

Minutes of SPEC 2003: Session I “Oil Market and Pricing in North East Asia”

1. “Oil Market Prices in Asia” presented by Mr. Makoto Satani, Managing Director, Nippon Oil Corporation

● **Brief Introduction of Nippon Oil Company**

The core business of Nippon Oil is oil refining and marketing, where the company supplies a million B/D or a quarter of the Japanese petroleum market. Recently Nippon Oil has been strengthening and expanding its activities in the upstream sector and new energies (natural gas, GTL, fuel cells, cogeneration, etc) to become a fully integrated energy company.

● **Oil market in Asia**

The producing and consuming countries share recognition that they are interdependent in the security of supply and demand, and have common intention to further enhance cooperative relations on equitable basis. The stability of oil prices is an important factor in securing supply and demand, and in this aspect, the prices should remain stable at an acceptable level by both producers and consumers. During the past few years, however, oil prices have been volatile partly due to some speculative transactions. Basically such an excessive volatility is, to some extent, created by lack of transparency and information. In order to stabilize oil market, it is, therefore, necessary to enhance transparency by disclosing information. Should there be international cooperation amongst the producing and consuming countries in disclosure of information, market would be able to gain more transparency and market mechanism would function effectively. One good example of the move can be seen in the Saudi Arabian government’s proposal to create a permanent secretariat for Energy Forum to promote information exchange between producing and consuming countries. Japan also has started releasing weekly reports on Japan’s petroleum product stocks and refinery runs, which can contribute to increasing transparency of the domestic market.

It is also worthwhile to stress that in the long-term perspective, the international cooperation in upstream activities and logistic operations can lead to the security of supply and demand.

● **Asian Premium**

- According to the IEEJ, the FOB prices of Arabian Light to Asia are \$1~1.5/bbl higher than those to the U.S. and Europe. The differentials are called the “Asian Premium.” Nippon Oil, as a buyer of Middle East crude oil is fully aware of the East-West price differentials. But, at the same time, Nippon Oil recognizes that the Asian Premium is an issue which cannot be solved by a simple and easy measure. First of all, when one sees the issue from the global perspective, it is not commonly recognized and shared worldwide. The Western analysts as well as international oil majors and producing countries all understand that the price of crude oil is determined by economic principles, namely, supply and demand balance of the respective region.

The U.S., Europe and Asia each has different supply and demand structures, and as a result, the crude oil prices in the respective region are naturally different from each other.

- The U.S. and Europe already have well established and open cry oil markets, where WTI and Brent are traded everyday. Now, we will calculate here at what price Arabian Light should be traded using the WTI and Brent prices. Because Arabian Light differs from WTI and Brent in quality, this quality differential must be taken into account. If we calculate using 2002 WTI actual yearly average figure (\$26.2/BBL), Arabian Light should be \$25.2/BBL because we subtract \$1/BBL as quality differential from WTI. In case of Brent, it should be \$24.3/BBL. The actual FOB Arabian Light yearly average price for Asia destination in 2002, in fact, was \$24.3/BBL. Judging from these figures, we may say that the Arabian Light price for Asia is set at a comparatively fair level. However, in reality, there exist FOB price differentials between the East and the West.
- In order to elucidate the cause of the differentials, **it is necessary to see the crude oil market from the global perspective. The world oil market is divided into three zones, and each** has its own supply and demand structure. Zone one is the North-Latin American zone, where demand is 29 million B/D and supply is 22 million B/D. The zone is short in supply for 7 million B/D. Zone two is the Europe-Africa-FSU (former Soviet Union) zone, where demand is 22 million B/D and supply is 24 million B/D. The zone is long in supply for 2 million B/D. Zone three is the Asia/Pacific-Middle East zone, where demand is 26 million B/D and supply is 31 million B/D. The zone is long in supply for 5 million B/D. The total world demand of 77 million B/D and total supply of 77 million B/D is balanced by the 5 million BD long in Zone Asia/Pacific-Middle East plus the 2 million B/D long in the Zone Europe-Africa-FSU flowing into Zone North-Latin America in order to fill the short gap of the 7 million B/D there.
- In the Western market, there exists a huge indigenous supply. It means that the Middle East crudes cannot compete unless they are priced at competitive level against local alternatives. Taking the U.S. market as an example, the Middle East crudes must compete against the U.S. domestic crude oil, short-haul crudes from Canada and Latin America, and crudes coming from the European market such as North Sea and West African oil. The U.S. is the world's largest market consuming nearly a quarter of the world's demand, but from the suppliers' point of view, it is the most severely competitive market. Arabian Light left unabsorbed in east of Suez must be sold in the U.S., but its price must be competitive in the U.S. market. As Arabian Light comes from much further distance than its competitors, the extra freight must be discounted in order to gain competitiveness on C&F terms. As a result, the FOB prices for the U.S. destination end up lower than those for the Asian destination, but in reality, the U.S. prices can be understood as discounted prices after the adjustment of the extra freight.

