

stor
CA1
EA952
89M16
ENG

Storage

CA1 EA952 89M16 ENG

Malaysian sector profiles conducted
for the Canadian High Commission,
Kuala Lumpur : sector : oil and gas
43270694

THE MALAYSIAN OIL AND GAS INDUSTRY

MALAYSIAN SECTOR PROFILES

CONDUCTED FOR

THE CANADIAN HIGH COMMISSION

KUALA LUMPUR

RESEARCH

CONDUCTED FOR

THE CANADIAN HIGH COMMISSION

SECTOR: OIL AND GAS

43-270-694

Dept. of External Affairs
 Min. des Affaires extérieures

FEB 15 1995
 FEV 15 1995

RETURN TO DEPARTMENTAL LIBRARY
 RETOURNER A LA BIBLIOTHEQUE DU MINISTERE

Econsult Sdn Bhd

11th Floor, Menara Tun Razak
 Jalan Raja Laut
 50050 Kuala Lumpur

Tel: 03 2368777
 Fax: 03 2368501

OCTOBER 1994

INDEX

	Page
1.0 Introduction	1
2.0 Upstream Development	5
2.1 Baran Delta Project	6
2.2 Deep Sea Oil Exploration	7
3.0 The Peninsular Gas Utilisation Project	8
3.1 Stage I	8
3.2 Stage II	10
3.2.1 System I - Trans Peninsular Pipeline	10
3.2.2 System II - Expansion of the Gas Processing Plant and Export Terminal	11
3.3 Stage III	11
RESEARCH	
4.0 Downstream Developments CONDUCTED FOR	12
4.1 ABF and THE CANADIAN HIGH COMMISSION	12
4.2 MTBE/Propylene and Polypropylene	12
4.3 Middle Distillate Synthesis (MDS) Project	13
4.4 Malacca Refineries	13
4.5 Expansion of Esso's Port Dickson Refinery	14
4.6 Polyethylene Plastics Complex	14
5.0 The Production Sharing Contract System	15
6.0 Environment	16
7.0 Local Participation and Technology Transfer Policy	17
Appendix A Principal Contacts	18
Appendix B PETROSAS Tender and Procurement Upstream and Downstream Sectors	20
Appendix C Bibliography	21

Econsult Sdn Bhd
 31st Floor, Menara Tun Razak
 Jalan Raja Laut
 50350 Kuala Lumpur

Tel: 03 2934677/8
 Fax: 03 2982501

OCTOBER 1989

1.0 INTRODUCTION

Malaysia's oil reserves are currently estimated at 2.9 billion barrels which places it 22nd in the world. Natural gas reserves are estimated at 52 trillion cubic feet, three times larger than its oil reserves in energy equivalent terms. The country is currently ranked 16th in terms of gas reserves.

Malaysia has an estimated exploration success ratio of about one in six for crude oil discovery. By comparison, the world's average is about one in ten. Including gas, the success ratio is even better and is estimated to be about one in three. To date, oil companies operating in Malaysia have discovered a total of 54 oil fields and 52 gas fields (see Table 1). All of the country's existing oil and gas fields are located offshore. Currently there are only three petroleum producing areas: off the shores of Trengganu, Sarawak and Sabah. So far, offshore exploration activities have been confined to shallow water (up to 200 metres). Deeper water remains unexplored.

There are three companies producing crudes in Malaysia. They are Esso Production Malaysia Incorporated (EPMI), which is owned by Exxon Corporation, USA; Shell Malaysia Berhad, which is owned by the Dutch Shell company; and Petronas Carigali Bhd which is owned by the national oil company, PETRONAS. Esso produces about 42% of the total crudes and Shell produces about the same percentage. The rest is accounted for by Petronas Carigali. There are at present four oil refineries in Malaysia with a total designed capacity of 215,000 bpd. The capacities of these refineries are shown in Table 2.

To date Malaysia has signed 27 Production Sharing Contracts (PSC). Of these, twenty two have been signed since the introduction of revised PSC terms in December 1985 (see Table 3). The exploration scene, once dominated by Shell and Esso, now involves 32 foreign companies including four Canadian firms. Under the Petroleum Development Act, any company wishing to explore for petroleum in Malaysia must sign a PSC with PETRONAS. PETRONAS acts mainly in a supervisory capacity in the upstream sector.

While Malaysia's oil industry can be considered as a mature industry, the gas industry is still in its infancy. Nevertheless, with three times more gas than oil reserves, the country is increasingly turning to natural gas as a source of energy and fuel and as a raw material in the manufacture of fertilisers and petrochemicals. With the launch of the second phase of the Peninsular Gas Utilisation (PGU2) project in Kuantan, Malaysia is fully entering the gas era. Upon completion of the project in 1992, gas will be reticulated to Kuantan on the East Coast, the Klang Valley including Kuala Lumpur on the West Coast and southwards to Johor Baru and Singapore. In addition Malaysia has implemented several gas projects such as the Malaysia Liquefied Natural Gas Plant (MLNG), the ASEAN Fertiliser Plant and the Methanol and Hot Briquetted Iron Plants.

TABLE 1: (A) MALAYSIA: OIL FIELDS & RESERVES*

Location	Oil Fields		Oil Reserves	
	Number	%	Million Barrels	%
Peninsular Malaysia	17	32	1,465	50
Sarawak	25	46	948	33
Sabah	12	22	509	17
TOTAL	54	100	2,922	100

(B) MALAYSIA: GAS FIELDS & RESERVES*

Location	Gas Fields(1)		Gas Reserves(2)	
	Number	%	Trillion Cu.Ft.	%
Peninsular Malaysia	29	56	26.3	51
Sarawak	20	38	23.0	44
Sabah	3	6	2.4	5
TOTAL	52	100	51.7	100

1. Excludes non-associated gas reserves located in oil fields

2. Associated and non-associated

* As at 1 January 1988

Source: "The Petroleum Industry in Malaysia", PETRONAS, 1988

TABLE 2: MALAYSIAN REFINERIES

Operator	Location	Design Capacity (Barrels per day)	First Year of Operation	Crude Intake
Shell	Lutong, Sarawak	45,000	1917	Local Crude
Esso	Port Dickson, Negri Sembilan	49,800	1960	Middle East & Local
Shell	Port Dickson	90,000	1963	Middle East & Local
Petronas	Kerteh, Trengganu	30,000	1983	Local Crude
TOTAL		214,800		

