

INDEX

1. Overview of plastics industry in Malaysia	.....	1
2. Petrochemical complexes in operation in the East Coast Economic Region (ECER) of Malaysia	.....	2
3. Potential sources of feedstock and existing on-site utilities and services at the Petrochemical complexes in ECER	.....	3
4. Note on Kertih Plastics Park : Malaysia's first fully integrated plastics hub	.....	4
5. Petrochemical plants in Kertih & Gebeng	.....	6
6. Key supporting infrastructure in Kertih Plastics Park (KPP)	.....	6
7. Participation opportunities for local and foreign investors in Kertih Plastics Park	.....	7
8. Incentives package for investors in Kertih Plastics Park	.....	8
9. Cost of industrial land and factory building in Kertih (District Terengganu) and other districts in Malaysia	.....	9
10. Electricity rates (Commercial tariff and Industrial tariff)	.....	11
11. Water rates in Kertih (District Terengganu) and other districts in Malaysia	.....	12
12. Transportation costs (Container haulage & Ocean freight)	.....	13

ANNEXURES

1. Press clipping on key statement made by the Prime Minister of Malaysia at the inauguration of the Kertih Plastics Park	.....	14
2. National Industrial Development Corridors in Malaysia	.....	15
3. Oil and Gas Reserves, location of Oil Refineries and production of petrochemical feedstocks in Malaysia	.....	16
4. Maps showing the East Coast Economic Region (ECER) of Malaysia and major infrastructure facilities / industrial parks	.....	18
5. Product Data Sheet of Degradable Polymer developed by Petronas	.....	20
6. Sample of Carry Bag manufactured from degradable polymer	.....	21

1. Overview of Plastics Industry in Malaysia

The oil, gas and petrochemical industry is one of the leading industries in Malaysia, with significant hydrocarbon reserves located in offshore Terengganu, contributing significantly to the nation's gross domestic product (GDP).

In the ECER, there exist two major downstream clusters located in Kertih, Terengganu and Gebeng in Pahang. Although major facilities are already in operation, there still exist opportunities to strengthen linkages with other sectors. These sectors seek to expand the activities of the industry in the downstream and manufacturing related sectors, to add more value to existing output.

World class petrochemical manufacturers have established plants in Malaysia, providing a steady supply of feedstock material for the plastics industry, leading it to become one of the most dynamic industries in Malaysia's manufacturing sector. Plastic products manufactured locally range from common household items, packaging materials and conveyance materials, to parts and components for the electrical and electronics, automotive, office automation, computer and telecommunication industries.

Key Statistics of Plastics Industry in Malaysia

Total no. of manufacturers	Approx. 1,500
Total no. employed	Approx. 95,000 people
Total Sale (2007)	RM 16 billion (up 2.6% from 2006)
Total resin consumption (2007)	1.9 million tonnes
Per capita resin consumption (2007)	75 Kg
Total exports (2007)	RM 6.8 billion
Plastic industry sub-sectors	<ol style="list-style-type: none"> 1. Packaging 2. Electrical & electronics 3. Household 4. Automotive 5. Construction 6. Agriculture 7. Others

Source : MIDA

2. Petrochemical complexes in operation in the East Coast Economic Region (ECER) of Malaysia

There are two integrated petrochemical complexes currently in operations in ECER :

- **The Kertih Integrated Petrochemical Complex (KIPC)** in Terengganu situated within PETRONAS Petroleum Industry Complex (PPIC), KIPC focuses on Ethylene based products.
- **The Gebeng Integrated Petrochemical Complex (GIPC)** in Pahang is also an integrated petrochemical complex focusing on propylene based products.

PPIC is home to 41 plants and facilities with investments from Malaysia's national oil company PETRONAS alone amounting to RM 70 billion. It not only offers world - class infrastructure and facilities, including logistics and distribution system to support downstream manufacturing activities, but also extensive products to be used as feedstock, particularly in the development of a wide range of polymers resins and materials.

In addition to the varied on-site suppliers, plastics manufacturers close to PPIC are also able to import feedstock from external providers by utilizing the nearby Kuantan Port and the Kertih-Kuantan Railway System (KKRS) as a part of their distribution system.