- Also, given the relationships between the U.S. and Saudi Arabia, it appears the Saudis intend to keep their presence in the U.S. for security reasons by supplying competitive Saudi crude oil to the U.S. market.
- If one looks at Asia, its oil demand is surging, and it is projected to increase by 8 million B/D in the next decade. Asia's dependence on oil imports from outside the region is expected to rise to 75% (22 million B/D). The Middle East will remain to be the major and natural supply source to Asia, because it is located geographically nearest, which means that the freight cost is the cheapest. Today Japan is dependent on the Middle East for nearly 90% of its oil imports. From producing countries' side, they find no competitive supply sources to compete with themselves in the Asian market unlike in its Western counterparts.
- Therefore, in order to reduce the Asian Premium, it is necessary to change the current supply-demand structure, which is the primary cause of the Premium. Specifically speaking, Asia should (1) promote crude oil development within the region, (2) increase spot ratio and diversify supply sources (eg. West Africa, South America, Russia and the Caspian Sea), and (3) participate in the upstream projects under the public-private concerted efforts. Some of the said measures have already been taken. The increasing supply of crude oil from West Africa, Russia and the Caspian Sea are expected to head from already matured Europe market to vastly growing Asia market. The proposed Nakhodka pipeline project is one of the examples of such moves. This winter Nippon Oil reduced its Middle East dependency by about 10 points by purchasing spot cargoes from West Africa, Russia and Kazakhstan. If arbitrage cargoes constantly flow into Asia, they will create competition in Asia, and as the result of the competition, Asian Premium will be reduced.
- The supply-demand structure in the Asian market is responsible for the Asian Premium; the Premium is not a technical matter of the benchmark. However, given the fact that Dubai production has declined to 130,000 B/D and it is declining even further, Asia urgently needs to set an alternative benchmark in order to enhance market liquidity and transparency. The most viable alternative is Oman. It is because (1) Oman has a steady production of 850,000 B/D, (2) actually used in Asian refineries everyday, (3) reflects Asia's supply and demand structure, and (4) basically acceptable by the producing countries as the alternative benchmark. The alternative benchmark is the matter for the oil producers and endusers to discuss and agree on commercial base. We have already started the discussion with the producing countries, and intend to continue to exchange frank opinions for the sake of mutual benefit and prosperity.
- Lastly but not the least, in the long term point of view, Middle East, having two thirds of the world reserve, will remain the primary supply source to Asia. From Middle East's side, Asia is the natural home of its crude oil. The mutually dependent relationship on the security of demand and supply will continue. Through exchanges of candid opinions and sincere

negotiations between the Middle East producing countries, we will continue to seek fair and competitive price levels, and should there be areas even outside the oil where we may both enjoy merits, we would like to develop the business opportunities in order to deepen the relationship.

- **Questions & Answers**

- Q: From what time Japan became so heavily dependent on the Middle East? What are response measures? What will happen in the future?

A...Japan's Middle East dependence dropped from 90% to around 70% after the second oil crisis, but resumed rising to 85-90% due to economics. Because it should be lowered for security reasons, Japan is now trying to reduce it by increasing crude oil from the sources outside the Middle East. If Asia increase supply channels in the future, the situation should naturally change. For the present, individual companies don't have any uniform targets specified.

Q: The both problems of energy security and the Asian Premium can be attributed to the absence of forces applied on the oil market jointly by the Japanese oil industry and government, can't they? The primary cause seems to be poor corporate profitability, of which effects are felt on purchasing as well. What do you think of medium- and long-term strategies?

A...The Japanese oil industry is excess-capacity-prone and resultant fierce competitions lose earnings. As a result, the industry is unable to demonstrate its ability fully in the field of development. I think it's important for the industry to strengthen its corporate capability first so that it can challenge oil majors.