Source : Ibid

TABLE 3: PRODUCTION SHARING CONTRACTS (PSC) SIGNED UNDER THE NEW PSC TERMS SINCE DECEMBER 1985

No.	Block	Location	Acreage/ sq km	Contractors	Country	PSC Signed
1	SK 1	Offshore Sarawak	16,265	Idemitsu Sarawak Oil Corporation Co Ltd Pecten Sarawak Co	Japan USA	19.5.87
2	SK 14	Onshore Sarawak	900	Malaysia Baram Oil Development Co Ltd	Japan	22.5.87
3	PM 10	Offshore Peninsular Malaysia	7,000	Japex Malaysia Co Ltd Taiyo Malaysia Oil Development Co Ltd	Japan Japan	2.7.87
4	SK 7	Offshore Sarawak	5,810	Overseas Petroleum & Investment Corp Phoenix Resources Co of Sarawak Samsung Co Ltd Yukong Ltd Pedco	Taiwan USA S. Korea S. Korea S. Korea	2.7.87
5	SB 1	Offshore Sabah	7,776	Sabah Shell Petroleum Co Ltd Pecten Malaysia Petroleum Co	Holland USA	16.7.87
6	SK 10	Offshore Sarawak	5,200	Nippon Oil Exploration (M) Ltd	Japan	16.11.87
7	PM 1	Offshore Peninsular Malaysia	37,500	Sun Malaysia Petroleum Co Champlin M'sia Inc Gulf Canada M'sia Ltd	USA USA Canada	11.12.87
8	SK 9	Offshore Sarawak	6,700	Agip (Malaysia) Ltd	Italy	04.1.88
9	SK 5	Offshore Sarawak	11,500	Sarawak Shell Bhd (SSB)	Holland	09.3.88
10	SB 2	Offshore Sabah	7,900	British Gas Occidental Petroleum (Malaysia) Ltd	Britain USA	25.3.88
11	SK 3	Offshore Sarawak	12,900	Elf Aquitaine M'sia	France	27.4.88

12	PM 15	Offshore Peninsular Malaysia	17,000	Sun Malaysia Petroleum Co. Champlin M'sia Inc Gulf Canada M'sia Ltd	USA USA Canada	09.6.88
13	PM 5	Offshore Peninsular Malaysia	11,520	Esso Production Malaysia Inc.	USA	17.6.88
14	PM 8	Offshore Peninsular Malaysia	11,520	Esso Production Malaysia Inc.	USA	17.6.88
15	SK 6	Offshore Sarawak	4,400	Occidental Petroleum (Malaysia) Ltd	USA	29.6.88
16	PM 2	Offshore Peninsular Malaysia	9,500	Home Oil (M) Ltd Petro Canada (M) Ltd Texaco Canada (M) Ltd	Canada Canada Canada	11.8.88
17	SB 8	Sabah	14,140	Sun Malaysia Petroleum Co Gulf Canada M'sia Ltd	USA Canada	18.11.88
18	PM 3	Offshore Kelantan and Terengganu	5,900	International Petroleum Ltd (IPL)	Canada	16.2.89
19	SK 12	Onshore Sarawak	12,400	Overseas Petroleum & Investment Corp. (OPIC)	Taiwan	23.2.89
20	SB 3	Sabah	8,870	Phoenix Resources	USA	23.3.89
21	PM 7	Peninsular Malaysia	9,550	Western Mining	Aust	02.5.89
22	SK 8	Sarawak	16,000	Occidental Petroleum M'sia	USA	11.7.88

LETTER OF INTENT (LOI)
SIGNED UNDER THE NEW PSC TERMS SINCE DECEMBER 1985

No. Block	Location	Acreage/ sq km	Contractors	Parent Co Company	PSC Signed
1 PM 14	Offshore Peninsular Malaysia	10,800	Marathon International Oil Co Santos Ltd Amerada Hess International Exploration Ltd	USA Australia USA	-

Source : Petromin, March 1989

2.0 UPSTREAM DEVELOPMENT

This year, a total of US\$300 million has been budgeted for exploration. A total of 47 wells are scheduled for 1989, a marked increase from only 8 wells drilled last year. Over the next four years, from 1990 to 1993, PSC contractors are expected to incur an expenditure of about US\$900 million on exploration activities. They will drill an average of 30 wells annually over the period. A feature in this upstream development is the opening up of the west coast of Peninsular Malaysia. In the past, exploration was concentrated in areas off the east coast, Sabah and Sarawak. Now, blocks in the Straits of Malacca from Kedah in the north to Malacca in the south have been allocated.

Under the new PSC terms, seismic data acquisition has increased considerably. 1988 recorded the highest level to date with 69,000 line-KM acquired. The increase in exploration activities should lead to new prospects being drilled. The initial findings of four PSC contractors have been very encouraging, with new discoveries at Kinabalu 1 in Sabah, Kuala Baram 1 in Sarawak, and at the North Seligi and Tembikai 1 prospects in Peninsular Malaysia.

Major oil companies in Malaysia have announced big spending plans. Shell plan to invest 8 billion ringgit over the next five years. Three quarters or 5.5 billion of this will be going upstream. Last year, the company operated 19 oilfields and three gas fields, all in East Malaysia. Shell's development plan is to open at least three more oil fields and two gas fields in existing acreages. The 5.5 billion ringgit will be spent on the following areas:

Exploration	- 1 billion
PSC acreage	- 2 billion
Baram Delta field	- 2 billion
2nd trunkline from Central Luconia area to LNG Plant in Bintulu	- 250 million

The company is spending a significant proportion of its budget on drilling and some 100 million ringgit has been allotted this year for this. Three extra rigs will be brought in over the next 18 months as additions to its existing five rigs.

EPMI plans to spend M\$1 billion to develop, operate and further expand its facilities this year. This expenditure includes the continued development of the two largest oilfields, Seligi and Guntong. In support of its development program, it will have up to five active rigs, which includes a workover rig, in its operations in 1989.

In the longer term EPMI's major development involves Seligi, the largest oilfield in Malaysia. The total cost of the project is estimated at about M\$2 billion. The first phase of the development has involved the construction of four platforms at Seligi and more platforms are planned in the next few years to fully

develop the field. Total recoverable reserves are estimated at about 440 million barrels. A major secondary recovery project based on gas injection is also envisioned for Seligi. A significant factor in the Seligi development was that 80 per cent of EPMI contracts were awarded to Malaysian companies, most of which were for fabrication works.

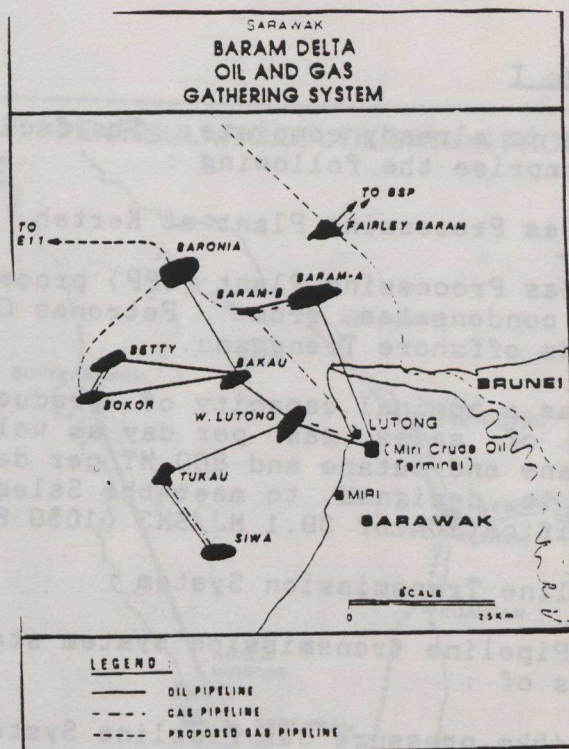
The Dulang oil fields, the PSC for which was signed between EPMI and PETRONAS in February 1988, has an estimated recoverable reserve of 170 million barrels. The development of Dulang involves the installation of three platforms and an offshore storage and loading terminal in the early 1990s. Petronas Carigali will be the unit operator of the field.