With PETRONAS having laid the foundations with substantial investments over 35 years in its integrated petrochemical complex, the nearby Kertih Plastic Park (KPP) provides the best opportunity for investor to reap maximum benefits in terms of cost savings and reduced capital outlay.

3. Potential sources of feedstock and existing on-site utilities and services at the petrochemical complexes in ECER

Potential Sources Feedstock	Products	Applications	
Petrochemicals Plants in Kertih			
Polyethylene (M) Sdn Bhd	Polyethylene (PE), incl. high density (HDPE) & linear low density (LLDPE), specialty compounds and environmentally degradable polymer	<ul style="list-style-type: none"> - General purpose films - Heavy-duty films - Cast -stretch films - Blending partners - Environment friendly products 	On-Site Utilities -Electricity -Nitrogen -Steam -Portable water -Demineralised water -Cooling water -Waste water -Treatment -Pressurised air -Condensate return
Petlin (M) Sdn Bhd	Low density polyethylene (LDPE)	Mono & multi layer films (food packaging, zipper bags, shrink wrap, heavy-duty bags, film for agriculture produce & industrial packaging film)	
Vinyl Chloride (M) Sdn Bhd	Polyvinyl chloride (PVC)	<ul style="list-style-type: none"> - Pipe - Flooring - Wire & cable - Building/construction - Film & sheet - Automotive parts 	
Petrochemicals Plants in Gebeng			
Polypropylene (M) Sdn Bhd	Polypropylene (PP)	<ul style="list-style-type: none"> - Automotive parts - Appliances - Film - Fiber & filaments 	
Eastman Chemicals (M) Sdn Bhd	Polyester copolymers	<ul style="list-style-type: none"> - Automotive - Bottles - Sheets & films 	
Kaneka Paste Polymers Sdn Bhd	Dispersion polyvinyl Chloride	<ul style="list-style-type: none"> - Construction - Electrical cable insulation - Portable electronic accessories - Toys - Erasers 	
Kaneka Malaysia Sdn Bhd	Methyl methacrylates copolymers	<ul style="list-style-type: none"> - Coating - Acrylic plastics 	On-Site Services -Polymer technology centre
Polyplastics Asia Pacific Sdn Bhd	Polyacetals	<ul style="list-style-type: none"> - Automotive & electronic parts - Telecommunication & 	

		<ul style="list-style-type: none"> office equipment - Cosmetics containers - Mechanical appliances & equipment - Household electrical appliances 	<ul style="list-style-type: none"> -Emergency & fire fighting services -Laboratory -Medical -Centralised warehousing for raw materials & products -Maintenance services -Administrative -Railway -Port(bulk liquid & containerized facilities) -Tankage -Pipe rack
Toray BASF PBT Resin Sdn Bhd	Polybutylene terephthalate (PBI)	<ul style="list-style-type: none"> - Automotive & electronic equipment and parts - Computer parts - Household appliances 	
BASF PETRONAS Chemicals Sdn Bhd.	Acrylic monomers, plasticiser and intermediates (e.g. tetrahydrofuran)	<ul style="list-style-type: none"> -Impact modifier, specialty Adhesives Oaminating, packing), construction - PVC industries (film & sheets,wire & cable, packaging,footwear) - PVC adhesives 	

4. Note on Kertih Plastics Park : Malaysia’s first fully integrated plastics hub

A key initiative in the development of the country's downstream petrochemicals industry, Kertih Plastics Park (KPP) is the first fully integrated plastic hub in Malaysia. Located within the PETRONAS Petroleum Industry Complex (PPIC), KPP will be supporting plastics and plastic-related manufacturing activities and services providers within a specified locality measuring 140 hectares in Kertih.

The park takes on an attractive plug-and-play development model, whereby the requisite support facilities and common services will be put in place, allowing investors to immediately start their operation upon relocating to the KPP. With an objective to promote further downstream investments in the plastic and plastic-related industries, KPP will be tapping into the potential synergies from integration with nearby Kertih Integrated Petrochemical Complex (KIPC).