2. **“Why East Premium?” presented by Chi Hyung Kim, Senior Vice President, SK Corporation**

- **Three components of the presentation**

The first is the historical development of the Asian oil industry, the second the Asian Premium, and the third a new benchmark that can replace Dubai.

- **Historical development of the Asian oil industry**

- Historical development of the Asian oil industry can be divided into three stages, that is, the first stage from the 1970s through the mid-1980s, the second stage from the mid-1980s through the early 1990s, and the third stage from the second half of the 1990s onward.
- The first stage from the 1970s through the mid-1980s coincided with the period when the Asian countries marked a record high economic growth. In Asia, dramatically increasing energy demand has been met with oil, of which domestic markets have been managed by the governments. Because it is guaranteed to peg domestic product prices to the sum total of

“crude oil cost + operating cost + a margin,” the cost of products could easily be passed onto the consumers. Also, without sufficient local crude oil production, Asia has no choice but to depend on the Middle East producing countries and has purchased crude oil under long-term contracts based on OSP (official selling price) decided one-sidedly by producing governments. On the other hand, during the same period, the domestic markets in the Western hemisphere were exposed to free competition, where producers had to rival domestically produced crudes.

- During the second period from the mid-1980s through the early 1990s, pricing employed in long-term contracts has changed from government posted prices, like OSP and GSP, to netback prices and further to market-linked prices. Yet, in Asia, domestic pricing formula of the cost plus alpha remained unchanged. Due to greater demand than refining capacity, there were few alternatives but to cover the shortage with imports from the Middle East.
- In the third period from the second half of the 1990s onward, new and additional refineries were installed one after another, which reversed the situation and greater refining capacities than demand caused excess capacity problems. Waves of liberalization of domestic oil industry, starting from Japan then reaching the rest of Asia, left product pricing to discretion of individual oil companies. Challenged by not merely new participants but also imported products, the domestic price is now set at the marginal cost, and the cost-plus-margin-based pricing became increasingly unrealistic. Yet, compared with the advanced markets in the U.S. and Europe, the Asian market still lacks transparency and liquidity. Appropriate price hedging tools are absent either.
- **Asian Premium**
- Due to the absence of fair and transparent pricing mechanism, in Ras Tannurah, crude oil to Asia is priced much higher than that to the Western countries, which averaged 94 cents/bbl between 1991 and the first half of 2002. In a year the annual average stood as high as \$1.50/bbl.
- Dubai, widely in use as the benchmark of crude oil shipped to Asia for years, has poorly functioned these days. It is because decreasing Dubai production allows traders to manipulate price easily. Dubai fails to attract active participation of Asian oil companies and is dominated by a few Western traders, which results in poor liquidity.
- **New Benchmark Crude**
- A clearly shared sentiment is that Dubai needs to be replaced with a more suitable benchmark. The new bench-marker should not fail to meet three conditions. First, it should be free from manipulations, regardless of the bench-marker price or differentials with its counterparts like WTI and Brent. Second, it should allow easy access and have enough trading volumes to ensure liquidity. Third, its pricing mechanism must be transparent and acceptable by not merely oil consumers but producers.
- On these accounts, BWAVE (IPE Brent Weighted Average) and Oman can be cited as potential

candidates for the new bench-marker. OSP published by Saudi ARAMCO can also play the role of bench-marker if its adjustment factor is determined in a more transparent way.

- While there are a lot of options as cited above, the Asian oil industry should decide the best new bench-marker to the Asian oil market by itself. What is most important is that the new bench-marker is stable and predictable, free from manipulations-based volatility, and priced in a reasonable and transparent manner.

- **Questions & Answers**

- Q: I think the benchmark should be served by dominant crude oil in any particular region and marginal crude oil is not qualified for playing the role. Namely, in a sense that Asia is absolutely dominated by the Middle East crudes, Dubai or Oman makes little difference. But, because Brent is extremely marginal in Asia, isn't it unreasonable to let it serve as the benchmark there?

A: Of course, it is best and ideal if the bench-marker can be served by dominant crude oil in a given region. But, because Dubai has big problems as discussed so far, a choice must be made among the second or third best options. I believe Brent is surely among such options. This can be contended by that Brent just reflects the European crude oil and product market conditions. But, today, well-developed communications systems enable us to share market information simultaneously worldwide. Therefore, I don't think Brent is inappropriate as a benchmark simply because it remains marginal in Asia in physical terms.