2.1 Baram Delta Project

On 24th March, 1989, PETRONAS signed a PSC under which Petronas Carigali and Shell become joint contractors to PETRONAS with 50% participating interest each. Within the next 10 years, Shell is expected to spend some M\$1.4 billion to further develop the Baram Delta oil fields. This would include drilling of new oil fields and working over the old ones to enhance and boost production to about 130,000 barrels per day. Baram Delta is the oldest oil-producing area in the country. It consists of nine producing oil fields which produce a total daily production of about 100,000 barrels - approximately one-fifth of the total national crude production. The oil fields have estimated recoverable reserves of 563 million barrels of which 400 million barrels are still undeveloped. In addition, it has about two trillion standard cubic feet of gas.

In line with PETRONAS' aspirations to conserve associated gas and consume it for domestic use, the Baram Delta Gas Gathering System (BARDEGG) would be implemented. The M\$600 million project is expected to save about 700 billion standard cu ft of associated gas over a period of 15 years. When fully completed in December 1992, the BARDEGG Scheme will supply additional gas to help meet demand from an estimated 11,000 new domestic customers in the Miri-Lutong area and will also fuel the 400 megawatt power plant that the Sarawak Electricity Supply Corp is planning to construct in Miri. The system involves the installation of additional platforms, gas compression stations and pipelines. The first phase of the scheme, involving the main gas collection and compression platform complex at Baronias, is scheduled to be commissioned by December 1991. The remaining four fields will be completed in phases by the end of the following year. (See figure 1).

Figure 1: The Baram Delta Oil and Gas Gathering System



Source: Petromin, March, 1989

2.2 Deep-sea oil exploration

PETRONAS is drawing up more attractive Production Sharing Contracts for deep sea oil exploration (more than 200 metres). The major factor that will influence the terms and conditions of the new PSCs will be the operating costs in deep sea exploration. Presently, PETRONAS plans to acquire approximately 8,000 line-km of new seismic data in the deep water areas so as to understand the geology and to fully evaluate the hydrocarbon potentials. An estimated 100,000 sq km will be available for exploration.

3.0 THE PENINSULAR GAS UTILISATION PROJECT

The Peninsular Gas Utilisation project was launched to utilise the abundant natural gas resources found off the east coast of Peninsular Malaysia. The project is being undertaken in three stages :

3.1 Stage I

This stage is already complete. The facilities constructed under Phase I comprise the following :

1. The Gas Processing Plant at Kerteh

The Gas Processing Plant (GPP) processes high pressure gas and condensates from Petronas Carigali's and EPMI's gas fields offshore Trengganu.

It has a nominal capacity of producing 250 million cubic feet of sales gas per day as well as 1,100 MT per day of propane and butane and 800 MT per day of condensates. The GPP is designed to meet the Sales Gas Gross Heating Value Specification of 39.1 MJ/SM³ (1050 BTU/SCF) + 10%.

2. Pipeline Transmission System

The Pipeline transmission system starting from the GPP consists of :

* A 45km pressure Gas Pipeline System for delivery of gas to the National Electricity Board Power Station at Paka, the Perwaja Steel Mill in Telok Kalong and the Kertih township. The pipeline is sized to allow for extension to the west coast.

* Two 40km pipelines for delivery of propane and butane from the GPP to the Export Terminal at Tanjung Sulong.

3. LPG Export Terminal

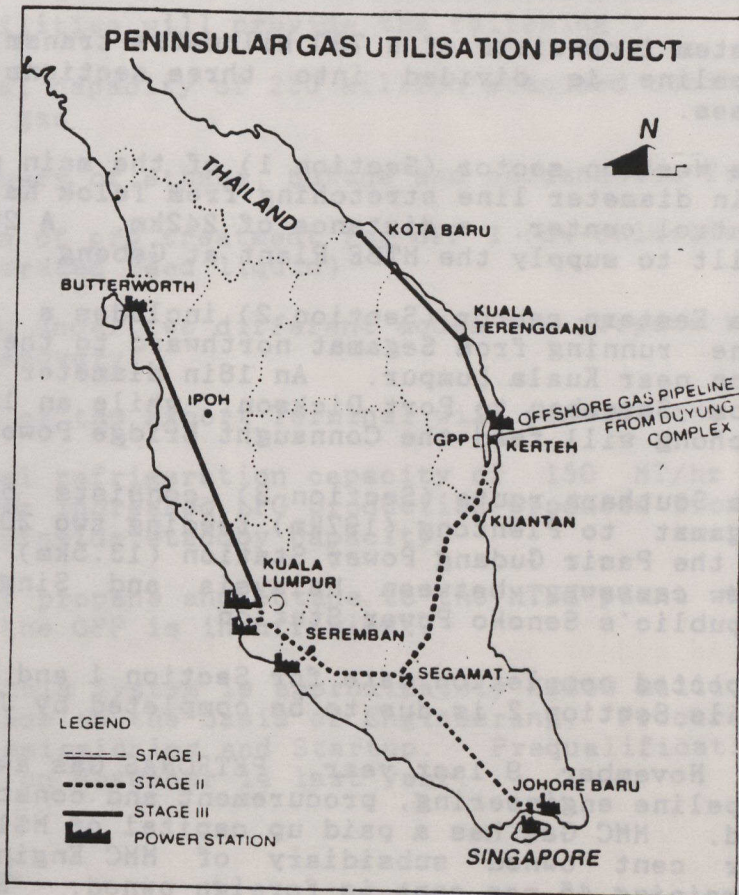
The incoming propane and butane are refrigerated and stored in two 25,000 cubic metre (15,075 tonne) butane tanks and two 30,000 cubic metre (17,550 tonne) propane tanks. The products are then loaded into refrigerated propane/butane tankers or pressurised LPG barges at the end of a 300 metre loading pier. The depth of the harbour at the Export Terminal is 14 metres which can accommodate tankers up to 50,000 DWT.

4. Pilot Gas Reticulation System in Kerteh

Under a Pilot Gas Reticulation System, natural gas is piped to 1,000 households in the EPMI and PETRONAS Housing Complex in Kerteh. The processed gas which is tapped off from the high pressure main gas pipeline at the Kerteh city gate is regulated and metered before being distributed through low

pressure steel pipe and LDPE pipes to the households.

Figure 2 : Peninsular Gas Utilization Project Stage I II and III



3.2 Stage II

The Peninsular Gas Utilization Stage II is divided into two systems.

3.2.1 System I - Trans Peninsular Pipeline

System 1 consists of a 730 kilometre transmission pipeline. This pipeline is divided into three sections for construction purposes.

The Western sector (Section 1) of the main pipeline consists of a 36in diameter line stretching from Telok Kalong to the Segamat control center, a distance of 242km. A 20in, 1km spur will be built to supply the MTBE Plant at Gebeng.

The Eastern sector (Section 2) includes a 241km, 36in diameter line running from Segamat northward to the Port Klang Power Station near Kuala Lumpur. An 18in diameter branch will run 26.7km from Seremban to Port Dickson, while an 18km, 16in branch from Puchong will feed the Connaught Bridge Power Station in Kapar.

The Southern route (Section 3) consists of a 30in line from Segamat to Plentong (197km) feeding two 20in lines, one leading to the Pasir Gudang Power Station (13.5km) and the other across the causeway between Malaysia and Singapore to the Island Republic's Senoko Power Station.

