MPA

MALAYSIA PETROCHEMICAL COUNTRY REPORT 2023

ASIA PETROCHEMICAL INDUSTRY CONFERENCE (APIC 2024)

Seoul, South Korea
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Contents

Chapter 1: Malaysian Economy

1.1 Overview of Malaysian Economy in 2023

According to the Central Bank of Malaysia Annual Report 2023, despite the challenging external environment, the Malaysian economy grew by 3.7%, supported by resilient domestic demand and further recovery in tourism activities. During the year, the economy faced multiple challenges from weak external demand, disruptions in commodity production and higher cost of living, which weighed on household spending.

On the whole, Malaysia's economic performance in 2023 was a tale of ups and downs. The first quarter saw 5.6% growth that exceeded expectations and placed the country among the region's leaders. But the second quarter saw the expansion slow to 2.9%, before a moderate rebound in the third quarter. Exports were lackluster, falling 8% for the year, as Malaysia struggled to find external demand for its electronics, palm oil and petroleum products.

1.2 Trade Performance in 2023[1]

In 2023, Malaysia's trade exceeded RM2 trillion for the third consecutive year to reach RM2.637 trillion, decreased by 7.3% compared to 2022 in tandem with slower global demand, lower commodity prices, geopolitical uncertainties, high inflation rate, downcycle in the semiconductor sector and high base effect last year. Exports contracted by 8% to RM1.426 trillion and despite the decline, this was the third successive year that exports exceeded RM1 trillion and achieved 82.4% of target set for 2025 under the Mid-Term Review of the 12th Malaysia Plan. Meanwhile, imports in 2023 posted another milestone by crossing RM1 trillion mark for the second time, weakened by 6.4% to RM1.212 trillion compared to 2022. Malaysia continued to register trade surplus for 26th successive year since 1998, amounting to RM214.1 billion. The challenging global economic landscape in 2023 has adversely impacted international trade including Malaysia's trade performance which experienced a contraction. This was in line with other key trading partners notably China, Taiwan RoC, the ROK and Indonesia which also posted negative trade growth. In 2023, Malaysia's major trading partners were ASEAN, China, the US, the European Union (EU) and Japan, representing 67.7% share of Malaysia's total trade.

[1] Source: MATRADE

ASEAN remained as Malaysia's key trading partner, taking up 27.3% of Malaysia's total trade in 2023. Trade with ASEAN amounted to RM720.66 billion, a decrease of 6.5% compared to last year. Exports to ASEAN dipped by 7.2% to RM420.3 billion following lesser demand for E&E products, petroleum products, chemicals and chemical products as well as palm oil and palm oil-based agriculture products. Nonetheless, the contraction was softened by positive export growth of non-metallic mineral products, crude petroleum, processed food and jewellery.

In 2023, China continued to be Malaysia's largest trading partner for 15 consecutive years since 2009, taking up 17.1% share of Malaysia's total trade. Trade with China fell by 7.3% to RM450.84 Billion from the preceding year. Exports shrank by 8.7% to RM192.21 billion following lower exports of E&E products, palm oil and palm oil-based agriculture products as well as iron and steel products. Nevertheless, export growth was recorded for paper and pulp products, metalliferous ores and metal scrap, processed food as well as petroleum condensates and other petroleum oil. China was also Malaysia's largest import source, absorbing 21.3% share of total imports. Imports from China declined by 6.2% to RM258.63 billion with major imports comprising E&E products, machinery, equipment and parts as well as chemicals and chemical products.

In 2023, exports of manufactured goods surpassed RM1 trillion mark for three successive years, reaching RM1.217 trillion or 85.4% of Malaysia's total exports. This was a decrease of 6.7% from 2022, following lower exports of petroleum products, E&E products, palm oil-based manufactured products as well as chemicals and chemical products. Nonetheless, export expansion was registered for processed food, paper and pulp products, non-metallic mineral products, beverages and tobacco as well as jewellery. The top five manufactured products which accounted for 63.4% of Malaysia's total exports were:

- E&E products
- Petroleum products;
- Chemicals and chemical products;
- Machinery, equipment and parts; and
- Manufactures of metal.