3. "Marker Crudes" presented by Mr. Rashid K. Al Barwani, Minister's Advisor for Marketing, the Ministry of Oil and Gas, Sultanate of Oman

- **Introduction**

- First I explain how the crude oil price is determined and what is the central role of marker crudes. Second, I give my views on what makes a good marker crude oil, then review present situations and problems of main marker crudes. Lastly, discussed is the future role of Oman particularly on the Asian market. My conclusion will be "marker crude pricing is still an effective and satisfactory system today, though having some problems."

- **Pricing Systems**

- There are two main systems used in pricing the Middle East crudes; formula pricing (price calculated with a formula) and retroactive pricing. The big difference between them is timing of pricing. The formula price is typically announced a few days in the month before loading, while the retroactive price the first few days in the month after loading.
- With the formula pricing system, competing crudes in a given destination region are first put to relative evaluations by taking into account qualitative differential from the marker crude and transportation costs. Then, the formula price is set in reflection to the delivered prices of

competing crudes. The formula price has three key characteristics: (1) announced in advance of loading, (2) destination-dependent, and (3) usually non-tradable.

- With retroactive pricing, the price is determined after loading, destination is not designated, and crudes are tradable to someone else. When setting the retroactive price, price responsiveness, fairness and confidence are taken into account. Crudes with the formula price are marketed not only in Asia but also around the world, such as the U.S., while those with the retroactive price tend to be sold in the East only. It is simply because the Asian market usually gives a higher netback price. We are trying to price Oman in line with the values of alternative crudes on the Asian market as much as possible.
- The similarity of the formula and retroactive pricing systems is that the both systems determine their final prices in reference to the prices of alternative crudes. Hence, the price of marker crude is the most important element.
- **Characteristics of Ideal Marker Crude**
- The marker crude should be similar in quality to the crudes it represents. For example, light sweet crude cannot be a good marker of heavy sour crudes. In addition, marker crude must have a wide range of users processing for general-purpose in a region. No crude can be a marker if it has a very limited number of end users.
- Marker crude should be available from a reasonably wide range of sellers, not from of a single dominant seller. What's more, it must be fairly tradable, which means the resale of cargoes should be possible without any restrictions. Marker crude should have its physical market backed by paper markets, ideally by futures market or at least good forward market.
- Among others, sufficient traded volumes are necessary. Trading on the physical market should provide accurate indication of price levels. The basic function of marker crude is to identify the price in a particular region and show supply-demand situation to different regions. While some commentator suggested that regional differentials had to be offset by picking out marker crude in a particular region, I think the suggestion goes a little bit too far.
- **Marker Crudes in Asia and the U.S./Europe**
- WTI in the U.S. is sweet light crude, which is transported by pipeline system. It is not traded internationally but widely transacted within the U.S domestic market. Production volume is approximately 1.00 million B/D, but its paper trades, including options, can be as much as 200 million B/D. WTI contracts are traded mainly on NYMEX with 1,000 barrels as the basic unit. Upon request, physical delivery can be made at Cushing, Oklahoma.
- Brent is light sweet crude produced in the North Sea, and shipped from the Sullom Voe Terminal at Shetland Island. Current production is 450,000 B/D, equivalent to 30 cargoes a month. It has a reasonable wide range of producers and end users. Also, traded internationally, Brent is sold not merely in the West but also as far as Korea and Japan.