The park's development will also be supported by world-class research and development input from the PETRONAS Polymer Technology Centre (PPTC), a market-driven technology research & development (R&D) centre to enhance customer technical services and product improvement and development for plastics applications. PPTC aims to spur the growth and global competitiveness of the plastics industry in the KPP by carrying out R&D for plastics application, joint venture projects with manufacturers and end users and offering technical services including product testing, technology development and training. The centre will also foster a closer working relationship between polymer producers and plastics manufacturers in KPP to raise the standards of the plastics industry in Malaysia. The overall strengthening of the sector in the ECER will allow investors to participate in a host of support services, such as the supply of materials, technical and lab services, warehousing, distribution and wholesaling activities, as well as retailing.

With the incentive package, KPP is expected to attract RM 2 billion worth of investments that could create 7,000 jobs, as stated by the Prime Minister of Malaysia, at the formal launch of the park on 2nd December, 2008. He also noted that the park had already attracted five investors, including Hi-Essence Cable Sdn Bhd, which is investing RM 85 million, Latenfield Pipe Industries Sdn Bhd (RM 40 million) and FMD Polypipes Industry Sdn Bhd (RM 20 million). The Prime Minister further stated, that of the 106 projects planned under the initiative, 77 have begun or were in the process of being implemented by next year.

Key Statistics of Kertih Plastics Park

Development Phase 1	90 hectares
Development Phase 2	50 hectares
Total Projected Investment	RM 2.0 billion
Total Projected Number of Employment	7,000

5. Petrochemical plants in Kertih & Gebeng

Petrochemical plants in Kertih

PETROCHEMICAL PLANTS	PRODUCTS
Petronas Aromatics Sdn Bhd	Paraxylene, Benzene
Petronas Ammonia Sdn Bhd	Ammonia
BP Petronas Acetyls Sdn Bhd	Acetic Acid
Ethylene (M) Sdn Bhd	Ethylene
Polyethylene (M) Sdn Bhd	Polyethylene
Optimal Olefins (Malaysia) Sdn Bhd	Ethylene and Propylene
Optimal Chemical (Malaysia) Sdn Bhd	Ethanolamines, Ethoxylates, Glycol Ethers, Butanol and Butyl Acetate
Optimal Glycol (Malaysia) Sdn Bhd	Ethylene Oxide, Ethylene Glycol
Petlin Sdn Bhd	Low Density Polyethylene
Vinyl Chloride (M) Sdn Bhd	Vinyl Chloride Monomer and Polyvinyl Chloride

Petrochemical Plants in Gebeng

PETROCHEMICAL PLANTS	PRODUCTS
BASF Petronas Chemical (M) Sdn Bhd	Acrylic Acid and Esters, Syngas, Butyl Acrylate, Oxo-alcohols, Phthalic Anhydride and Plasticizers, Butanediol, Tetrahydrofuran and Gamma-butyrolactone
Eastman Chemicals (M) Sdn Bhd	Polyester Copolymers
Amoco Chemicals (M) Sdn Bhd	Purified Terephthalic Acid
Kaneka Paste Polymers Sdn Bhd	Dispersion Polyvinyl Chloride
Kaneka Malaysia Sdn Bhd	Methyl Methacrylates Copolymers
MTBE (Malaysia) Sdn Bhd	MTBE, Propylene
Polyplastics Asia Pacific Sdn Bhd	Polyacetals
Polypropylene (M) Sdn Bhd	Polypropylene
Toray BASF PBT Resin Sdn. Bhd.	Polybutylene Terephthalate (PBT)

6. Key supporting infrastructure in Kertih Plastics Park (KPP)

- PETRONAS Polymer Technology Centre (PPTC)
- Kertih-Kuantan Railway System (KKRS)
- Kertih Port (for liquid cargoes)
- Kuantan Port (for dry and bulk cargoes)
- Kertih Terminal for Centralised Tankage
- Centralised Emergency & Fire Fighting Services
- Centralised Utility Facilities