1.3 Investments[2]

According to the Malaysian Investment Development Authority (MIDA), Malaysia secured RM329.5 Billion in approved investments, comprising 5,101 projects that are expected to create 127,332 new job opportunities. This remarkable performance is a 23.0 % increase as compared to RM267.7 Billion approved investments last year. Foreign Investments (FI) accounted for 57.2 % of total approved investments, or RM188.4 Billion, while Domestic Investments (DI) recorded 42.8 % or RM141.1 billion. FI was a major force behind this surge, contributing RM128.5 billion or 84.5 % of the total manufacturing sector investments, showcasing a striking 94.5 % growth from the previous year, while DI, remained substantial at RM23.5 billion or 15.5 %. This investment landscape highlights Malaysia's capacity to attract significant foreign capital, reinforcing its status as a competitive manufacturing hub on the global stage.

On the manufacturing sector front, Malaysia attracted a total of RM152.0 billion in approved investments, accounting for 46.1 % of the total approved investments across various economic sectors. This marks a significant increase of 80.3 % from RM84.3 billion recorded in 2022.

The electrical and electronics (E&E) industry, a cornerstone of Malaysia's manufacturing prowess, secured the lion's share of investments with RM85.4 billion, representing 56.2 % of the sector's total.

For petroleum products, including petrochemicals, the total investment was RM939.5 million, with 7 projects approved, of which 97.8% was from domestic investments, mainly contributed by expansion/diversifiation projects.

Source: MIDA

2 Source: MIDA

1.4 Economic Outlook for 2024[3]

The Malaysian economy is projected to grow between 4% – 5% in 2024, driven by continued expansion in domestic demand, and improvement in external demand. Growth will be driven mainly by resilient domestic expenditure, with additional support emanating from the expected recovery in exports. Malaysia's PMI reading signals that manufacturing have troughed and and are on course for a gradual recovery. Trade activity is expected to recover gradually in tandem with a rebound in global trade. Gross exports are expected to expand (2024f: 5%; 2023: -8%), driven by the recovery in global trade and the technology upcycle, supporting E&E and non-E&E exports, as well as higher commodity prices underpinning commodity exports. Gross imports, which contracted in 2023, are also projected to increase. This is attributable mainly to higher intermediate imports and stronger domestic demand for consumption goods, alongside continued expansion in imports of capital goods in tandem with investment growth.

Private investment is expected to improve (2024f: 6.1%; 2023: 4.6%), lifted by further progress in the implementation of multi-year projects, as well as ongoing efforts in automation and digitalisation amid continued capacity expansions. Of significance, the progress of approved projects in recent years is well on track, with 74% of manufacturing projects approved from 2021 to 2023 having been implemented in various stages. Continued public investments in large-scale transport and digital infrastructure projects will also support growth, in addition to ongoing reform efforts by the Government to enhance the investment ecosystem and the implementation of initiatives under the strategic master plans. For example, catalytic projects under the National Energy Transition Roadmap (NETR) such as the Kasawari Carbon Capture and Storage (CCS) by PETRONAS, the Hybrid Hydro-Floating Solar (HHFS) Photovoltaic project by Tenaga Nasional Berhad and installation of Electric Vehicle (EV) charging stations led by Gentari are in progress, and will lend support to investments well beyond 2024.

On the external front, downside risks emanate mainly from weaker-than-expected global growth and further escalation of geopolitical conflicts which could dampen Malaysia's trade performance. The bearish global economy, slower-than-expected recovery in China and ongoing geopolitical tensions will continue to affect the petrochemicals industry and produce softer markets for the near term.