- Just like WTI, Brent has the paper markets, forward and futures, all being very active. Contracts on IPE are delivered at Sullom Voe and settled with 1,000 lots as the basic unit. Including options, the size of Brent market is estimated at 200 million B/D again. For pricing purpose, there are cargoes of dated Brent, which means Brent cargoes that are dated. In case of standard contracts, they are traded a minimum 15 days before loading.
- Finally discussed is Dubai, which is medium sour crude. It has representative qualities of Middle East crudes but is not sold by a dominant seller. Dubai is freely tradable and actively traded on paper markets. Production has declined over the past few years and is now down to 150,000 B/D, or approximately 9 cargoes a month.
- The Middle Eastern crudes shipped to the Asian market are priced with formula pricing, with Dubai and Oman employed as the marker. While the trading price of Oman has been calculated based on the price of Dubai, this system has been changing a little recently. The intention of these changes is that the price quotation of Oman reflects actual market conditions better a little.
- **Necessary characteristics for marker crude**
- Important requirements for a good marker are qualities, tradability and trading volume. Dubai has typical qualities of the Middle Eastern crudes, while WTI and Brent have not. Given quality differentials, producers need to make adjustments by taking into account varying sulfur contents and other sweet-sour differentials.
- The second requirement is tradability. All marker crudes today are able to keep liquidity in pricing, because they are linked to paper markets and tradable. Some commentator pointed out that WTI was a flawed marker since it wasn't exported from the U.S. Once again, it is not a major problem because NYMEX contracts give WTI enough flexibility to make it replaceable with overseas crudes.
- The third requirement, perhaps most important, is production volume. With its production reportedly down to 150,000 B/D, or nine cargoes a month, Dubai can hold a significant position in trading of cargoes that involve a rather limited number of traders, where it can have a massive impact on a supply and demand balance.
- Market participants question if they should continue to quote Dubai as the marker crude. Some call for quotation of Oman can be better. Though naturally to be welcomed from Oman's perspectives, such a view appears a little immature, because Oman has some serious flaws as a potential marker. One is that Oman is not sold by a dominant seller right now. The other is Oman does not have a fully developed forward market. However, given shrinking production of Dubai and its price links to Oman, it is quite possible to let Oman substitute for Dubai eventually. While Dubai is currently accepted as a reasonable marker on the Asian market, the likelihood is that Oman also could be accepted as an additional marker.

- **Conclusion**

- It can be concluded that the marker crudes system currently meets the market's needs. Certainly existing markers have flaws and should be reviewed regularly for correction, if necessary. Yet, we must concede no better alternatives that can satisfy both producers and consumers are available right now.

- **Questions & Answers**

- Q: You said Oman has a serious flaw as a benchmark, namely, it is not a dominant seller. Does the Government of Oman have any plan to increase the number of primary sellers through such measures as public offering of stocks?

A: The Omani government hopes to have a fairly open market where Oman is widely tradable. On the other hand, what's most important for Oman is a fair market value. Too high or too low prices alike make us uneasy. Namely, while Oman currently acts as an effective marker, we want to avoid price volatility even if Oman officially became the marker.

4. "The Asian Premium" presented by Mr. Dennis Ang, President, Statoil Asia Pacific Pet Ltd., Singapore

- **Introduction**

- In this speech, I will analyze the factors contributing to the Asian Premium and discuss some possible ways to mitigate it. What I'm going to express is my personal views, not official Statoil position.

- I believe the following factors have contributed to creating the Asian Premium:

- Robust Asian oil demand growth and lack of competition from alternative energy sources

- Asia's heavy dependence on the Middle East crude

- Japan's conservative crude oil purchasing policies

- Restrictions on reselling crude

- Competitive European and U.S. crude markets

- **Robust Asian oil demand growth and lack of alternative energy sources**

- Comparing oil demand over 1990-2002 between Asia/Pacific and the world, Asia/Pacific has been responsible for the largest component of the world demand growth for most of the period. The strong oil consumption growth not only reflected Asia's robust economic performance but also indicated suggests the lack of alternative energy sources to oil.

- The growth of gas consumption suffers from the slow and costly development of infrastructure and distribution networks. Coal is an important fuel in many countries, including China, but concerns over the environmental impact of emissions restrict its consumption. Nuclear power generation remains blocked by concerns over safety and environment.

