

CHAPTER 2

MARKET FOR LOW DENSITY POLYETHYLENE

Section 2.1 THE GLOBAL LDPE MARKET

The core components in the market of any product are its supply and demand. On the supply side at the end of 1999, the worldwide polyethylene (PE) capacity; which would include LDPE, high level density PE (HDPE) and low-level density PE (LLDPE); was projected to reach 56.7 million metric tons per annum.

Out of the total estimated PE capacity in 1999, 16.7 million metric tons are HDPE; 16.7 million metric tons are LDPE; and 23.3 million metric tons are LLDPE as given in Table 2.1.

Table 2.1 PE Capacity by region and by product ('000 MT/Year) - 1999

Region	Total Capacity '000 MT/Year (1999)			
	LDPE	HDPE	LLDPE	TOTAL PE
North America	4,314	5,968	7,355	17,637
Europe	6,353	4,346	5,708	16,407
Asia Pacific	3,867	5,082	6,811	15,760
South America	1,075	1,077	1,112	3,264
Middle East	981	90	1,849	2,920
Africa	148	160	457	765
Total	16,738	16,723	23,292	56,753
% of product from Total PE	29.5	29.5	41	100

Source: *The Polyethylene Trader*, 14, No. 8, Sept 1999

The LDPE global capacity growth in year 2000 was estimated at 4.5 million metric tons or by a percentage of 8.11%. The production capacity of all PE (Low Density, High Density and Low-Level Density) including forecast from 1993 to 2002 is shown in Table 2.2.

Table 2.2 WORLD'S CAPACITY OF POLYETHYLENE : 1993 - 2002 (in '000 MT)

YEAR/ PRODUCT	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
HDPE	13,377	13,916	14,337	14,623	15,267	15,983	16,723	17,639	18,403	18,813
LDPE/LLDPE	27,801	29,523	31,311	33,039	35,231	38,080	40,030	43,538	46,235	46,240
TOTAL	41,178	43,439	44,368	47,662	50,498	54,063	56,753	61,177	64,638	65,053

Source: The Polyethylene Trader, 2000

The major producers of LDPE globally are Dow Chemicals from the United States of America (USA), BASSELL also from USA, ExxonMobil, an European-based company, SABIC from Saudi Arabia and DSM of the Netherlands.

On the demand side, worldwide PE consumption in 1998 was 44.9 million metric tons. Demand growth in 1999 was calculated at almost 8%, therefore total demand for PE was 47.1 million metric tons for that year. There was an excess supply of almost 10 million metric tons at the end of 1999.

Global demand of PE will approach 55 million metric tons in 2002 based on an average growth rate of 5% per annum. PE will remain the largest volume thermoplastic consumed in the plastic industry due to its wide use in packaging, consumer goods, pipe, durable equipment and industrial machinery.

The supply and demand for LDPE in the South East Asian region is illustrated in Table 2.3. As for the supply and demand for LDPE in the Indian sub-continent countries and China, it is shown in Table 2.4.

Section 2.2 THE REGIONAL MARKETS

The producers and end-users of LDPE can be divided mainly into three regions globally. They are Asia Pacific, Europe and the American continents. In all these three regions, there are companies who are the dominant suppliers in the market. These companies play a major role in determining the selling prices in their regional markets.

Table 2.3 ASEAN LDPE - SUPPLY & DEMAND : 2000/01 - 2004/05 (in '000 METRIC TONS)

COUNTRY	PRODUCER/ LDPE	2000/01			2001/02			2002/03			2003/04			2004/5			
		Demand	Supply	Balance	Demand	Supply	Balance	Demand	Supply	Balance	Demand	Supply	Balance	Demand	Supply	Balance	
MALAYSIA	PETLIN	-	-	-	60	-	-	-	237	-	-	242	-	-	-	242	-
	Titan	-	178	-	-	188	-	-	188	-	-	-	188	-	-	188	-
	Import	-	27	-	-	25	-	-	20	-	-	20	-	-	20	-	-
	Total	80	205	125	85	273	188	90	445	355	95	450	355	100	450	350	350
THAILAND	TPE	-	89	-	-	90	-	-	90	-	-	90	-	-	90	-	-
	TPI	-	120	-	-	123	-	-	125	-	-	128	-	-	130	-	-
	Import	-	35	-	-	38	-	-	44	-	-	48	-	-	53	-	-
	Total	173	244	71	185	251	65	195	259	63	208	266	58	220	273	53	53
SINGAPORE	TPC	-	250	-	-	250	-	-	230	-	-	250	-	-	250	-	-
	Import	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	13	250	237	13	250	237	14	230	216	14	250	236	15	250	250	250
	Import	-	75	-	-	80	-	-	85	-	-	90	-	-	95	-	-
INDONESIA	Total	75	75	-	80	80	-	85	85	-	90	90	-	95	95	-	-
	Import	-	50	-	-	53	-	-	57	-	-	60	-	-	64	-	-
	Total	50	50	-	53	53	-	57	57	-	60	60	-	64	64	-	-
	Import	-	26	-	-	29	-	-	31	-	-	33	-	-	35	-	-
VIETNAM	Total	26	26	-	29	29	-	31	31	-	33	33	-	35	35	-	-
	Import	-	7	-	-	7	-	-	7	-	-	7	-	-	7	-	-
	Total	7	7	-	7	7	-	7	7	-	7	7	-	7	7	-	-
	Import	-	7	-	-	7	-	-	7	-	-	7	-	-	7	-	-
ASEAN TOTAL		424	857	433	453	943	480	1,114	634	507	1,156	649	536	1,174	653	653	653

