

industry. The planned review on the deregulation in 2003 will represent further progress of deregulation thereafter and intensify the competition in the industries.

In city gas market, for example, there is already a competition among city gas companies and other energy companies to capture new demand of gas as a result of the calorific conversion by local city gas companies. There is also competition between city gas companies and fuel suppliers for new gas demand of industrial users as a result of the recent trend of fuel conversion to natural gas from other fuels. We expect there would be a new market for LNG as a result of the ongoing deregulation process and also the emergence of new players in such new market.

Flexibility in SPA

Thirdly, we expect that there will be more flexibility in SPA for Japanese LNG buyers.

Most of the existing LNG contracts between Japanese buyers and LNG suppliers are long-term contracts of 20 - 25 years with "take or pay" clause. Recently, however, there is an argument among Japanese LNG buyers for a new concept of LNG SPA in several aspects, such as volume option, upward and downward flexibility, contract term, and destination. Such flexibility would contribute LNG buyers to realize more efficient LNG procurement. Also, it expands the possibility of LNG trading in the future.

In addition, new concept of LNG pricing mechanism has been considered to moderate the price volatility risk for



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their fuel or feedstock costs.

In Japanese energy market, the competition among energy sources will be further intensified; those are natural gas, petroleum products, nuclear fuels, coal and so on. The flexibility in LNG procurement may lead to enhance the use of natural gas as a major primary energy for Japan in the future.

Conclusion

In conclusion of my presentation, I would like to stress again, that situation of Japanese LNG industry would change rather drastically during the first decade of the 21st century.

Although the Japanese economy has been weak for the past several years, we expect that it will be picked up in the very near future as the structural reform is implemented successfully. There remain several uncertain factors for each players in LNG industry to forecast their LNG demand in the future, such as the progress of the deregulation. However, the total LNG demand in Japan will steadily increase throughout the decade as Japan is promoting the enhancement of natural gas as a primary energy for Japan to resolve its environmental issues.

To win the competition in future LNG market of Japan, which is associated with more uncertainty than ever, LNG suppliers may need to keep pursuing the possibility to best accommodate the buyer's new needs in their LNG procurement, while they also need to maintain the economic viability of the project itself.

City gas

In city gas sector, according to the General Gas Supply and Demand Plan prepared by city gas companies in fiscal 2001, an annual average increase of 4.0 % is projected over the five-year period towards fiscal 2005. This strong demand increase reflects the growth of industrial demand including supply to power plants.

LNG demand is projected to increase by an even higher corresponding rate of 4.6 %. This is due to the shift of feedstock to natural gas by local city gas companies. More specifically, the Plan forecasts an increase from 14.7 million tons in fiscal 2000 to 18.4 million tons in fiscal 2005.

Total

Aggregation of the figures in the outlooks of the power and gas suppliers makes total LNG demand of approximately 56 million tons in 2005. This is 1.5 million tons more than the supply of 54.58 million tons already contracted by Japanese buyers in long-term agreements with existing sources. Some Japanese buyers are negotiating with Malaysia Tiga and North West Shelf of Australia.

I foresee that Japanese LNG buyers will continue to play important role in the future as the largest LNG importing country. On the other hand, I think the

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situation surrounding LNG industry will no longer be the same as the present market. I would like to describe three major changes that are likely to occur in the very near future in Japanese LNG market.

Increase of Spot sales / Short-term sales/LNG trading

The first change is the increase of spot sales, short-term sales, and, possibly, the emergence of LNG trading. As I explained earlier, most of LNG contracts for Japanese buyers have features of long-term contracts and take or pay clause. Recently, however, there are some cases of spot sales or LNG swap deal between Asian LNG buyers. In the very near future, new types of LNG transaction, such as spot sales, short-term sales, swaps between LNG buyers are expected to expand. For LNG suppliers, it would be more important to be more flexible to accommodate the Buyer's needs in LNG procurement and to offer attractive terms in both long-term and shorter-term deals.