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[3] *Source: BNM Economic & Monetary Review 2023 & various.*

1.5 Malaysia – Key Economic Indicators

	2021	2022	2023p	2024f
Population (million persons)	32.6	32.7	33.4	33.7
Employment (million persons)	15.3	15.8	16.2	16.5
Unemployment (as % of labour force)	4.7	3.8	3.4	3.3
Per Capita Income (RM)	46,253	52,968	52,956	55,295
(USD)	11,163	12,035	11,598	11,696[4]
NATIONAL PRODUCT (% change)				
Real GDP at constant 2015 prices	3.3	8.7	3.7	4.0-5.0
(RM billion)	1,390.6	1,510.9	1,566.5	1,637.1
Agriculture	-0.1	0.1	0.7	-0.5
Mining and quarrying	0.9	2.6	1.0	3.5
Manufacturing	9.5	8.1	0.7	3.5
Construction	-5.1	5.0	6.1	6.7
Services	2.2	10.9	5.3	5.5
Nominal GNI	8.4	14.9	2.1	5.5
(RM billion)	1,506.7	1,731.9	1,767.6	1,864.3
Real GNI	2.8	7.9	4.1	4.1
(RM billion)	1,369.8	1,478.4	1,539.4	1,602.1
Real aggregate domestic demand[1]	1.9	9.2	4.8	5.4
Private expenditure	2.0	10.3	4.7	5.8
Consumption	1.9	11.2	4.7	5.7
Investment	2.7	7.2	4.6	6.1
Public expenditure	1.5	4.7	5.1	4.0
Consumption	6.4	4.5	3.9	3.2
Investment	-11.1	5.3	8.6	6.2
Gross national savings (as % of GNI)	26.7	27.5	24.5	23.7
BALANCE OF PAYMENTS (RM billion)				
Goods balance	177.6	186.0	132.9	163.8
Exports	1,005.8	1,238.2	1,052.7	1,133.6
Imports	828.2	1,052.2	919.8	969.8
Services balance	-65.7	-56.4	-41.9	-40.9
Primary income, net	-42.2	-59.4	-55.1	-68.3
Secondary income, net	-9.6	-15.1	-13.2	-13.2
Current account balance	60.2	55.1	22.8	41.5
(as % of GDP)	3.9	3.1	1.2	1.8-2.8
Bank Negara Malaysia international reserves, net[2]	486.8	503.3	520.8	-
(in months of imports of goods and services)[3]	5.9	4.8	5.4	-
(in months of retained imports)	7.7	6.3	7.0	-
PRICES (% change)				
Consumer Price Index (2010=100)	2.5	3.3	2.5	2.0-3.5
Producer Price Index (2010=100)	9.5	7.8	-1.9	-

[1] Exclude stocks.
[2] All assets and liabilities in foreign currencies have been revalued into ringgit at rates of exchange ruling on the balance sheet date and the gain/loss has been reflected accordingly in the Bank Negara Malaysia's audited accounts.
[3] For further details, please refer to "Expansion of the Measure on Reserves Coverage of Imports – from Retained Imports to Imports of Goods and Services" article in BNM's Quarterly Bulletin for the Fourth Quarter of 2021.
[4] Based on average USD exchange rate for the period of January-February 2024.

p Preliminary
f Forecast

Note: Figures may not necessarily add up due to rounding.

Source: Department of Statistics, Malaysia and Bank Negara Malaysia

Chapter 2: Petrochemical Industry in Malaysia

2.1 Overview of Petrochemical Industry

Malaysia has a sizeable petrochemical industry, with over 100 companies producing a wide range of chemical products. The local petrochemical industry is well diversified, producing a wide range of products through strategic joint ventures with foreign MNCs such as Hengyuan (formerly known as Shell Refining), Petron, BASF, Lotte Chemical Titan, Idemitsu, Toray, Penfibre, Kaneka, Eastman Chemicals, Eternal, Polyplastic, UPC, Recron, Synthomer, Dairen, Mitsui and Reliance.