- Faced with these issues, Asia relies heavily on oil and particularly on the Middle East as its main oil supplier. In addition, oil from West Africa, Russia, North Sea and South America is frequently arbitrated into Asia.
- **Asia's heavy dependence on the Middle East crude**
- In 2002, Asia's crude demand totaled 18.40 million B/D. Locally produced crude covered only 5.50 million B/D of it. Another 1.90 million B/D was imported from other Asia/Pacific sources. Nearly 11.0 million B/D, or 60% of its crude needs was imported from outside the region. Of the imports, as much as 9.80 million B/D or more than three fourths came from the Middle East. This dependence on the Middle East is likely to keep rising to 12.0 million B/D, or 80% of imports by 2008. .
- Compared to the Middle East, crude flows from other sources are still modest. Crude oil imports from Africa, Americas and Europe, which totalled 1.10 million B/D or only 9% of the whole in 2002, are expected to grow to 1.70 million B/D or 15% by 2008. As a result of the tighter sulfur restriction applied to petroleum products by many Asian countries, growing imports of low-sulfur West African crude are expected.
- The top five importers account for more than three-quarters of Asia's crude oil imports. Japan's imports, or 4.20 million B/D, are about double South Korea's. Meanwhile, compared with Japan's dependence on the Middle East standing at 85%, only 56% of China's imports come from the Middle East. This is because Japan's refining system is essentially designed to process a wide range of heavy- and medium-gravity sour crudes. Having a desulfurization capacity equivalent to 75% of its distillation capacity, the hardware configuration is suitable for processing Middle Eastern crudes. On the other hand, the Chinese refineries have limited desulfurization capacity and are designed for domestically produced heavy sweet crudes, like Daqing. Accordingly, China has to cover a large portion of its crude requirements from the sources outside the Middle East, which consequently prompts crude oil diversification. Aside from the Middle East, China is importing from Asia/Pacific, West Africa, the North Sea, South Africa and Russia, among others.
- **Japan's conservative crude oil purchasing policies**
- The top four crude oil importers from the Atlantic Basin are India, China, Taiwan and South Korea, and Japan is not among them. This suggests Japan is little interested in, nor is willing to purchase crude oil from sources other than traditional ones.
- Japan depends on imports in meeting virtually the whole of her oil needs. Thus the country's primary concern has been energy security resulting in conservative crude oil purchasing policies of Japanese companies. Japanese companies emphasize stable supply as the key element and purchase a high proportion of their crude through term contracts. This leaves little room for optimization of refinery allocation through spot purchasing.

- **Restrictions on reselling crude**

- Many Middle East producers sell their crudes on the basis of destination-specific price formulas. For example, P (price of export crude) = P (price of marker crude) +/- adjustment factor. Here, marker crude means any of following crudes employed in each region:
 - Dubai/Oman for Asia/Pacific
 - Brent Weighted Average (BWAVE) for Europe
 - West Texas Intermediate (WTI) for the U.S.

Adjustment factors are set every month by the producers ahead of deliveries.

- Because the resale is prohibited, the producers are creating three very separated differentiated markets for their crudes. In Asia/Pacific, where term contracts and prohibition of resale have prevailed across the region, the spot market has not developed and is poorer in liquidity than its European counterparts despite larger consumption than in West Europe.

- **Competitive European and US markets**

- In contrast to Asia's heavy dependence on Middle East crudes, the U.S./European markets have a wide range of choice of competitively priced crudes. In the Atlantic Basin, Middle East crudes compete with crudes from the North Sea, West Africa and South America. To maintain their shares on such competitive markets, Middle East crudes have to be priced competitively.

- **Recommendations to help solve the Asian Premium**

- I believe the Asian Premium has resulted from lack of competition among the producers serving the Asian markets, which has been worsened by the conservative policies taken by the Asian buyers. I also believe the premium can be mitigated if the measures I'm going to recommend are considered and implemented. They are as follows:

Reduce term contracts and increase spot purchases

Consider alternative crudes

Accept Dated Brent as a price marker

- Reduce term contracts and increase spot purchases

In a world where oil supply is not scarce, Asian buyers need to become less conservative and more flexible in their procurement strategy. Namely, in order to gain the best short-term opportunities, buyers should lock up fewer term barrels and become regular participants in the spot market. They should become more sophisticated in hedging price risks by seeking crude oil procurements globally.

- Consider alternative crudes

The Asian refiners should consider the broad range of crudes now available in Asia. ∅ Refiners must become more flexible commercially and make their hardware capable of processing more varied crude.

- Accept Dated Brent as a price marker

Because Brent is influenced by European factors little related to Asia/Pacific, many Japanese refiners prefer Dubai as their price marker. But, I believe they should seriously consider crude oil procurements with Dated Brent pricing as a promising option for two reasons below.

...In the next several years Asia is likely to have increasing imports of Dated Brent-based crudes as new crude oil production comes on stream in West Africa.

...Good liquidity of Brent futures and paper markets provide an effective mechanism to hedge price risks.