Expected completion date for Section 1 and 3 is November 1990, while Section 2 is due to be completed by June 1990.

On November 9 last year, PETRONAS Gas awarded the contract for pipeline engineering, procurement and construction to MMC Gas Sdn Bhd. MMC Gas has a paid up capital of M\$10 million and is a 55 per cent owned subsidiary of MMC Engineering Services. The remaining 45 per cent is foreign owned. Estimated cost for the pipeline is valued at M\$1.06 billion.

On January 27 this year, PETRONAS Gas awarded a Japanese consortium the contract for supply of pipe for Section 1 and 3, while a Brazilian manufacturer won the order for the pipe for Section 2. Total value of the two contracts, covering roughly 160,000 tons of line pipe, was US\$115 million. Both contractors joint-ventured with local companies on their successful bid. Sinar Berlian Sdn Bhd leads the Japanese consortium and the Brazilian consortium is headed by Malaysia partner Sabandra-Hamison Sdn Bhd.

Still to come are the award of the engineering, procurement and construction of the compressor and metering stations; the supply and installation of the SCADA System; construction of Stage II of the gas processing plant; and the installation of new refrigeration facilities at the export terminal.

3.2.2 System II - Expansion of the Gas Processing Plant and Export Terminal

To cater for the anticipated increase in demand for gas that will be created by the Trans Peninsular Pipeline, the capacity of the present Gas Processing Plant (GPP) will be doubled by the addition of a second train (GPP 2).

The GPP 2 facilities will provide the following :

1. Additional capacity of 250 million standard cubic ft. per day of sales gas
2. The recovery of ethane, butane and condensates from feed gas
3. Provision of pre treatment for GPP 1 (de-chlorided feed gas and dehydrated feed liquid)
4. Operation under two different modes i.e propane recovery and ethane recovery.

The expansion of the Export Terminal will provide the following:

1. Additional refrigeration capacity of 150 MT/hr to accommodate the increased LPG production produced from GPP 2, as well as provide standby capacity.
2. Supply of propane and butane to the MTBE plant when production in the GPP is insufficient.

The value of this System is approximately M\$250 million and bids are to be made on the basis of Engineering, Procurement, Construction, Commissioning and Startup. Prequalification for this system closed on November 14 last year.

3.3 Stage III

Continuing from Stage II, the Trans Peninsular Pipeline will be extended to the Prai power station opposite Penang and from Kerteh to Kota Bahru in the north along the east coast (See Figure 2). This stage is still undergoing preliminary planning and is expected to be implemented within the next decade.

There have recently been discussions with Thailand regarding further extending the pipeline into Southern Thailand for use in Thai power stations. The discussions have been described by the President of PETRONAS as being at a "very preliminary stage".

4.0 DOWNSTREAM DEVELOPMENT

At the downstream end, Malaysia has ventured into LNG and several petrochemical projects in developing its abundant gas resources. Currently, there are four companies in downstream gas activities, all of which have joint venture foreign involvement. The companies are: Malaysia LNG Sdn Bhd, ASEAN Bintulu Fertiliser Sdn Bhd, MTBE Malaysia Sdn Bhd and Polypropylene Malaysia Sdn Bhd.

Malaysia has successfully embarked on LNG and the MLNG joint-venture has reaped a profit of M\$1,344 million from 1984 up to 31st of March 1988. In view of the increasing demand from the Japanese, South Korean and Taiwanese markets and the growing trend in favour of gas as a cleaner fuel, MLNG has planned to boost its present 6.5 million tonne capacity to 7.5 million tonnes from 1991. The expansion program will involve the construction of a fourth and fifth train. MLNG is now fully exploiting the 25% excess capacity over design in its existing three-train plant. It will call for tenders for the expansion project in the last quarter of 1990.

4.1 ABF and the Second Urea Plant

The M\$786 million ASEAN BINTULU Fertiliser Plant located at Bintulu, Sarawak started operation in 1986. The ABF plant consumes about 50 million standard cubic feet per day of natural gas and has a capacity to produce 1,000 metric tonnes of ammonia and 1500 metric tonnes of urea daily. The company is jointly owned by the ASEAN countries, with PETRONAS having 63.5 per cent, P.T. Pusri of Indonesia 13 per cent, Thai Finance Ministry 13 per cent, Philippine National Development Company 9.5 per cent and Temasek Holding of Singapore 1 per cent.

The company's initial performance was not satisfactory due to the drop in the urea price and the high yen value. However the sales value of urea went up from \$29.9 million in 1986 to \$140.6 million in 1988, an increase of 370 percent. PETRONAS is now looking into the feasibility of building a second ammonia urea plant to take advantage of the rising urea demand and a tightening of the supply situation. This new plant will increase capacity by 20 per cent and will be built alongside the existing production facilities. The project is estimated to come onstream in the year 1993-94.

4.2 MTBE/Propylene and Polypropylene

On 14 February, 1989, PETRONAS signed two joint-venture agreements for, (i) the Methyl Tertiary Butyl Ether (MTBE)/Propylene project; and (ii) the Polypropylene project; with the same two foreign partners, Idemitsu Petrochemical Company (IPC) of Japan and Finland's national oil corporation, Neste Oy. Both projects will be located at the Gebeng Industrial Estate near Kuantan, Pahang. The estimated cost for the projects is US\$200 million for the MTBE plant and US\$130 million for the polypropylene. The

projected annual capacity will be an estimated 300,000 tonnes of MTBE and 80,000 tonnes of polypropylene. The plants will use raw materials such as butane and propane from PETRONAS's Gas Processing Plant in Kerteh and methanol from the Sabah Gas Industries plant in the Federal Territory of Labuan, off Sabah. The MTBE/Propylene project involves the production of MTBE for use as an octane booster in gasoline to replace lead. The other product, propylene, will be manufactured as a feedstock for the Polypropylene project. The output from the Polypropylene project will be used as raw material in the plastics industry.

Prequalification bidding for engineering, procurement and construction (EPC) for both projects has closed. The award should be in the middle of next year. The two plants are due to come onstream in 1992.

4.3 Middle Distillate Synthesis (MDS) Project

Shell's M\$1.8 billion middle distillate synthesis project, the world first plant to convert natural gas into petroleum products will come onstream by late 1992 in Bintulu, Sarawak. The plant will source about 100 million cubic feet of natural gas per day from offshore gas fields in Sarawak and convert the gas into about 500,000 tonnes of products per year. Shell's MDS process is based on the classical Fischer-Tropsch technology which utilises an intermediate synthesis gas which can be produced from a range of feedstocks, including natural gas, for conversion into high quality liquid hydrocarbon such as kerosene, naphtha and gas oil. The plant is located adjacent to the MLNG plant.

The shareholders of the project are Shell (60%), Mitsubishi Corporation of Japan (20%), the Sarawak State Government (10%) and PETRONAS (10%). The main contractor for the construction of the plant is the Tokyo based JGC Corp. JGC will parcel out smaller works for other contractors. The project was launched on 23rd of August this year and is targeted for completion in late 1992.