Potential investors can expect to reap returns from existing integrated petrochemical complexes offering centralised utilities, efficient storage services, and a comprehensive transportation network that collectively help reduce capital and operational costs, thus positioning Malaysia as one of ASEAN's promising strategic investment locations.

Currently, Malaysia's petrochemical industry is re-focusing its efforts towards embracing digitalisation, technology advancement using automation and robotics, a skilled workforce and creative partnerships to redefine itself. The industry is poised for transformation and diversification to better adapt to growing global energy transition trends while remaining competitive.

Backed by abundant oil and gas reserves and petrochemical feedstocks, Malaysia's petrochemical industry boasts almost 50 years of solid fundamentals. It is an important growth area with an established infrastructure, available feedstock, matured supporting industries and smart partnerships with some of the world's largest MNCs through the continued support of the Government and Petroliam Nasional Berhad (PETRONAS), the national oil and gas company.

Malaysia's current petrochemical production is primarily driven by a strong base for olefins, polymers, and aromatics, and there are strong ambitions to expand beyond the commodity products as industry players develop more complex, specialty downstream chemicals.

PETROCHEMICAL PRODUCTS IN MALAYSIA

PETROCHEMICAL PRODUCTS	COMPANY / REFINERY
Naphtha	• PETRONAS Penapisan (Terengganu) Sdn. Bhd. • Malaysian Refining Company Sdn. Bhd. • Hengyuan Refining Company Berhad • Petron Malaysia Refining & Marketing Bhd. • Kemaman Bitumen Company Sdn. Bhd. • Pengerang Refining Company Sdn. Bhd.
Ethane Propane Butane	• PETRONAS Gas Berhad
Ethylene	• Lotte Chemical Titan (M) Sdn. Bhd. • PETRONAS Chemicals Ethylene Sdn. Bhd. • PETRONAS Chemicals Olefins Sdn. Bhd. • Pengerang Refining Company Sdn. Bhd.
Propylene	• Lotte Chemical Titan (M) Sdn. Bhd. • PETRONAS Chemicals MTBE Sdn. Bhd. • PETRONAS Chemicals Olefins Sdn. Bhd. • Pengerang Refining Company Sdn. Bhd.
Butadiene	• Pengerang Refining Company Sdn. Bhd. • Lotte Chemical Titan (M) Sdn. Bhd.
Methyl Tertiary Butyl Ether (MTBE)	• Pengerang Refining Company Sdn. Bhd. • PETRONAS Chemicals MTBE Sdn. Bhd.

PETROCHEMICAL PRODUCTS	COMPANY / REFINERY
Methanol	• Pengerang Refining Company Sdn. Bhd. • PETRONAS Chemicals Methanol Sdn. Bhd. • BASF PETRONAS Chemicals Sdn. Bhd.
Polypropylene (PP) Linear Low-Density Polyethylene (LLDPE) High Density Polyethylene (HDPE)	• Pengerang Petrochemical Company Sdn. Bhd. • Lotte Chemical Titan (M) Sdn. Bhd. • PETRONAS Chemicals Ethylene Sdn. Bhd.
Mono Ethylene Glycol (MEG) Di Ethylene Glycol (DEG) Tri Ethylene Glycol (TEG) Heavy Glycol (HG)	• Pengerang Petrochemical Company Sdn. Bhd.
Ethylene Oxide Ethylene Glycol	• PETRONAS Chemicals Glycols Sdn. Bhd.
Ethanolamines Alkoxylates / Functional Fluids Butanol Butyl Acrylate Glycols Ethers Butyl Acetate	• PETRONAS Chemicals Derivatives Sdn. Bhd.

