

Oil and Gas Supply and Demand in the Asia-Pacific Region

presented by M Kinoshita, Japan National Oil Corporation (JNOC) c/- PO Box N769 Grosvenor Place, NSW 1220, Australia

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Abstract

The current monetary crisis in South East Asia, though grave, is expected to be contained through international cooperation in a few years and the economies to regain relatively high growth rates for the 1995-2010 period. Accordingly, incremental demand for oil in the region for the coming 1-2 years is projected to shrink by some 200 thousand BBL/d, pressing down short term oil prices. However, by 2010 oil demand will rise to 23 MMBBL/d, leaving a gap of 17 MMBBL/d between regional demand and supply capacity.

For gas, many of expansion/grass roots LNG projects seem to have suffered more severely because of large and long-term investment requirements which are severely hit by the current monetary crisis.

While regional demand for oil will be on a steady increase, supply capacity from within the region will not expand as much, and dependence on imported oil will exceed 90% by 2015, resulting in increased vulnerability in the world oil market. An increase in oil demand and possible delay/cancellation of large scale LNG projects might delay substitution of coal by oil/gas, entailing further deterioration of environmental issues.

To slow down the pace of regional dependency on imported oil, further efforts by the industry are called upon for the development of regional resources in the frontier areas and deep sea waters, complemented by government actions in preparing a better investment climate, including relaxed fiscal terms and appropriate tax considerations. Simultaneously, gas development in the region for local use and export needs to be boosted, Oceania has a competitive edge in this respect.

Also, policy recommendations being considered by APEC could be one of the tools towards such a goal.

JNOC, along with Japanese industry, is committed to contributing to regional stability in oil/gas supply, as well as sharing its know-how in building emergency stockpiles.

Mr Chairman, distinguished guests, ladies and gentlemen, it is a great honour for me to have been given this opportunity to give a small presentation as one of the keynote speakers along with the Honourable Max Bradford, Minister of Energy and other outstanding speakers who have all come here to share some thoughts relevant to the New Zealand petroleum industry.

Ladies and gentlemen, as you all know, we are currently standing under a cloud of economic, and to a certain extent, political turmoil arising out of some of the Asian nations including Korea, Thailand, Indonesia and others, which inevitably affects trade and the balance of payments of not only the countries in the region but also the world as a whole. I believe it is also the case for New Zealand where a lot of concern in respect of stagnant exports and increases in the deficit of the balance of payments is often reported in the media. In trying to share with you my thoughts on the future of oil and gas demand and supply in the Asian Pacific, I could hardly proceed without referring first to this question of monetary crisis.

The present monetary problem was first highlighted in Thailand in July last year and quickly spread into South Korea, Malaysia, Philippines and Singapore, with their currencies plummeting sharply against the hard currency, i.e. US dollars. Indonesia whose Rupiah has lost over 80% of its value over the last six month period is particularly worst hit.

In the wake of this, international reaction was speedy, with international remedy plan in the order of \$110 billion being negotiated including \$35 billion support from IMF. With this support, each of the affected nations is exercising an all out effort to introduce means to restructure and revitalise their economies. However, according to the Japan Center for International Finance's forecast published in January 1998, it is estimated that 1998 GDP growth rate of these nations would be all in the red; 3.6-13.1% lower than that of 1997.

Given this situation, it of course is not an easy task to forecast what exact impact we might see in the future of our industry. However, the majority of experts and economic analysts say that it will be a few years rather than tens before the present monetary turmoil could be left behind. The most recent data prepared by the Australian Institute of Agricultural Resource Economics and referred to by APEC shows that the average GDP growth rate of South East Asian countries in the 1995-2010 period would still be in the 6% range, slightly lower than the previous 15 year period, but higher than other areas of the world.

Then, what impact would this bring to the oil and gas supply/demand situation in the Asia Pacific region?

For 1998, the IEA had predicted that oil demand in the Asia Pacific Region would increase by 1 MMBBL/d over 1997 to 19.6 MMBBL/d, but the majority of thought by experts including the IEA itself seems to imply that incremental demand will now only settle somewhere between 400 to 800 thousand BBL/d.

For the period up to 2010, based on the assumption that the monetary crisis is contained in a matter of a few years and that a relatively high GDP growth rate follows, Asia Pacific oil demand in 2010 is expected to increase by 7 MMBBL/d to 27 MMBBL/d as compared to 14 MMBBL/d in 1995, while the regional supply capacity will stay at the same level of 6 MMBBL/d, thus the demand/supply gap in the region will widen to 15 MMBBL/d in 2010 from 8 MMBBL/d in 1995.