4.4 Malacca Refineries

The two refineries planned for Malacca will be PETRONAS's second and third and will have a combined capacity of 400,000 bpd. Construction is prompted by the expected shortage of petroleum product in the country and the region within the next 20 years. The refineries will have the capacity to process both indigenous sweet light crude condensates and also imported crudes. The sweet trains will produce liquefied petroleum gas (LPG); petrochemical naphtha (PCN); dual purpose kerosene (DPK); jet fuel; motor gasoline; diesel; and low sulphur waxy residue. The sour trains output will include LPG; PCN; DPK; jet fuel; motor gasoline; diesel; and high sulphur fuel oil. A study is being initiated on the viability of producing higher value added products such as aromatics, solvents and lubricant base stocks.

Site clearing for the refinery has been commenced and is expected to be completed this year while the whole project is expected to

be commissioned by 1993. The project is expected to cost M\$4 billion.

4.5 Expansion of Esso's Port Dickson Refinery

Esso Malaysia Berhad is spending over M\$100 million to build a reformer at its Port Dickson refinery to meet the Government's requirement for reduced lead content in petrol by 1990. The project will build and install a catalytic reformer which will produce reformate, an additive to compensate for the reduction of lead. The new catalytic reformer will enable Esso to almost double its current petrol production capacity, and reach its licensed limit of 11000 barrels per day. The new reformer's capacity is 7,000 bpd while the existing one is 8,000 bpd.

JGC (M) Sdn Bhd was awarded the Esso contract last October and the reformer is expected to come onstream in early 1990.

4.6 Polyethelene Plastics Complex

Exxon Chemical, a division of the American oil company Exxon, has proposed to the Malaysian government a US\$700 - 800 million joint venture petrochemical complex in Kerteh, Trengganu. The venture involves cracking ethane (to be supplied by PETRONAS) into ethylene at the complex. It will produce 450,000 tonnes each of polythelene and ethylene a year, using Exxon Chemical's technology. Polythethylene plastics are used in industrial and consumer goods, including agricultural bags, crates, household utensils, industrial jacketing, shopping bags and toys. The proposed complex will be the first in Malaysia and is expected to be onstream around 1994. Exxon Chemical has applied to the Malaysian Industrial Development Authority for a manufacturing license and submitted a project proposal to PETRONAS. PETRONAS is studying the proposal and may decide on it before end of this year.

5.0 THE PRODUCTION SHARING CONTRACT SYSTEM

With the coming into force of the Petroleum Development Act in the early 1970's, any oil company wishing to explore for petroleum in Malaysia must first sign a production sharing contract with PETRONAS. The first PSCs were signed in 1976. In 1985, new PSC terms were introduced. The new terms allow for a better and quicker rate of return on investment and the response to these new terms has been overwhelming.

Basically, the production sharing contract spells out the terms under which the contractors are to operate.

The non financial terms spell out the duration of the contract period; the obligation of the contractor to use Malaysian goods and services wherever possible; and the requirements for the training of Malaysian personnel. The duration of the contract is 24 years if an oil field is discovered and 29 years if a gas field is discovered.

The financial terms provide a formula for the sharing of oil or gas if a commercial discovery is made. The formula allows for 10 per cent of gross production to be deducted for the payment of royalty, five per cent to the Federal Government and five per cent to the Government of the State where petroleum is produced.

The formula also allows a contractor to recover his costs, that is, the amount of money he has spent in exploring for and producing petroleum. The maximum that can be claimed in any one year to cover cost is 50 per cent of gross production in the case of oil and 60 per cent for gas.

After deducting for royalty and cost recovery, the balance of the oil or gas that has been produced is known as profit oil or gas, as the case may be. This is then shared between PETRONAS and the contract or on a sliding scale, depending on how much oil or gas is produced.

(The above section is excerpted from "The Petroleum Industry In Malaysia" PETRONAS, 1988).

6.0 PROCUREMENT

The petroleum industry is governed by the Petroleum Act of 1974 which requires that all applicants that commence or continue any petroleum business or service be directed to PETRONAS. The Petroleum Development (Amendment) Act of 1977 provides for PETRONAS to be the licensing authority for all upstream petroleum activities. Thus all gas and oil equipment must be provided through a local company which fulfils the following criteria.

- i) paid up capital of at least M\$100,000
- ii) 30% of the stock of the company must be owned by bumiputras (indigenous - mainly Malay)
- iii) be approved as a supplier by PETRONAS (i.e possess a PETRONAS licence)
- iv) demonstrate that it can do the job

In other words, foreign companies are not allowed to supply oil and gas equipment or any item directly involved in the production of oil and gas to local companies. This has to be done either through an agency arrangement or joint venture with one or more local companies which fulfill the criteria listed above. Most of the locally based companies are in fact agents for foreign concerns. Only a fraction of these local companies are manufacturing any form of supplies - the bulk of the items are imported. It is only in the area of technical services that some local companies with a high percentage of Malaysian equity are offering expertise (Business Times, 1/5/88). Examples are provision of hydrographic survey services; catering services; fabrication of offshore living quarters as well as most production platforms and topsides. Only local companies are allowed to provide services and supplies where locals have the capabilities and are able to provide competitive bids.

PETRONAS Tender and Procurement Guidelines are included as Appendix B.

7.0 LOCAL PARTICIPATION AND TECHNOLOGY TRANSFER POLICY

PETRONAS has a policy to maximise the participation of local companies in the oil and gas industry. In view of this, steps have been taken to incorporate national policy requirements and preference is given to local contractors and locally produced goods and services :

- as criteria for prequalification or selection of bidders
- in formulation of Invitation To Bid (ITB) documents
- as criteria for bid evaluation

In addition, the current Malaysianisation Programme for the petroleum industry has been designed to accomplish the following objectives :

- to ensure that foreign experts brought in will be utilised to maximize the transfer of the latest technology.
- to ensure a systematic and controlled phasing out of expatriate workforce with the progressive development of skilled local manpower.

PETRONAS has considered transfer of technology as one of the more important criteria when it seeks joint venture partners in the oil and gas industry. PETRONAS President, Tan Sir Azizan Abidin was quoted as saying "we seek partners who are favourably disposed to the transfer of technology and serious about it". For this reason, transfer of technology is given special emphasis and is invariably included in project planning and contract documents (Business Times 3/10/89).