Benefits to the Industry and Local Populace

- Add value to national hydrocarbon resources by moving up the product value chain and expanding downstream activities in the petrochemical industry into plastics and its related industries.
- Capture more resource-based value domestically through the manufacturing of finished products locally.
- Enhance the competitiveness of Malaysian plastics industry and provide a focused development to cater for specific needs.
- Ensure a competitive base for local producers via:
 - the tapping of on-site operational and infrastructural synergies
 - efficient supply of raw materials (just-in-time) and
 - economies of scale and direct cost savings (centralised services freight savings, etc.)
- Expand employment and entrepreneurship opportunities as well as creates demand for other ancillary services.
- Facilitates the transfer of technology, knowledge and skills to local small and medium enterprises (SMEs) involved in plastics and its related industries and
- Attract domestic and foreign investments in plastics and its related industries.

7. Participation opportunities for local and foreign investors in Kertih Plastics Park

The Kertih Plastics Park is open to local and foreign investors in the following areas:

- Local SMEs in plastics manufacturing with the following profile:
 - export - oriented domestic manufacturers
 - companies aspiring to reach global markets
 - companies seeking expansion
 - Foreign - based companies seeking overseas ventures in Malaysia
 - Specialty or high - end plastic compounders and manufacturers
 - Other manufacturers and suppliers supporting the plastics industry
(e.g. speciality packaging, pallet, specialty chemicals including pigments, dyes, plastic additive, antioxidants and UV light stabilizers)
 - Packaging manufacturers (e.g. specialty packaging, pallet suppliers)
 - Logistics and other special service providers (e.g. Health, Safety & Environment (HSE), waste management, R & D, etc.)
-

8. Incentives package for investors in Kertih Plastics Park

The ECER is envisioned as a pro-business and investment friendly environment. Hence, all efforts are being undertaken to ensure investors are given the opportunity to grow and reap maximum returns from their projects and initiatives. To further entice potential investors, and in addition to the current package of incentives, the Government has approved new fiscal incentives for specific activity and identifies locations under the ECER Master Plan. To be eligible for the specific ECER incentives package, projects have to be duly approved by the ECER Development Council.

Incentives Package for Investors in Petrochemicals Industry

Cluster and Location	Special ECER Incentives
<p>PETROCHEMICAL</p> <p>Incentive only for activities in locations designated in the ECER Master Plan</p> <ul style="list-style-type: none"> • Kertih Integrated Petrochemical Complex (KIPC) • Kertih Plastics Park • Gebeng Industrial Complex 	<p>Incentives given to companies developing infrastructure of industrial park: (To qualify for these incentives, companies must commence operations before 31 December, 2015)</p> <ul style="list-style-type: none"> • Income tax exemption for 10 years from the year company derives profit, or ITA amounting to 100% of qualifying capital expenditure for 5 years for companies developing infrastructure of industrial park - Qualifying capital expenditure for ITA and industrial building allowance/capital allowances to include building, infrastructure and amenities cost • Double deduction for expenses incurred for promotion of park overseas • Stamp duty exemption on instruments of acquisition or leasing of property relating to industrial park <p>Incentives given to companies operating in the park:</p> <ul style="list-style-type: none"> • Customised incentives given to companies undertaking activities in the park <p>NOTE: These incentives are specially designed for ECER projects.</p> <p>For more information on current incentives, please refer to MIDA (www.mida.gov.my)</p>