Speaking of gas, short term impact will be on the behaviour on the part of customers, for example, Kogas recently announced that as against their forecasted demand of LNG for 1998 of 13 million tons, an increase of 1 million tons over 1997, they will now be importing 11 million tons, a decrease of 1 million tons.

For medium to long term demand, however, APEC forecasts that Asia Pacific will absorb 42 bcfd in 2010 a jump of 23 bcfd over 19 bcfd in 1995, while regional supply capacity for the same period will only reach 33 bcfd, an increase of 15 bcfd compared to 18 bcfd in 1995, implying a regional demand/supply gap of 9 bcfd, a 900% leap over 1 bcfd in 1995.

I must say that since long term as well as large scale investments are required in the development of gas fields and related infrastructures, the current monetary crisis may make it very hard or even impracticable for some of the proposed LNG projects as well as pipeline gas projects to proceed. For example Thailand is said to have put off the purchase of 2 million tons of LNG from Oman and virtually cancelled the import of piped gas from the giant Natuna gasfield.

As mentioned before, Asia Pacific oil demand is expected to start showing a firm, though at a lower rate compared to previous years, upward trend in the medium to long term, and the region's dependence on imported oil, if left undeterred, would gradually increase up to 74% in 2010 compared to 58 in 1995, leaving us with a grim picture of the region floating in the sea of uncertainty, vulnerable indeed against sudden disruption of supply. Therefore I believe it a common responsibility of the countries in the region to tackle such a situation.

The current monetary crisis may prolong environmental issues. Countries with abundant coal resources might be induced, in the wake of the possible postponement or cancellation of pipeline gas projects or large scale LNG projects, to utilise their own coal in place of purchasing relatively dear LNG from abroad at the expense of exhausting their precious foreign currency reserves. If it happens, it will prolong replacement of oil by gas, and thus prolong environmental issues in the region.

In order to counter or to try to delay as much as possible, the expected increase of importer oil, the majority of which will have to come from the Middle East, I believe it imperative for the countries in the region and industry to further invest in the exploration and development of the region's oil resources. The deep sea areas in the South China Sea, eastern Indonesia including Irian Jaya, and the deep sea basins in the offshore area of New Zealand can be the target for such efforts. It has to be noted, however, that the exploration development activities in such areas involve much higher risk on the part of investors, and, accordingly such industry efforts have to be complemented by governmental actions in the introduction of further incentives as well as proper tax considerations. In this respect, I would say that possible tax consolidation being studied by the Indonesian Government and possible changes on the applicability of PRRT by Australia are a welcome sign. I do hope that, particularly in the South East Asian countries, there will be many more to follow so that regional resources will find their way out to the mutual benefit of the industry and Government as well.

By the way, I am pleased to mention that New Zealand with its relatively favourable fiscal terms and stable political environment, has already made all areas available, setting a good example in this direction.

As I mentioned earlier, it is feared that some of the pipeline gas or LNG projects in some Asian countries might have to be reconsidered in the light of the present monetary crisis, but at the same time I must say that natural gas will never lose its importance in our energy scene in the future, and I believe that Oceanian gas such as Gorgon, Undan/Bayu, PNG and of course North West Shelf, whose economy now has an advantageous standing over other economies of the region, will have a lot to contribute to the regional energy supply and economic prosperity.

I also think that the region's energy diversification will be largely dependent upon gas utilisation through international pipeline networks. As you know there are a number of plans for pipeline networks under way or under consideration: Yadana/Yetagun to Ratchaburi, West Natuna to Singapore, PNG to Queensland. I am hopeful that despite current turmoil in some of the countries these projects will go ahead and will contribute toward supply stability and diversification of energy.

I also put much hope on the policy initiative of APEC, who in its Energy Ministers' meeting in Edmonton in August 1997, agreed that policy proposals be made by the member countries toward promotion of investment in building infrastructure and development of gas resources in the

region, so that energy security as well as protection of environment can be tackled through joint efforts including the people living in the region.

Through its support to the Japanese companies, JNOC has been active in exploration and production activities in over 30 countries. Japan, who is eating up almost 10% of total world energy supply, is therefore contributing to the enlargement of the world's oil and gas resource base. Of 120 or so Exploration and Production projects JNOC is currently supporting, 60% are in the Asia Pacific Region and some 44% of its total investment in the last 30 years (since its inception) has been piped in the same region. As a matter of interest our net production of oil and gas is 600 thousand BBL/d and 1 bcfd, respectively.