PETROCHEMICAL PRODUCTS	COMPANY / REFINERY
Benzene Toluene Xylene Raffinate 2	• Lotte Chemical Titan (M) Sdn. Bhd. • PETRONAS Chemicals Aromatics Sdn. Bhd. • Pengerang Refining Company Sdn. Bhd.
Isononanol C8 Hydrocarbons C12 Olefins C16 Olefins Raffinate 3 Oxo Oil 9N	• PETRONAS Chemicals Isononanol Sdn. Bhd.
Styrene Monomer Polystyrene Acrylonitrile Butadiene Styrene (ABS)	• Idemitsu SM (M) Sdn. Bhd. • Petrochemicals (M) Sdn. Bhd. • Toray Plastics (M) Sdn. Bhd.

Source: MIDA & MPA

Chemical sector output has increased steadily over the last decade at a CAGR of 3.6%[4] and represented ~0.7% of total global chemical output as of 2022[2]. The start-up of the Pengerang Integrated Complex to further boost the industry's gross output value. In 2023, sales value of the 'petroleum, chemical, rubber and plastic' sector was estimated at RM469 billion (USD103 billion), down 6% YoY in the wake of the global economic downturn that slowed demand among key end-use sectors, such as automotive and construction.

Malaysia's broader economic development provides a positive environment for the growth of the domestic chemical industry. According to the World Bank analysis[5], Malaysia's real GDP per capita is projected to increase, setting Malaysia on course to achieve a developed nation status between 2024-2028, in line with the SPV 2030. IMF forecasts Malaysia's real GDP growth to increase by 4.4% over 2024-2026, up from 3.7% in 2023. Malaysia is expected to continue to increase its chemical consumption as income grows in line with global trends.

Malaysia performs well in comparison with peers across several factors. However, there are opportunities to expand on this performance and leverage greater value moving forward, in line with the ambitions laid out by strategic plans such as the Shared Prosperity Vision (SPV) 2030, 12th Malaysia Plan (RMK-12), and the New Industrial Master Plan (NIMP).

Malaysia accounts for 1.1%[6] of global chemical-derived exports by value, below Thailand (1.6%) and Singapore (2.2%). With Malaysia's well-established industry and abundance of chemical feedstock as well as raw materials, there is a strong potential to further develop and expand its global share.

Malaysia's net equivalent trade in primary petrochemicals, i.e., olefins, aromatics, and methanol, is at a net surplus of 1200-1300 kT in 2023. The region has remained a net exporter of primary petrochemicals and their derivatives over the past decade. In Asia, Malaysia is the only country holding a net export position for methanol, which also accounts for most of its export volume. The onstream of Petronas's RAPID complex is expected to further boost production and trade.

[4] Oxford Economics
[5] World Bank, Aiming High Navigating, the next stage of Malaysia's development, March 2021
[6] UN Comtrade data; BCG analysis; Department of Statistics Malaysia (DOSM)

In August 2023, the Ministry of Investment, Trade and Industry (Malaysia) launched the country's first 'Chemicals Industry Roadmap 2030' (CIR) to unlock the sector's value in nation's socioeconomic performance. The CIR is expected to add RM40 billion cumulative incremental value to the industry's GVA—equivalent to 4.5% of GDP by 2030 (from the current 3.4%), reduce import dependence (<70% import-export ratio by 2030), achieve #1 position in the ASEAN for FDI inflow by 2030, reach 45% carbon emission reduction (vs. baseline of 2005), increase plastics recycling rate to 50% by 2030, and become the ASEAN hub for high-tech products (e.g., bioplastics, biopesticides).