APPENDIX A

i) Principal Contacts for this Study

1. Mr. Dalbir Singh
Management Executive
Petrochemical Projects
PETRONAS
19th Floor, Menara Dayabumi
Jalan Sultan Hishamuddin
50050 Kuala Lumpur
Tel: 03 2743833 ext 3458
2. Encik Mohamad Mansor B Ngah
Managing Director
Ocean Waves Corp Sdn Bhd
Lot 8.07, 8th Floor
Wisma Stephens
Jalan Raja Chulan
50200 Kuala Lumpur
Tel: 03 2411929
3. Encik Mohamad Yusuf
General Manager
PETRONAS
Tender & Contracts Division
30th Floor, Menara Dayabumi
Jalan Sultan Hishamuddin
50050 Kuala Lumpur
4. Encik Kamaruddin
Regional Marketing Manager
(Petromin is an authoritative
energy and mining magazine
in the Asia Pacific. Canadian
companies wishing to
advertise in this magazine
may contact En. Kamaruddin)
PETROMIN
Safan Publishing Sdn Bhd
Suite 2403, 24th Floor
Plaza See Hoy Chan
Jalan Raja Chulan
50250 Kuala Lumpur
Tel: 03 2384411

ii) Contacts Identified by Canadian High Commission

1. Encik Mohd Hassan Salleh
Manager
PETRONAS
Tender, Contracts & Services
17th Floor, Menara Dayabumi
Jalan Sultan Hishamuddin
50050 Kuala Lumpur
Tel: 03 2743833
2. Ms Amu Tharmarajah
Planner/Analyst
PETRONAS
Exploration & Production
Planning Dept
16th Floor, Menara Dayabumi
Tel: 03 2743833

3. Mr. Yeow Kian Chai
Manager
PETRONAS
Production Department
18th Floor, Menara Dayabumi
Tel: 03 2743833
4. Mr. Graeme Stephens
Vice President
Home Oil (M) Ltd
Level 12,
Menara Bank Pembangunan
Jalan Sultan Ismail
50300 Kuala Lumpur
Tel: 03 2028388
5. Mr. E S Siraki
Vice President &
General Manager
Sun Malaysia Petroleum Co
9th Floor,
Menara Bank Pembangunan
Jalan Sultan Ismail
50300 Kuala Lumpur
Tel: 03 2919388
6. Mr. Peter Perry
Executive Director
Enertech Services Sdn Bhd
Room 102, 1st Floor
Bangunan Yayasan Selangor
Jalan Bukit Bintang
55100 Kuala Lumpur
Tel: 03 2434470

APPENDIX B

PETRONAS Tender and Procurement Guidelines
for Upstream and Downstream Sectors

PETRONAS
Production Department
18th Floor, Menara Daryah

Mr. Yee Kian
Manager

Menara Bank Pembangunan
Jalan Sultan Ismail
50300 Kuala Lumpur

Bank Malaysia Berhad
8th Floor
Menara Bank Pembangunan
Jalan Sultan Ismail
50300 Kuala Lumpur

Energy Services Sdn Bhd
Room 102, 1st Floor
Menara Yaseen Selangor
Jalan Bukit Bintang
50100 Kuala Lumpur

Mr. Yee Kian
Vice President

Mr. Yee Kian
Vice President
General Manager

Executive Director



**PETRONAS
TENDER AND PROCUREMENT GUIDELINES
IN UPSTREAM AND DOWNSTREAM SECTORS**

1. PROCUREMENT POLICY

PETRONAS Procurement Policy governing the approval of tender and purchase is to obtain the best value-for-money for any given expenditure consistent with development of local petroleum and support services industry.

The best value-for-money approach takes into account the following :-

- o Price
- o Technical Specification And Scope Of Services
- o Suitability Of Technology
- o Delivery Time
- o PETRONAS And Project Wellbeing
- o Government's Policy On :-
 - (a) Local Content
 - (b) Trade Promotion
 - (c) New Economic Policy (NEP)

In the Malaysian context, as elsewhere, procurement is not an end in itself, but a means to an end, in achieving the larger national objectives of :-

- o Minimising Outflow Of Foreign Exchange
- o Development Of Local Support/Ancillary Services
- o Enhancement Of Technology Transfer
- o Promoting Overall Industrialisation Of The Country
- o Nation Building

PETRONAS recognises the importance of the procurement process in fulfilling these objectives. As a national petroleum corporation, and as the custodian of the country's oil and gas reserves, PETRONAS is the Government vehicle for the fulfilment of these objectives.

2. TENDER AND PURCHASE PRINCIPLES AND PROCEDURES

PETRONAS is appreciative of the fact that potential contractors and suppliers incur time, money and resources to submit bids or proposals for supply of goods and services to us. Recognising this, PETRONAS has developed a set of tender principles and procedures which not only meet PETRONAS procurement policy but also gives every opportunity to potential contractors and suppliers for a fair chance to succeed, equal treatment, and an avenue to propose any new or innovative ideas.

In any tender exercise, at the end of the day, only 1 bidder would be successful. The rest of the bidders would be unsuccessful. The least PETRONAS can do is to ensure that our tender principles and procedures as well as conduct of affairs would invoke a feeling of HONEST DEFEAT to the unsuccessful bidders and the urge to bid again in subsequent tenders.

Principles guiding PETRONAS tender and purchase activities are as follows :-

- o Best Value-For-Money Award
- o Professional Evaluation Of Tenders
- o Clean And Reliable Conduct Of Tender Affairs
- o Integrate National Policies, PETRONAS Preferences And Project Wellbeing
- o Bid Submission In 2 Separate Packages
- Technical and Commercial
- o Invoke Feeling Of Honest Defeat

There are 4 basic bidding modes :-

- o OPEN BIDS : Simple Straight Forward Purchase Without Much In-house Data On Suppliers
- o PRE-QUALIFIED BIDS : For Complex Job With More Than One Capable Contractor/Supplier
- o SELECTIVE BIDS : For Specialised Goods/Services With Limited Number Of Contractors/Suppliers
- o DIRECT NEGOTIATION : For Highly Specialised Equipment/Plant/Technologies/Services

The mode of bidding for each tender/purchase has to be identified and approved by the appropriate Tender Committee/Approving Authority during formulation and approval of its contracting strategy. The full tendering procedure is as follows :-

CONTRACTING STRATEGY



TENDERING PROCESS



TENDER EVALUATION
TECHNICAL AND
COMMERCIAL



AWARD RECOMMENDATION
AND APPROVAL



CONTRACT AWARD

3. LICENSING REQUIREMENT AND PROCEDURES

To be eligible to participate in tenders for Malaysian upstream sector of the petroleum industry, a company needs to comply with several requirements. Petroleum Regulation 1974 of Petroleum Development Act 1974 stipulates that a licence issued by PETRONAS

is required for the conduct of or the carrying on of any business or provision of services and supply of materials.

To obtain a PETRONAS licence, a company is required to comply with the following conditions :-

- o Locally Incorporated And Carry Out Operations Through Its Office In Malaysia
- o Minimum Paid-Up Capital Of \$100,000 With Local Bumiputera (Indigeneous Group) Equity Participation Of At Least 30%
- o Technical Capability
- o Licenced/Registered With Government Agencies Required Under Relevant Government Regulations

In addition, an applicant company is required to provide detail information on the types of goods and services they deal with when submitting application using a prescribed form. This is to enable PETRONAS to get an in-depth knowledge on the types of goods and services offered and to assess the capability of the applicant.

A licence issued would, among others, bear the following terms and conditions :-

- o Adherence to Government Policies Regarding Management, Employment and Utilisation Of Local Facilities And Resources
- o Annual Licence Renewal
- o Notification Of Change In Company Structure And Arrangement With Locals
- o Payment Of Licence Fees

These terms and conditions may be reviewed from time to time to take into account the state of development of Malaysian petroleum industry in particular and government policy in general.

4. REGISTRATION REQUIREMENT AND PROCEDURES

Licensing requirement is not applicable for downstream sector. However, registration is required to enable contractors and suppliers to inform us of their existence, their company profile and the

business lines they are in to enable PETRONAS to consider them for relevant selective bidding. Foreign contractors and suppliers can participate in open bids or submit for pre-qualification without being registered in cases of once-off contract job or service. However, they are required to register themselves on receipt of tender award.