It is our intention that we will continue to invest in the Asia Pacific Region as one of our primary target areas and we wish to continue to contribute towards the enhancement of Exploration and Production activities of this region along with our international partners.

It is also our intention to pursue opportunities for investment in natural gas development, not only in the field of exploration but in infrastructure development related to LNG and pipeline gas. In this respect, it is worth mentioning that we are currently looking into the possibility of importing gas from Irkutsk through 3,400 km pipeline through Mongolia, Beijing, and the Shandong peninsula of China.

It may not be relevant a topic on this occasion, but parallel with oil and gas development efforts mentioned earlier, JNOC is active in the field of petroleum stockpiling, as a part of its contribution to the energy security, economic growth, and environmental protection, so called 3-E. Having attained a level of some 160 days equivalent, which is far above world average of 82 days equivalent, we are proud that we have now accumulated a substantial amount of technology and know how in this field and would be very pleased to share our experience with countries in the region. As a matter of fact we have been active in promoting the importance of petroleum stockpiling amongst our South East Asian countries and have been hosting friends international oil stockpiling seminars since 1996.

All such effort coupled with Exploration and Production investment will be an efficient backing to the increased energy stability and ensuing economic benefit for Asia Pacific region.

Asian Monetary Crisis

Currency Depreciation (Per 1 US Dollar)

Currency	Lowest Rate	End of June 1997	Change (%)
Indonesia Rupiah	16,500	2,450	85.2
South Korea Won	2,000	890	55.5
Thailand Baht	56	25	55.4
Malaysia Ringgit	4.885	2.525	48.3
Philippines Peso	45.05	26.4	41.4
Singapore Dollar	1.7915	1.4310	20.1

1997 and 1998 Asian GDP Growth Rate (%)

Country	1997	1998	Change
Indonesia	5.1	-8.0	-13.1
South Korea	5.9	-2.0	-7.9
Thailand	-0.4	-5.0	-4.6
Malaysia	7.1	2.0	-5.1
Philippines	5.1	1.5	-3.6
Singapore	7.8	2.5	-5.3

Source: Japan Center for International Finance, March 1998

Average Gdp Annual Growth Rate (%)

Country	1980-1995 (Actual)	1995-2010 (Forecast)
East Asia	4.3	3.7
Southeast Asia	6.3	6.1
Oceania	2.9	3.1
Total	4.5	4.3

Source: Asia Pacific Energy Research Centre, March 1998

Oil Demand/Supply and Import Outlook (Million B/D)

Country	1995			2010		
	Demand	Supply	Import	Demand	Supply	Import
East Asia	11	3	8	16	3	13
Southeast Asia	2	2	0	4	2	2
Oceania	1	1	0	1	1	0
Total	14	6	8	21	6	15

Source: Asia Pacific Energy Research Centre, March 1998

Natural Gas Demand/Supply and Import Outlook (Billion CFD)

Country	1995			2010		
	Demand	Supply	Import	Demand	Supply	Import
East Asia	9	2	7	24	6	18
Southeast Asia	7	13	-6	14	20	-6
Oceania	3	3	0	4	7	-3
Total	19	18	1	42	33	9

Source: Asia Pacific Energy Research Centre, March 1998

Author

Mr Mineo Kinoshita is currently the Vice President, Member of the Board, Japan National Oil Corporation (JNOC), and is responsible for promoting Japanese oil and natural gas exploration, development and production activities in Asia and Oceania. Married with two children, Mr Kinoshita graduated in 1967 from Tokyo University of Foreign Studies with a BSc degree.

He has contributed much to the Japanese oil industry for over 30 years. Prior to joining JNOC in 1971, he mainly worked in Indonesia for Japan Petroleum Exploration Co Limited (JAPEX) and Indonesia Petroleum Limited (INPEX). Also, he served Zakum Development Co Limited (ZADCO), one of the largest producers in the UAE, as Assistant General Manager Administration from 1991 through 1994, where he was responsible for corporate planning, finance, computerisation programs and human resources management of the work force consisting of over 30 nationalities.

At JNOC, he served in representative offices on two occasions, from 1977-80 as Assistant General Manager in London, and from 1983-87 as General Manager in Jakarta, while devoting the rest of his time to exploration and production project promotion in Tokyo.