- **Introduction to crude oil marketing activities by Statoil**

- Statoil is an oil and gas company with 81% of its stocks held by the Norwegian government. Its headquarter is located in Stavanger. The company markets over 2.00 million B/D of crude oil and condensate from the North Sea and other international sources. The company trades more than 20 grades of crudes. Beside Stavanger, trading offices are located in London, Stamford (Connecticut, USA) and Singapore.
- In Asia, the company sells crude to China, South Korea, Japan and Taiwan, and leases underground storage caverns of total capacity 11-million-barrels in Yeosu, South Korea. In 2002, the company sold 110,000 B/D, of which 80,000 B/D were North Sea crudes, and the remaining 30,000 B/D Middle East crudes. Sales volumes are highly volatile. Particularly when Brent-Dubai differentials narrow or the tanker rate drops, more crude oil flows into Asia than usual.
- West African crude oil production is expected to reach 4.00 million B/D by 2006. Of this, 1.00 million B/D will be supplied to Asia. In the North Sea, crude oil and condensate production will start declining after peaking at 3.30 million B/D, while gas production is likely to grow concurrently. By 2015 the share of natural gas is expected to reach 60% of production mix in the North Sea.

5. Panel Discussion

- Question to Mr. Satani

To expand spot transactions is surely important for Japan in increasing flexibility of crude oil imports. Aside from crude oil, it appears possible to seek flexibility by considering various combinations of product imports/exports. What do you think of such combinations? How do you think the possibility of creating a big market in North East Asia led by Russian crude? What do you think about creation of a product market in North East Asia?

Answer (1)...Japan has an excess refining capacity by about 20%. Under such circumstances, refiners plan crude oil procurements based on product output in principle. To correct the

excess capacity into a desirable shape requires the best mix of domestic production and imports. I believe it is significant to free imports/exports by counting Asia as a single economic bloc. At the same time, we need to give due consideration to China's accession to the WTO and the moves toward Asia's FTA regionwide. What is more, different product specifications in each countries must be unified.

Answer (2)...The emergence of Russian crude oil has massive impacts on North East Asia and the U.S. Once a total of 1.50 million B/D, including a million B/D from Nakhodka and 500,000 B/D from Sakhalin, actually become available, there may be a good chance of market formation.

Answer (3)...I believe what's important of a product market in a given region is that the region by itself starts taking necessary actions by giving special consideration to regional characteristics. I think a market of this type can be formed spontaneously only if Asia feels it necessary. To this end, therefore, deregulation and liberalization is a matter of vital necessity for the East Asian countries. Once deregulated or liberalized, a birth of a product market is quite probable in any of the region of Japan, South Korea or China.

- Questions to Mr. Kim

Given that Asia today is expected to face growing product demand the same as in the 1990s, it appears very important for the Asian consuming countries to unite their efforts for dealing with the situation. What is your comment on it? What roles the governments should play? I want to learn your views on Russia's plan to export crude oil through pipeline and on the North East Asian product market.

Answer (1)...* I think I had better start with my experience in petrochemical product business. The China is the world's only giant market for the export of PC product. A couple of years ago I had the chance to visit with the customers in China for PC business. There I found the large number of small supplies were approaching to the Chinese market for selling PC product, The China was and is enjoying the good bargaining by taking advantage of surplus situation both in product supply and in the number of players. This means, the smaller in number of players, the better in achieving higher price.

And thus the coherence among the countries is a matter of extreme importance. Yet, I believe the Asian countries need to take prudent approaches because their Middle Eastern counterparts are state-run companies. What's important is to take a balance by contacting both government and private routes.

Answer (2)...The sale of Russian crudes to North East Asia has a merit in the point that it can help lower the region's Middle East dependence. At the same time, it provides Russia great merits in political and economic terms. Given China's demand surges from now on, the

availability of an alternative supply source is very important to oil economics and policy of NEA countries.

- Questions to Mr. Al Barwani

I think Oman needs to be traded on the spot market if it takes the role of marker crude, doesn't it? Also, given swelling inflows of the North Sea and West African crudes from west of Suez, how do you think of them as competitors? While I believe to stabilize volatility of crude oil prices requires spot trading of the mainstream Middle East crudes, including the Saudi ones, how do you think of it?

Answer (1)...I believe Oman can fulfill the functions of marker crude well, but what's essential is a fair value to be warranted. We are fully satisfied with the current situation of the Oman/Dubai swap market, while keeping the market watched closely.

Answer (2)...With almost all of national revenues depending on oil revenues, we are highly concerned over the volatility on the crude oil market. Oman is making the best efforts to stabilize the market, and the Saudis on their part understand it. In order to prevent market manipulations by the third party, market needs transparency.

Answer (3)...The suppliers in west of Suez are competitors with Oman. Oman is considering participation in the futures market and planning to establish a marketing company of its own. We believe it is necessary to help traders and market players give a fair value of Oman.