Pre-requisites of registration are as follows, subject to changes as and when required :-

- o Locally Incorporated
- o Minimum Paid-Up Capital Of
 - MR 10,000 For Limited Companies
 - MR 5,000 For Partnership And Sole Proprietorship
- o Capability
- o Registered With Relevant Agencies Such As Malaysian Board Of Engineers Etc

Applications are to be submitted using a prescribed form. To enable PETRONAS to understand the scope of goods and services supplied, level of capability and competency as well as status of the companies, relevant information and documents are required to be furnished with the application.

SEPTEMBER 1989
TENDERS & CONTRACTS DIVISION
PETRONAS

of no entry and business firms they are to enable PETRONAS to
for liquid and economic terms for relevant projects.
Foreign contractors and suppliers can participate in
open bids or submit for pre-qualification without
being required to tender in cases of one-off contract job or
small projects. However, they are required to register
themselves on receipt of tender award.

notified the year and date of registration as follows:
Requirements of registration are as follows:
subject to changes as and when required :-

- o Local firm 500,000 to 1,000,000
- o Foreign firm 1,000,000 to 5,000,000
- o Minimum Paid-Up Capital of
- MR 10,000 for Limited Companies
- MR 5,000 for Partnerships and
- Foreign firms 500,000 to 1,000,000
- o Capability

to be included in the list of approved contractors. Agencies
and goods to supply and services to be supplied using a prescribed
notification application. Such as: Mechanical, Electrical, Civil, etc.
SANITARY and other services. The scope of work to be supplied using a prescribed
goods and services supplied. Level of capability and
competency as well as status of the companies.
The need for detailed information and documents are required to be
furnished with the application.

- o Agreement to Government Policies Regarding
Management, Employment and Utilization Of Local
Resources and Labour
- o Annual General Meeting
- o Notification of Change in Company Structure
Also with Shareholders and
SEPTMBER 1989
TENDERS & CONTRACTS DIVISION
PETRONAS

and may be revised as and when required. It is essential
to state the scope of work to be supplied using a prescribed
notification application. Such as: Mechanical, Electrical, Civil, etc.
SANITARY and other services. The scope of work to be supplied using a prescribed
goods and services supplied. Level of capability and
competency as well as status of the companies.
The need for detailed information and documents are required to be
furnished with the application.

3.3. REGISTRATION REQUIREMENT AND PROCEDURES

for eligibility to be considered for tendering. It is essential
to state the scope of work to be supplied using a prescribed
notification application. Such as: Mechanical, Electrical, Civil, etc.
SANITARY and other services. The scope of work to be supplied using a prescribed
goods and services supplied. Level of capability and
competency as well as status of the companies.
The need for detailed information and documents are required to be
furnished with the application.

APPENDIX C

BIBLIOGRAPHY

- | | |
|---|--|
| 1. Asian Oil and Gas
May 1989 | Asian Oil & Gas Publications
Ltd. Hong Kong |
| 2. Malaysian Business
May 1-15, 1989 | Berita Publishing Sdn Bhd
Malaysia |
| 3. Nada Petronas,
July, August, September,
1989 | Petronas Nasional Berhad |
| 4. Petromin, March and
May 1989 | AP Trade Publication Pte Ltd
Singapore |
| 5. The Petroleum Industry
in Malaysia, 1988 | Petronas Nasional Berhad |
| 6. Various News Clippings
March - October 1989 | Business Times, Star |

APPENDIX C

BIBLIOGRAPHY

1.	Asian Oil and Gas May 1988	Asian Oil & Gas Publications Ltd. Hong Kong
2.	Malaysian Business May 1-15, 1988	Service Publishing Sdn Bhd Malaysia
3.	Malaysia Petronas, July, August, September, 1988	Petronas Nasional Berhad
4.	Petroleum, March and May 1988	AP Trade Publication Pte Ltd Singapore
5.	The Petroleum Industry in Malaysia, 1988	Petronas Nasional Berhad
6.	Various News Clippings March - October 1988	Business Times, Star

Management UPDATE

- * Econsult Sdn. Bhd.
- * Strategic Consulting Group Sdn. Bhd.

SCG COMPLETES FIRST STAGE OF EXPORT MARKETING PROGRAMME

The Geneva-based Market Development Institute has complimented SCG on its successful implementation of the first stage of its Professional International Diploma in Export Marketing. Its Principal, Dr G A Schmoll, a consultant to international organisations as the International Trade Centre, UNCTAD, GATT, and the World Tourism Organisation, is keen to launch a Senior Managers' Export Management programme later this year.



AUSTRALIAN MANUFACTURERS SEEK MALAYSIAN AGENTS

As follow up to recommendations made in Econsult market research studies, an increasing number of Australian manufacturers are visiting Malaysia. They are coming to make a first hand assessment of market potential and to have discussions with the suitable agents for their products that were identified in the Econsult studies.

Recent and confirmed visitors have included manufacturers of : computer software; ploughs; optic fibres; gearboxes; valves; road maintenance and repair equipment etc.

EXPORT MARKETING FOR BUSINESS EXPORT

Economist David Dennis and Senior Export Marketing consultants, Adrian Villanueva and Allen Oberndorf will be conducting a two-day seminar on "Export Management" in Kuala Lumpur from July 20-23, 1989. The seminar is designed for government agencies, manufacturing, trade organisations, financial institutions, shipping companies, airlines, and other export-oriented organisations. Key topics include Opportunities and Prospects for Asean countries, a case study on "Penetrating the Japanese Market", and a dialogue session on "Fortress Europe 1992".



SCG's Senior Executives with the Honourable Minister of Education, Y.B. Anwar Ibrahim



PROFILE OF DAVID DENNIS

David Dennis has been Managing Director of Econsult Sdn Bhd since the company was formed in mid 1985. He is an Australian with a Bachelor of Commerce degree and a Masters in Economics.

Before coming to Malaysia, David had worked as a Senior Economist in Papua New Guinea from 1971 to 1976 and again from 1979 to 1985. In that period he worked for the Government in the Department of Labour and Industry, the Department of Finance and the National Planning Office. He provided advice on economic policy issues generally and on human resource

development, manpower planning and training issues in particular.

In 1983 David became a full time consultant and since that time his clients have included the World Bank, the Asian Development Bank (ADB), the Australian Development Assistance Bureau, and the Papua New Guinea Institute of Applied Social and Economic Research. In addition he has had a wide range of private and public sector clients in Papua New Guinea, Australia, Malaysia and Indonesia.

David first came to Malaysia in 1984 as Manpower Specialist on the World Bank funded Industry Training Scheme study for the Ministry of Labour. In 1985 he returned as Manpower and Economic consultant on the Malaysian Industry Master Plan conducted by the United Nations Industrial Development Organisation (UNIDO). The most recent of his international agency work was in October - December 1988 when he was Labour Force and Economic Planning Specialist on the ADB's Second Vocational Education Sector Project in Indonesia. This project was to assess the proposal for a US\$150 million loan for the vocational education system.

David also has a strong background in market research and is responsible Director for the Market Entry Strategy Programme conducted by Econsult in Malaysia since 1986 for the Victorian Department of Industry, Technology and Resources.

