

LP GAS DEMAND DEVELOPMENT IN JAPAN

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Abstract

In recent years, the government has made some decisions leading to a significance of LP gas in the realm of energy policy. To meet the expectations, LP gas industries in Japan are carrying out several activities for expansion of LP gas demand, including a special project entitled “ LP Gas: Smiles for People and the Earth” and the development of utilization technology. LP gas stockpiling system and the features of LP gas as a disaster-resistant energy are a key factor to develop LP gas demand too. On the other hand, we are facing waves of the competition for survival among electric power and city gas industries. We have to make an effort to offer our customers more attractive service options. It is necessary for LP gas-related industries world over to contribute to the prosperity of the world by increasing demand for LP gas.

1. Energy policy

In recent years, the government has made some decisions leading to a significance of LP gas in the realm of energy policy.

First, LP gas is valued highly for its excellence in terms of environmental protection, energy conservation, and distributed utilization, in the Basic Plan for Energy Supply and Demand drawing up based upon Basic Law on Energy Policy Making.

Secondly, the government issued Energy Outlook for Supply and Demand toward 2030, last year. As chart1 shows, LP gas was clearly positioned as an independent gaseous energy for which demand should increase.

Based on the Kyoto Protocol, which went into effect in February last year, a cabinet decision entitled the “Kyoto Protocol Target Achievement Plan” positioned LP gas as an energy source the use of which should be encouraged.

Chart2 shows a comparison of CO2 emission by energy in view point of the life cycle assessment. LPG is a

clean energy that has little impact on the environment and is adapted to disperse utilization.

LP gas vehicles indicate a good environmental capability too (see chart.3). CO2 emission from LP gas vehicles is about 10% less than from gasoline vehicles. As such, activities to develop demand and to expand consumption of LP gas lead to mitigate environmental impact.

By the way, chart4 shows LP gas demand in Japan now. LP gas demand is 18.4 million tons as of fiscal year 2005. The LP gas market in Japan is in general mature now. But, we are going to increase demand for LP gas in the areas of residential/commercial and automobiles.

Chart5 shows an outline of energy saving measures of “Kyoto Protocol Target Achievement Plan” from the viewpoint of LP gas.

The target of the LP gas industry in 2010 is a challenge for us. To meet these expectations and to contribute toward protecting the global environment, we must expand LP gas demand and establish competitive superiority over LNG, electricity, oil and other energy sources.

2. Activities for LP gas demand expansion

The second point is activities for expansion of LP gas demand. The Council of LP Gas Associated Organizations, comprising seven LP gas-related organizations, has a system of concrete measures to expand demand. To begin, the LP gas industry has come together to launch a special project entitled “ LP Gas: Smiles for People and the Earth”.

This project set some ambitious targets for high-efficiency ranges, latent heat-recovery water heaters, other high-efficiency gas appliances and LPG vehicles to be achieved by 2010.

Specifically, by 2010 we are to have sold:

- 7.85 million high-efficiency gas ranges
- 1.5 million hot water supplier, latent heat collection type
- 60,000 hot water supplier, gas engine type
- 260,000 diesel-replacement LPG vehicles

In this project, various activities have been carried out for customers, house builders, and LP gas sales firms with a participation of LP gas industries as a whole.

In addition to this project, we started collaboration with city gas industries for expanding gas energy demand last year. LP gas and city gas organizations jointly established the Japan Gas Energy Promotion Council,

commonly called “*Collabo*”. This council is conducting PR activities designed to increase the popularity of gas energy. We have expanded this collaboration to housing industry this year.

On the other hand, government support is important to promote the diffusion of LP gas vehicles and high efficiency gas appliances, and to achieve the target too. Chart.7 shows a government support for the diffusion of new technologies.

The development of utilization technology is also necessary for generating additional demand. Japanese government supports R&D activities in the field of DME, Synthetic LP gas, Fuel Cell, Odorant, LP Gas vehicles. In Japan, the Liquefied Petroleum Gas Center and The High Pressure Gas Safety Institute of Japan are leading the development of all sorts of next-generation technology supported by government.

3. Establishment of a stable supply system

Third point is an establishment of a stable supply system. In order to develop LP gas demand, an establishment of stable supply is a key factor in Japan.

Japan has a LP gas stockpiling system. Japanese importers of LP gas have to maintain a store of some 1.9 million tons constantly, equivalent to a 50-days supply of imported LP gas, as the private-sector stockpiling by law.

There is also the national stockpiling of LP gas (see chart.8). It is scheduled to be built up to 1.5 million tons by the fiscal year 2010. Of the five planned national LP gas reserves, three have completed on-ground tanks and have begun operations. With these three bases together, there will be a national reserve capacity of 650,000 tons. In combination with our 50 days of private reserves, Japan has a system reserve of approximately 67 days. Thus, we are in the process of achieving considerable energy security.

Japan has frequent earthquakes. We suffered the Great Hanshin Earthquake in 1995, and two years ago the Chuetsu Earthquake in Niigata Prefecture. We are in a period of seismic activity, and a massive earthquake in Tokyo is a real possibility.

LP gas features a distributed supply and is recognized as a disaster-resistant energy source. The damage by disasters could be minimized and consequently safety inspection for supply recovery can promptly be done house by house.

To reinforce this recognition, and to assure reliability and stable supply in times of disaster, our Association concluded a Mutual Assistance Agreement. Last year, it created a system among 20 member corporations by which we are committed to assisting each other beyond the corporate framework in the event of an emergency.

Furthermore, The Council of LP Gas Associated Organizations has drawn up an Emergency Manual.

Given these improvements in reserves and response to emergencies, we are building a powerful supply system with reliability that no other energy can match.

4. Surroundings in LP gas industry

Final issue is surroundings in LP gas industry in Japan. The Japanese government is promoting nationwide deregulation of energy. Waves of deregulation in the electric power and city gas industries have put great pressure on the LP gas industries.

Chart11 shows a comparison in price index between LP gas and its competing energies. The price of LP gas, calorie value equivalent is higher than other competing energies.

For example, the city gas industry is offering low prices of gas to the firm industries in areas covered by the natural gas pipelines. As chart12 shows, fuel conversion into city gas is being accelerated.

Similarly, electric power industry is making a big push, mainly in the residential sector of the gas market. In some districts, 30 to 40 percent of housing construction units started is equipped solely with flameless electric appliances. Chart13 shows a forecast of rate of total electrification in Japan. The competition for survival among competing energies will grow increasingly intense.

Under these difficult circumstances, we have to make an effort to offer our customers more attractive service options including the gas rates reduction and new technologies in order to compete with other energy sectors. It is extremely important to encourage competition with stable import prices. We sincerely hope the understanding and cooperation of gas-producing countries.

5. Conclusion

LP gas is a wonderful gaseous energy source, environmentally friendly and resistant to disaster. It is necessary for LP gas-related industries world over to contribute to the prosperity of the world by increasing demand for LP gas.

To that end, it is extremely important that all of us strive to deepen mutual understanding, and to work together for building an environment in a mid- and long-term perspective that will foster sustainable development and the continued popularization of LP gas.