9. Cost of Industrial Land & Factory Building in Kertih (District Terengganu) and other Districts in Malaysia

Cost of Industrial Land *				Cost of Ready - built	
Location	Selling price per sq.ft.	Quit rent per annum	Annual assessment rate (% of property value)	Selling price per sq.ft. of floor area	Rental per sq.ft. per month
Perlis	RM5.80 – RM6.00 US\$ 1.75 – 1.81	RM100 per 100 sq. mt. US\$ 30.18 per 100 sq.mt.	8	-	RM0.50 – 0.80 US\$0.15 – 0.24
Kedah	RM4.70 – 15.00 US\$ 1.42 – 4.53	RM531.26 per ha. US\$ 160.13 per ha.	8-10	RM65-239 US\$19.61 – 72.12	RM0.50 – 0.70 US\$0.15 – 0.21
Penang	RM12.20 – 21.00 US\$ 3.68 – 6.34	RM10,760 – 12,912 per ha. US\$ 3,247 – 3,896 per ha.	10-11	RM153 - 155 US\$46.17 – 46.77	RM0.80 – 1.40 US\$0.24 – 0.42
Perak	RM5.00 – 17.00 US\$ 1.51 – 5.13	RM 3,000 per ha. US\$ 905 per ha.	10	RM 97 - 115 US\$ 29.27 – 34.70	RM0.50 – 0.70 US\$0.15 – 0.21
Selangor	RM7.00 – 25.00 US\$ 2.11 – 7.54	RM1,500 – 21,095 per ha. US\$ 453 – 6,365 per ha.	8-13	RM110 - 400 US\$33.19 – 120.70	RM1.10 – 2.00 US\$0.33 – 0.60
Negeri Sembilan	RM6.00 – 20.00 US\$ 1.81 – 6.04	RM1,976.84 – 7,700 per ha. US\$ 596 – 232 per ha.	8-13	RM74 - 306 US\$22.33 – 92.33	RM0.80 – 2.00 US\$0.24 – 0.60
Melaka	RM7.50 – 18.00 US\$ 2.26 – 5.43	RM60 – 204 per 100 sq.mt. US\$ 18.11 – 61.56 per 100 sq.mt.	12-13.2	RM100 - 180 US\$30.18 – 54.32	RM1.50 – 4.00 US\$0.45 – 1.21
Johor	RM8.00 – 22.00 US\$ 2.41 – 6.64	Light Ind. : RM1,600 per ha. US\$ 483 per ha. Medium Ind. : RM2,100 per ha. US\$ 634 per ha. Heavy Ind. : RM2,400 per ha. US\$ 724 per ha.	0.28-1.0	RM102 - 190 US\$31 – 57.33	RM0.70 – 1.20 US\$0.21 – 0.36

Pahang	RM3.00 – 11.00 US\$ 0.91 – 3.32	<= 2 ha. : RM15 per 100 sq.mt. US\$4.53 per 100 sq.mt. >2ha. : RM10 per	7-9	RM94 - 127 US\$28.36 – 38.32	RM0.40 – 0.60 US\$0.12 – 0.18
Terengganu	RM0.18 – 5.60 US\$ 0.05 – 1.69	RM8 – 20 per 100 sq.mt. US\$ 2.41 – 6.04 per 100 sq.mt.	5-10	RM93 - 99 US\$28– 30	RM0.40 – 0.65 US\$0.12 – 0.20
Kelantan	< 2 ac. : RM7.50 US\$2.26 >2ac. : RM7.00 US\$2.11	RM1,000 per ha. US\$ 301.75 per ha.	5-12	-	RM0.35 – 0.45 US\$0.11 – 0.14
Sabah*** - KKIP - POIC	RM18.00 – 20.00 US\$ 55.43 – 6.04 RM12.00 US\$3.62	1% of market value RM0.05 ps.f. US\$0.02 ps.f.	9-15	RM145 US\$ 43.75	RM0.70 – 1.00 US\$0.21 – 0.30
Sarawak	RM2.50 – 10.00 US\$0.75 – 3.02	RM285 – 2,400 per ha. US\$86-724 per ha.	5.5-26.55	RM92-155.82 US\$27.76 – 47.01	RM0.40 – 0.80 US\$0.12-0.24

Average Construction Costs of Factory Building (per sq.ft.)**

Factory with reinforced concrete structure	RM65-75	US\$19.61 - 22.63
Steel portal frame on reinforced concrete	RM75-80	US\$22.63 - 24.14
Factory with clean room facilities	RM120-130	US\$36.21 - 39.23

*Source: State Economic Development Corporations (SEDCs)

**Source: MIDF Property Berhad – www.midf.com.my & State Economic Development Corporation (SEDCs)

***Cost of land in the Kota Kinabalu Industrial Park (KKIP) & Palm Oil Industrial Cluster(POIC)