FELLOW AWARDS NIGHT

1989



MALAYSIAN INSTITUTE OF DIRECTORS

DIRECTORS AWARD FOR ROBERT KUOK

SCG was invited by the Malaysian Institute of Directors to congratulate business magnate - Mr Robert Kuok on being conferred a Fellow by the Institute.

In his Keynote Address, Mr Kuok outlined the relationship between the Government and the corporate sector, the current state of corporate activity, the economy's conditions, and the factors needed for Malaysia's economic success.

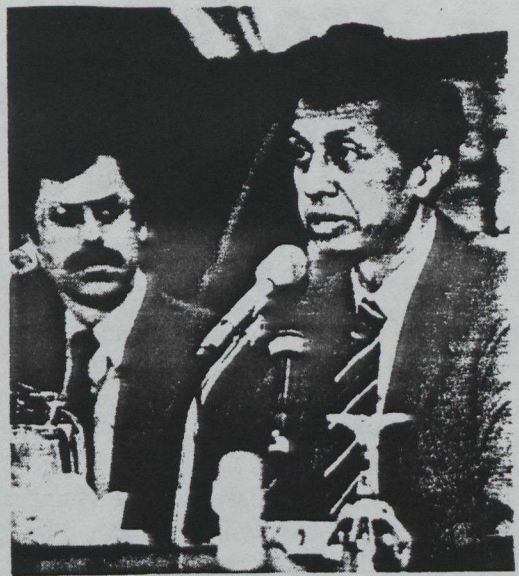
WINNING STRATEGIES FOR BUSINESS EXCELLENCE

The quality of relationships in an organisation is the internal productivity factor that determines its image, product quality, design, distribution, reliability, and superior customer service.

This factor will be taken up in a new marketing management training programme conducted by Corporate Affairs Director Steve Subramaniam and SCG's Associate Marketing Consultant Professor Allen Oberndorf, former World Bank Consultant for the Canadian and Malaysian Governments and private sector clients in the ASEAN region.

The objectives of the above training programme are threefold :

- (a) To identify the creative resources of corporate/organisational leadership and marketing strategy as winning factors;
- (b) To assess and discuss state-of-the-art techniques for aggressive marketing in a competitive environment;
- (c) To recommend innovative strategies to achieve sales and marketing excellence.



SCG's Corporate Affairs Director, Steve Subramaniam and William Miller, former Senior Consultant of the Business Innovations programme in SRI International (Stanford Research Institute, California, USA)

ECONSULT INPUT FOR ASIAN DEVELOPMENT BANK

Econsult has been chosen to provide economic expertise in two Asian Development Bank Studies.

In the first of these studies, Econsult Director David Dennis was engaged as Labour Force and Economic Planning Specialist on the Bank's Second Vocational Education Sector Project in Indonesia. The project ran from October to December 1988.

The Second project is situated in Malaysia. It is entitled the Coastal Village Environmental Improvement Project and Econsult Associate Chang Yii Tan has been engaged as Economic Analyst with responsibility to assess the social cost and benefits of providing sanitation service to 50 coastal villages in East and West Malaysia. The project is currently underway and will be complete by the middle of the year.

EXPANSION OF MARKET ENTRY STRATEGY PROGRAMME

Econsult Consultant June Ooi is visiting East Malaysia and Brunei to conduct market research for three products manufactured in Victoria.

This visit marks an expansion of the Market Entry Strategy Programme which has previously been available in West Malaysia and in Singapore.

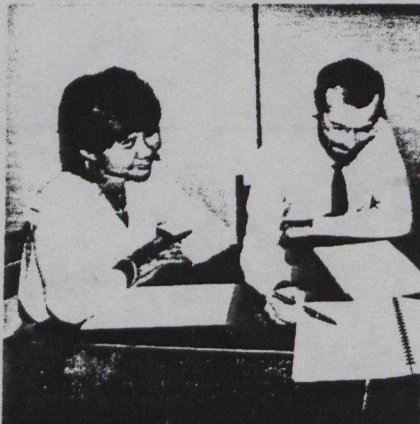
MALAYSIAN-MAURITIUS BUSINESS DEVELOPMENT COUNCIL

SCG's Managing Director, Bob Lee and Business Development Manager, Helen Mun have been invited to join the management committee of the Malaysia-Mauritius Business Development Council which is affiliated to the National Chamber of Commerce and Industry of Malaysia (NCCIM).

This council will provide a business forum for exchanging views and projects, both domestic and international, affecting Malaysia and Mauritian organisations and personnel.

Ghazali bin Dato' Yusoff is the President while SCG's Helen Mun is the Membership Director.

ECONSULT INVITED FOR MAJOR KTM PROJECT



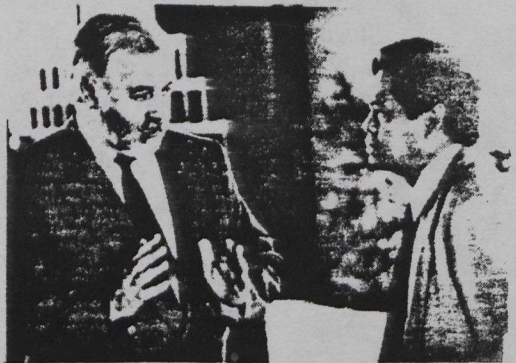
Econsult has recently been invited to tender for a project which involves a reassessment of passenger fares on KTM trains and rail-buses. The project is an important integral part of KTM effort to increase income and become a more commercial organisation.

The study will involve large scales surveys of rail, road and air passengers as well as demand forecasts and cost analyses.

If successful, the Econsult team will include Dr Esther Tan and David Dennis from KL office and Dr Stewart Joy from Econsult Transport Service in Sydney. Dr Joy is a former Chief Economist for the British Railways Board and has consulted on railways in the U.K., the U.S., Australia and Malaysia.

MARKETING EXCELLENCE

The Strategic Consulting Group is honoured that its two associate consultants Professor Geoff Lancaster and Lester Massingham have co-authored a major work entitled "Essentials of Marketing" published by McGraw - Hill. Professor Lancaster has published widely in learned journals and is an Editorial Board of 3 marketing journals in the USA and UK. He has also served on the various Boards of The Institute of Marketing (UK) which has a worldwide membership of 21,000.



Professor Geoff Lancaster of London, SCG's associate consultant, shares a marketing insight with Chairman Abdullah Mohd. Yusoff.

JAYCEES OUTREACH SALES SEMINAR



Kuala Lumpur Jaycees, a member of Jaycees International (JCI) with over 500,000 members worldwide, organised "the Winning Edge in Sales" on March 29, 1989. Speakers included Tan Joo Seet, Vice-President of Zenger Miller Southeast Asia, K.C. Lau, Executive Director of Markrite Sdn. Bhd. and SCG's Corporate Affairs Director Steve Subramaniam.

Econsult Sdn. Bhd.

31st Floor, Menara Tun Razak, Jln. Raja Laut 50350 Kuala Lumpur.
Tel: 03-2934677/8, Telex: Pelara MA 31687 Fax: 03-2982501

LIBRARY E A/BIBLIOTHEQUE A E



3 5036 20072729 8

Storage

CA1 EA952 89M16 ENG

Malaysian sector profiles conducted
for the Canadian High Commission,
Kuala Lumpur : sector : oil and gas
43270694