New LNG market /new players

Secondly, we expect the emergence of new players in Japanese LNG market as a result of the progress of the deregulation process. As I explained earlier, Japan is currently undergoing the structural reform by promoting deregulation in gas industry and power

City Gas Supply and Demand Plan by Japanese City Gas Companies

Unit: billion m³

	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	Growth rate 05/00
Residential	8.6	8.7	8.8	8.9	9.0	9.1	1.1□
Commercial	3.7	3.7	3.9	4.0	4.1	4.3	3.1□
Industrial	8.5	9.0	9.8	10.5	11.2	11.8	6.7□
Others	2.2	2.4	2.5	2.6	2.8	2.9	5.3□
Total	23.1	23.8	24.9	26.1	27.1	28.1	4.0

Note: Due to rounding, totals may not equal sums of parts.

Gas

In gas industry, deregulation was started in 1994 when the Gas Utility Industry Law was amended to liberalize the gas supply to large-scale consumers who consume more than 2 million m³/y. In 1999, the industry entered into the second phase of deregulation process as the Law was re-amended to widen the scope of liberalization for supply to large-scale consumers. The minimum requisite volume was lowered from 2 million m³ to 1 million m³ per year. That accounts for some 40% of total gas sales volume in Japan. It also provided for measures such as the revision of gas tariff system and removal of entry barriers. The measures include the imposition of an obligation on the four major gas companies for preparation of standard contracts for access to their pipelines. Several companies, including electric utilities, trading houses, fuel suppliers have already entered, or been planning to enter, into the gas business.

This deregulation process will be reviewed in the third year after the amendment. In January 2001, METI established the "Study Group for Gas Market Development. This group has begun examining matters such as the proper shape of regulations for gaseous energy and the outline of regulatory guidelines to be applied ten years in the future.

Environmental Issues

The third point is the growing attention to the environmental issues.

In COP3 agreement at Kyoto in 1997, Japan agreed to set the target for its CO₂ emission volume in 2008-12 to be reduced down to the 6% less emission volume in 1990. Following the agreement on COP3, in June 1998, Japanese government established the "Long-Term Energy Supply/Demand Outlook", which forms the basis for the Japan's current long-term energy policy. In this Plan, Japanese government formulated its concrete plan to achieve the objective set in COP3. The plan included, on demand side, the saving of energy consumption for 56 million kiloliters in oil equivalent, and on supply side, the installation of 16-20 new nuclear power stations, and the expansion of renewable energy supply for three times compared with the current level.

However, CO₂ emission in 1999 was 8.9% higher than 1990, mainly due to the steady increase of energy consumption for the 10 years period. Achievement of COP3 target by 2008-12 seems to be getting more difficult. To achieve the COP3 target, installation of nuclear power station would be one of the key tools for Japanese power sector to reduce the CO₂ emission from power generation. The Japanese government is currently expecting that 10-13 new nuclear power

station to be installed by the electric utilities by year 2010. In order to proceed the construction of new nuclear power stations as planned, the support from the local communities is the critical matter. From LNG supply and demand perspective, the progress of planning, approval and construction for these nuclear power stations in Japan would be the key element to determine LNG demand for electric utility companies.

LNG market in Japan; the future

LNG supply and demand forecast by 2005

I would like to explain the LNG supply and demand forecast for Japanese LNG market by 2005.

Power

In power sector, according to the Electric Power Supply/Demand Plan prepared in fiscal 2001, the demand for electric power is projected to grow at average rate of 1.5% over the ten-year period of 2000 - 2010. In the Plan, LNG-fueled power generating capacity is forecasted to increase from 60.5 GW as of the end of fiscal 2000 to 69.7 GW as of the end of fiscal 2010. The share of LNG-fueled power in the total generation capacity, however, is projected to decline from 26.4 % to 25.6 % over the same period. This is mainly because of the 3.1 % increase in nuclear power generation from 19.6% to 22.7%.

Trend of power generation capacity composition of Japanese electric utilities

Unit: GW

	End of FY2000		End of FY2005		End of FY2010	
	Actual	Composition rate		Composition rate		Composition rate
Thermal	139.4	60.9%	150.7	61.4%	162.7	59.8%
Incl. LNG	60.5	26.4%	61.7	25.1%	69.7	25.6%
Nuclear	44.9	19.6%	49.6	20.2%	61.9	22.7%
Hydroelectric	44.8	19.5%	45.7	18.6%	48.1	17.7%
Total	229.1	100.0%	245.6	100.0%	272.3	100.0%

Note: Due to rounding, totals may not equal sums of parts.

