 LNG MARKETING STRATEGY IN JAPAN
 UPDATED LATE 1984
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(Before October 1984)

SUMITOMO CORPORATION
LNG Market in Japan

This memo briefly reviews certain changes taking place in Japanese LNG market and summarizes the way of approach which future LNG project promoters are making to the present market.

1. Changes in LNG market in Japan

The introduction of LNG projects to Japan can be classified into three major stages.

a. Pioneer Stage

Pioneer's effort was made through 1960's in order to introduce LNG into Japan that was totally a virgin market.

<table>
<thead>
<tr>
<th>Project</th>
<th>Volume (million tons/year)</th>
<th>Start</th>
<th>Buyers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska LNG</td>
<td>0.96</td>
<td>1969</td>
<td>Tokyo E.P. Co.* Tokyo Gas Co.</td>
</tr>
<tr>
<td>Abu Dhabi LNG</td>
<td>2.06</td>
<td>1977</td>
<td>Tokyo E.P. Co.</td>
</tr>
</tbody>
</table>

* E.P. Co.: Electric Power Company

b. Second Stage

b-1 Many people became aware of the advantage of LNG as clean energy. While the users had been limited to Tokyo Electric Power/Tokyo Gas/Osaka Gas in Pioneer stage, more than several utility companies scattered nation-wide became interested in using LNG and actively looked for new sources. Suppliers responded to this movement.
### Project Volume (million tons/year) | Start | Buyers | Situation
--- | --- | --- | ---
Indonesia LNG (Arun/Badak) | 7.5 | 1977 | Kansai E.P. Co. Chubu E.P. Co. Kyushu E.P. Co. Osaka Gas Co. Nippon Steel Corp. operating
Sarawak LNG | 6.0 | 1983 | Tokyo E.P. Co. Tokyo Gas Co. operating
Indonesia LNG (Increment) | 0.7 | 1983 | Chubu E.P. Co. Kansai E.P. Co. Kyushu E.P. Co. operating
Indonesia LNG (Badak II) | 3.2 | 1983 | Chubu E.P. Co. Kansai E.P. Co. Toho Gas Co. Osaka Gas Co. operating
Indonesia LNG (Arun II) | 3.3 | 1984 | Tokyo E.P. Co. Tohoku E.P. Co. operating
Canada (Dome) | 2.9 | 1988 (Jan.) | Chubu E.P. Co. Chugoku E.P. Co. Kyushu E.P. Co. Toho Gas Co. Osaka Gas Co. contracted

* E.P. Co.: Electric Power Company

b-2 The Second Stage can be featured as:

11. Japanese users became well familiar to and experienced with LNG. LNG became a built-in energy source in Japan.
22. Recognizing the advantage of LNG, users aggressively made themselves prepared for new LNG projects. Users were more active to make a kind of "Seller's market".

33. Gas producers were encouraged by this movement and actively responded by introducing quite a few projects.

44. In view of the fact that users were well prepared and anxious for LNG, suppliers did not have to worry about marketing, but the suppliers' job was just to work out a right project and offer it for users' acceptance. It was rightly said "where there is a right project, there is a ready market."

c. Third Stage

c-1 World-wide gas producers were so encouraged by the sharp growth of Japanese market for LNG that many LNG projects have been and are being planned aiming at the Japanese market.

Meanwhile, Japanese users' demand for immediate and medium future has been just fulfilled by the projects which are in operation and/or going to start production within a few years. Furthermore being aware that Japan's demand for electric power/gas began to slow down, users are now only looking at 10 year or longer future and their attitude is to carefully watch the progress of future candidate projects out of which the most suitable one (or ones) may be selected in due course of time. (Buyer's market)

c-2 Without making evaluation on the realistic feasibility of each candidate project, a simple demand and supply position through 1990 is:

<table>
<thead>
<tr>
<th></th>
<th>Unit: million tons/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total demand in Japan</td>
<td>36.5</td>
</tr>
<tr>
<td>(MITI's Forecast, Nov., 1983)</td>
<td></td>
</tr>
<tr>
<td>Supply from</td>
<td></td>
</tr>
<tr>
<td>Operating projects</td>
<td>28.9</td>
</tr>
<tr>
<td>Contracted or committed projects</td>
<td>5.8</td>
</tr>
<tr>
<td>Balance</td>
<td>1.8</td>
</tr>
</tbody>
</table>

- 3 -
unit: million tons/year

<table>
<thead>
<tr>
<th>Candidate Projects being proposed</th>
<th>(Volume)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sakhalin</td>
<td>3.00</td>
</tr>
<tr>
<td>Thailand</td>
<td>3.00</td>
</tr>
<tr>
<td>Indonesia (Natuna)</td>
<td>8.00</td>
</tr>
<tr>
<td>Qatar</td>
<td>6.00</td>
</tr>
<tr>
<td>Alaska (TAGS)</td>
<td>4.80 -- 14.00</td>
</tr>
<tr>
<td>Alaska (Kenai)</td>
<td>1.00 -- 1.30</td>
</tr>
</tbody>
</table>

c-3 The Third Stage can be featured as:

11. Still there will be a growth of LNG market in the future. But users want to make themselves prepared only for 10 year or longer future, and their attitude tends to be more selective.

22. On suppliers side, quite a few candidate projects are being developed aiming at the future demand in Japan. A simple accumulation of the announced volume of these projects exceeds the estimated demand.

(Note) It is of course observed that some of these candidate projects have problems and there is no assurance that all of them will take off successfully.

33. In reflection of a kind of "Buyer's market", gas producers (or project promoters) tend to be more aggressive in making preliminary marketing effort.
2. **The present situation Japanese users are in**

At the present time, unlike in Pioneer and Second Stages, the market is more aware of the two major problems as below:

**a.** Users, mostly utility companies, must maintain their minimum flexibility to adjust the production of power or gas in accordance with the change of demand. (Demand gap between summer and winter, day-peak and night-bottom, etc.) LNG, which is usually contracted on "take or pay" condition for the period of some 20 years, reduces the said flexibility. It means that they can not commit themselves to LNG beyond certain limit. Each company has its own upper limit of using inflexible source such as LNG and nuclear. This makes it difficult to find a single and big enough room in a single user to sell a big volume of LNG.

**b.** The construction of LNG receiving terminals must pass through numerous process and hurdles including site selection, campaign to local community, clearing environmental problems, etc. Although all the users have the terminal plans, their lead time tends to become longer.

In consequence of the above, many of the future LNG projects will have to be designed in such a way that the sales would be made to many users spread nation-wide, each requiring medium volume, and the time schedule of commencement would be determined in full reflection of the realistic time of completion of their receiving terminals.

3. **Strategies taken by candidate projects on market side**

**a.** In earlier stages, LNG marketing in Japan was made in comparatively simple formula. The situation was basically that where there is a reliable project, there is a market. Suppliers could concentrate on structuring a reliable project ready to start and offer it to users.

**b.** Recently, however, the changing situation on market side is reflected in the way of approach by candidate projects. Their way of approach tends:
b-1 Investigation and sounding on market side come first, even from very premature stages.

b-2 Project locates, in its very early stages, Japanese major trading company(ies) who represents the project and takes care of the marketing or pre-marketing aspect of the project.

b-3 Project tries to keep appealing to potential users through continuous information feeding and campaign type activities.