- Questions to Mr. Ang

- Consider alternative crudes

The Asian refiners should consider a the broad range of crudes now available in Asia. Refiners must become more flexible commercially and make their hardware capable of processing more varied crude.

- Accept Dated Brent as a price marker

Because Brent is influenced by European factors little related to Asia/Pacific, many Japanese refiners prefer Dubai as their price marker. But, I believe they should seriously consider crude oil procurements with Dated Brent pricing as a promising option for two reasons below.

...In the next several years Asia is likely to have increasing imports of Dated Brent-based crudes as new crude oil production comes on stream in West Africa.

...Good liquidity of Brent futures and paper markets provide an effective mechanism to hedge price risks.

- **Introduction to crude oil marketing activities by Statoil**

- Statoil is an oil and gas company with 81% of its stocks held by the Norwegian government. Its headquarter is located in Stavanger. The company markets over 2.00 million B/D of crude

oil and condensate from the North Sea and other international sources. The company trades more than 20 grades of crudes. Beside Stavanger, trading offices are located in London, Stamford (Connecticut, USA) and Singapore.

- In Asia, the company sells crude to China, South Korea, Japan and Taiwan, and leases underground storage caverns of total capacity 11-million-barrels in Yeosu, South Korea. In 2002, the company sold 110,000 B/D, of which 80,000 B/D were North Sea crudes, and the remaining 30,000 B/D Middle East crudes. Sales volumes are highly volatile. Particularly when Brent-Dubai differentials narrow or the tanker rate drops, more crude oil flows into Asia than usual.
- West African crude oil production is expected to reach 4.00 million B/D by 2006. Of this, 1.00 million B/D will be supplied to Asia. In the North Sea, crude oil and condensate production will start declining after peaking at 3.30 million B/D, while gas production is likely to grow concurrently. By 2015 the share of natural gas is expected to reach 60% of production mix in the North Sea.

Amid declining crude oil production in the North Sea, do you think West African crude oil, through having output increases, will really be shipped to Asia? To what extent West African crudes can influence Asia? With its refinery runs sharply falling, Singapore's product exports are shrinking. Is it possible for Singapore to keep its position as Asia's representative international market? The last question is what do you think of spot trading of the Middle East crudes?

Answer (1)...To begin with, the North Sea crudes are flowing into Asia little. The scarcity can intensify further along with the North Sea crude oil production falls. Rather a greater chance is that more West African crudes than ever will flow into Asia. Because incremental production in South Africa, typically Venezuela, will direct toward the U.S., the high possibility is that West African crudes will shift to Asia from their conventional outlets in the U.S.

Answer (2)...Despite its falling refinery runs, Singapore keeps price competitiveness at international level. Also given expanding coordination with petrochemicals, I believe Singapore also will remain as the world's largest bunker market.

Answer (3)...I think trading a larger amount of the Middle East crudes on the spot market is an important part of producing price transparency.

- Questions to Mr. Al Barwani

While you referred to the need for paper market as a condition for marker crudes, I think

NYMEX and IPE were established by American and British intentional efforts for such creation. While Dubai is functioning as a paper market to some extent, how MOG plans to put

its crude oil on the market? How a paper market should be created in your opinion?

Answer (1)...Required elements of marker crudes include quality, demand, many sellers and buyers, free trading, trading volumes, and being squeezing-resistant. MOG now prudently considers if it is possible to sell Oman freely on the futures and forward markets. If possible, we are willing to enter the futures market and make Oman trading commodity . It is not simply because we pursue trading profits but we hope to increase market transparency and thus set a fair value of Oman. We are ready to offer a reasonable amount on the market, and believe Oman is able and qualified to win confidence at least in the East Asian market.

- Questions to Mr. Ang

While you recommended Brent as a marker of crude oil to Asia, crude oil prices are preferable if they reflect supply and demand in a particular region. Brent functions while being backed by the product markets in the U.S. and Europe. It is traded in different time zones from Asia. How do you think of these differences?

Answers...While Brent-based crude oil imports are likely to increase ahead, Asia is not familiar with trading of Dated Brent, which is the marker of Atlantic Basin crudes. I recommend Brent in the sense that Asian buyers could hedge their positions by taking advantage of IPE, the most liquid futures market in the world. I do not however recommend Brent, which has difficulties in linkage and time zones between European and Asian markets, as the basis for trading the Middle East crudes, the long-standing mainstream in Asia.

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