Japan's Primary Energy Supply (FY2000)

Unit: 1 million tons oil equivalent

	FY2000	Share
Total	555	100.0%
Oil	286	51.5%
Crude oil	236	42.5%
Petroleum products	50	9.0%
Coal (total)	104	18.7%
Imported coal	102	18.4%
Domestic coal, etc.	2	0.3%
Nuclear power	72	13.0%
Hydroelectric power	20	3.6%
Natural gas (total)	73	13.2%
LNG	71	12.8%
Domestic gas, etc.	2	0.4%

Source: The Institute of Energy Economics, Japan

Trends of the current Japanese LNG Market

Following the history of LNG industry in Japan I would like to describe the trends of the current LNG market in Japan.

For the past several years, the market environment for Japanese LNG industry has been drastically changing. I would like to raise three points to this regard.

Slow down of Economy

The first change is the overall economic situation of LNG importing countries in East Asia.

For the first half of 1990's, electricity demand and gas demand were steadily increased due to the economic growth in the region. These demand increase in electricity and city gas contributed the strong demand increase of LNG during the first half of 1990's.

However, since the second half of 1990's, Japan is suffering from long

recession which delayed the power and gas demand increase. In Korea, Asian economic crisis in 1997 severely hit the economy. Korea's LNG import volume recorded minus in 1998. In Taiwan, the change of the government seems to be creating some confusion within the Taiwan's business society, which Taiwanese industry has never experienced in the past several decades. The plan of gas pipeline, nuclear power station and IPPs have been delayed or in the uncertain circumstances. In addition, the current movement of relocating industrial activities to the mainland China is likely to cause the hollowing-out in Taiwanese industry as well as Japanese industry.

As a result, the increase of LNG demand in the East Asia has been slowed down since the second half of 1990's. In addition, new LNG projects are in plan or under construction in Asia/Pacific and the Middle East aiming at the East Asian market. Although there are new LNG markets emerging

development of these new markets may need a little more time to go on stream.

Deregulation

The second change which is prevailing the market now is the deregulation process in power industry and gas industry in the East Asian countries. Japan is currently undergoing a structural reform in industrial sector, financial sector and public sector. LNG industry is no exception for this structural reform.

In May 1999, the Gas Utility Industry Law and Electric Utility Industry Law were amended. The amendments went into effect on 19 November 1999 and 21 March 2000, respectively. These amendments are anticipated to intensify the competition in the industries.

Electric power

In electric industry, the amendment of the Electric Utility Industry Law in March 2000 liberalized supply in the ultra-high voltage category, which consists of large-scale consumers who have contracted for an annual supply of at least 2,000 kW and a transmission voltage of at least 20,000 voltages. The demand in this category currently accounts for about 30 % of the total power sales in Japan. Several new players entered into this market.

This deregulation is to be reviewed in 2003, three years after the amendment. The review will presumably include further steps of the deregulation; such as the establishment of a power pool system and the detachment of the transmission line divisions of electric utilities.

