the beginning of the 1990s about interstate pipelines and the problem of bypass supplies between LDCs, and in Japan, too, the question of competing by means of bypass supplies from pipelines for power generation owned by electric power and other companies importing LNG has also become a major issue. The gas companies are demanding that regulations be put in place to prevent bypass competition.

As gas companies, we believe that the issue of liberalization should also be debated fully, in order to ensure that the benefits to all users are evaluated -- not only the users to which liberalization will be extended in the future, but also existing users.

## **6. Conclusion**

There is expected to be a global increase in demand for natural gas and LNG in order to address environmental problems. And in Japan, too, as part of moves to form a full-fledged market for natural gas, which offers superior stability of supply and environmental friendliness, discussions about the system for the gas industry are under way, focusing on how best to conduct the development of the supply infrastructure, the widening of options for users, the creation of a fair competitive environment, the operation of the system, and the safety regulations to be based on those aspects.

Through the ongoing spread and expansion of the use of natural gas, the city gas companies hope to contribute to the realization of the goals of Japan's energy policy. In addition, amid the increasingly fierce competition between energy companies, in order to become the energy companies of choice for energy users, we intend to enhance our marketing capabilities and foster the development of technologies, and also to make further progress improving our business efficiency and reducing costs.