Source: The Polyethylene Trader, 14, No. 8, Sept 1999

Table 2.4 LDPE SUPPLY & DEMAND - INDIAN SUB-CONT. & CHINA : 2000/01 - 2004/05 (in '000 MT)

COUNTRY	PRODUCER/ LDPE	2000/01		2001/02		2002/03		2003/04		2004/05						
		Demand	Supply	Balance	Demand	Supply	Balance	Demand	Supply	Balance	Demand	Supply	Balance			
INDIAN SUB-CONT	India	200	160	-	206	160	-	220	160	-	232	160	-	243	160	-
	Pakistan	21	-	-	22	-	-	22	-	-	22	-	-	22	-	-
	Bangladesh	23	-	-	24	-	-	24	-	-	24	-	-	24	-	-
	Sri Lanka	10	-	-	10	-	-	11	-	-	11	-	-	11	-	-
	Import	-	94	-	-	102	-	-	117	-	-	129	-	-	140	-
	Total	254	254	-	262	262	-	277	277	-	289	289	-	300	300	-
CHINA	Production	-	820	-	-	800	-	-	*1000	-	-	*1000	-	-	*1000	-
	Import	-	400	-	-	480	-	-	350	-	-	410	-	-	350	-
	Total	1,220	1,220	-	1,280	1,280	-	1,350	1,350	-	1,410	1,410	-	1,490	1,490	-

* China will increase its capacity by 200,000 metric tons per annum in 2002/03 (Beijing Yanshan)

Source: The Polyethylene Trader, 14, No. 8, Sept 1999

Dow Chemicals and Exxon-Mobil, both from the United States of America, are two major forces of LDPE suppliers in the American continents. They also have other joint-venture producing plants around the globe. DSM of the Netherlands and BASELL (a joint venture of BASS and SHELL) take on the major supplier roles in Europe. In Asia Pacific, SABIC of Saudi Arabia, QAPCO of Qatar, and The Polyolefin Company (TPC) of Singapore dominate the region, with BASELL having a huge influence in Australia as well.

The buyers in the LDPE market are traders, stockists and end-user product applicants. Traders are third parties where they buy the product from the producers and sell it directly to the end-users or the stockists without holding on to the product even for a single day.

The stockists on the other hand, are also of a third party in a business transaction between the producers and the end-users. But, they have the warehouse facilities to enable them to store the purchased product and sell them at the most profitable periods to the end-users based on their favourable market prices.

Section 2.3 THE CURRENT MARKET PRICE IN SOUTH EAST ASIA

It is the end-user product applicants that have the most significant influence on the price of the product in the market. Recently, technology improvement has transformed application machines, which initially could only utilise LDPE to accept the relatively cheaper LLDPE. This is another main factor why more of the end-users are increasing their consumption of LLDPE and reducing their needs for LDPE.

Currently, the price offered by the LDPE producers is in the range of USD 600 to USD 610. This quotation price for the product includes its ocean freight transportation costs (Cost and Freight - CFR) into any South East Asia (SEA) countries. Due to the reason above, the buyers now have the upper hand in the negotiation of the transaction price. They would only purchase the product

currently at USD 580 CFR SEA.

This gap in the prices leaves the market in a stalemate and naturally creating a lot of worries and concern for the PETLIN management. Apart from producing the product at the lowest possible cost, they have to determine their target markets to apply their strategic marketing plans.

This study will propose the target region for the LDPE from PETLIN, as well as the specific countries in that region. The current producers supplying this market is crucial, as any plant expansion by them in the near future (within the next five years) has to be considered. Likewise, establishing a strong relationship with the major traders and stockists of this region is also vital to ensure their continual support for PETLIN.