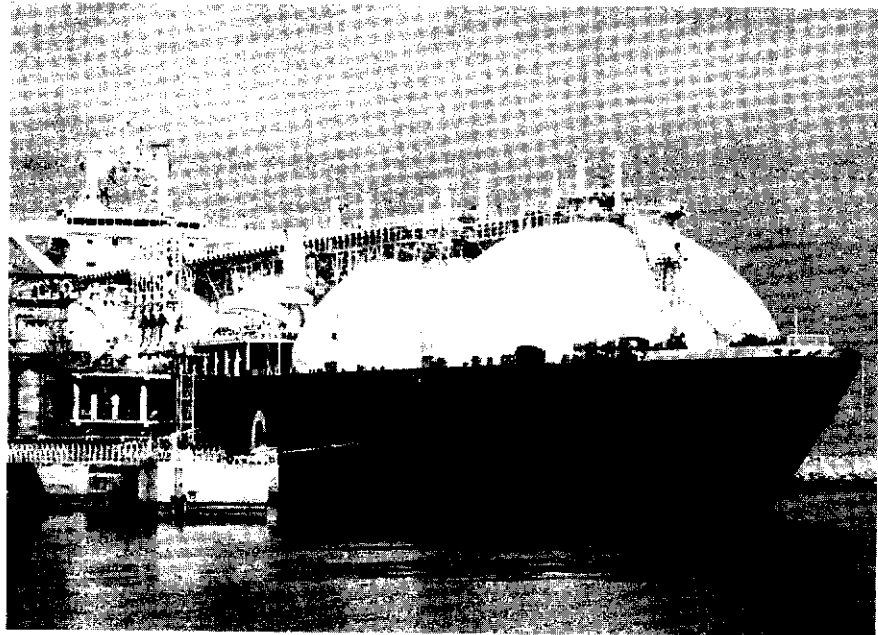
Japan: Past and projected rates of real economic growth (real GDP)

FY1995	1996	1997	1998	1999	2000	2001*
2.5%	3.4%	0.2%	-0.6%	1.4%	1.0%	-1.1%

*Figure for fiscal 2001 is the outlook by private research institutes.

"LNG Market in Japan; its past, present and the future"

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Introduction

I would like to present a speech about "LNG Market in Japan; its past, present and the future" As one of the largest Trading Houses in Japan, ITOCHU is proud to be involved in the development of LNG industry in Japan since the age of its introduction. I am currently working at ITOCHU as Chief Operation Officer of Energy Division, and responsible for all upstream to downstream businesses, which include oil and gas development projects, including LNG, trading and marketing of crude oil, petroleum products, LPG, nuclear fuels, and so on. I hope you will find my speech informative and helpful to promote your business activities in LNG industry.

To begin with, I would like to provide you the contents of my presentation briefly. Firstly, I would like to introduce the history of LNG industry in Japan from the age of introduction to the present. Secondly, I would like to review some trends in the present LNG market in Japan. And thirdly, and that would be the last section, I would like to describe some major changes that are likely to occur in the very near future in Japanese LNG

market, so that people in this conference would get a picture of how to successfully win the competition in future Japanese LNG market by the end of my presentation.

History of LNG Industry in Japan

In year 2000, Japan imported 53.7 million tons of LNG which accounts for approximately 54% of all LNG traded in worldwide. In the same year, Korea imported 14.6 million tons and Taiwan imported 4.4 million tons, respectively. The total volume of LNG imported by these three East Asian countries reached 72.7 million tons in last year and it accounts for more than 70% of total transaction volume in the same year. From these figures, It is clear that East Asia is the main market for LNG industry at present and I think this will last for the foreseeable future.

Japan depends on imports for more than 80% of its primary energy. Almost 100% of crude oil consumed in Japan is imported from the foreign countries, including Iran. Natural Gas is another energy which Japan is dependent on the foreign resources to secure. Because of its high dependency on energy resources in overseas, securing stable energy

supply has been always one of the top priorities for Japan's national policy. Also, Japanese government regards the increase of natural gas use as an important element of the energy policy to diversify its primary sources of energy and to solve the environmental issues, especially reducing the emission of CO₂.

Japan's first import of LNG arrived at the Negishi Terminal in Yokohama in 1969. 1960's was the decade in which Japan experienced the record high economic growth on one hand, and serious environmental pollution on the other. After Japan experienced "oil crisis" in 1973 and 1978, Japan accelerated use of LNG as a primary source of energy to replace oil. Since then, the Japanese LNG industry has enjoyed steady growth of LNG demand in both power sector and city gas sector. Japan currently imports LNG from 8 countries; USA, Brunei, Abu Dhabi, Indonesia, Malaysia, Australia, Qatar and Oman. LNG importers In Japan are 6 electric utilities and 8 city gas utilities and one industrial user. The total imported volume of approximately 54 million tons in 2000 is accounting for some 12.8% of Japan's total primary energy supply.