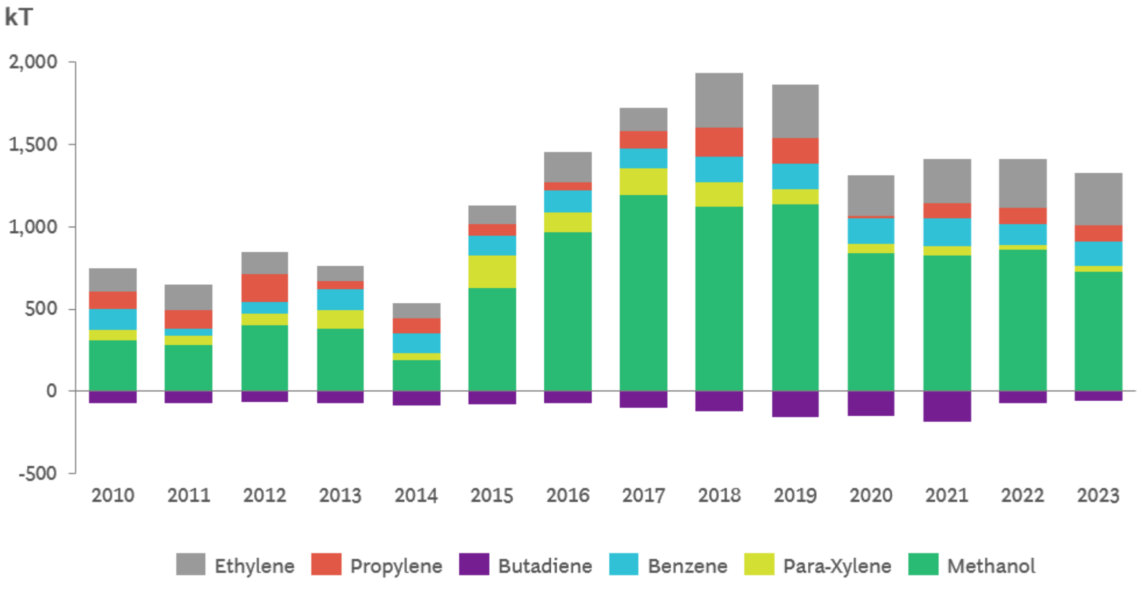
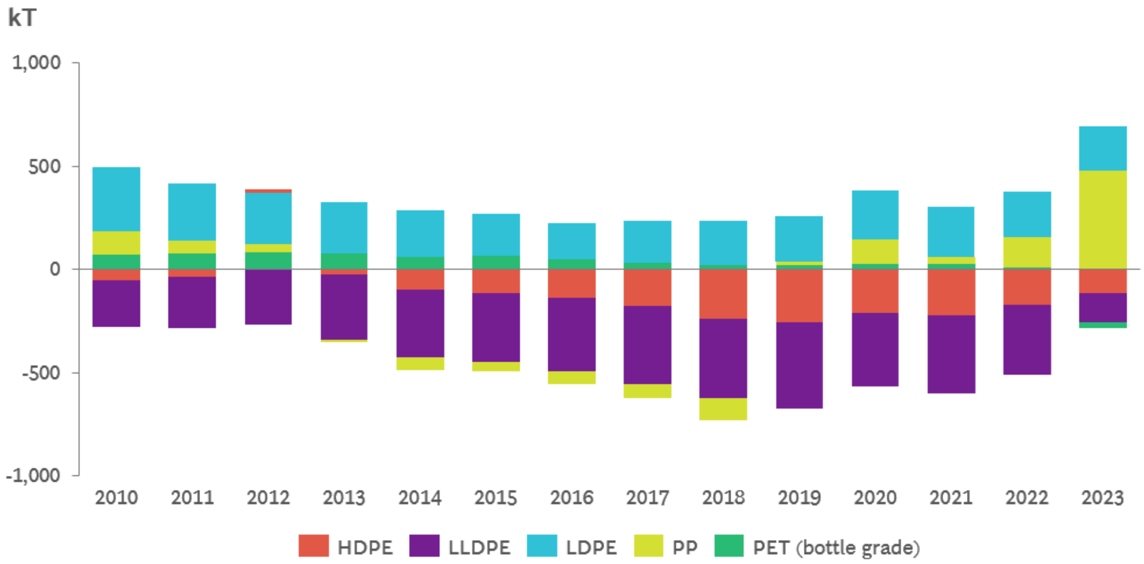


FIGURE 1: Malaysia Net Equivalent Trade (Net Exports) in Primary Petrochemicals

Over the past decade, Malaysia has continued to remain a net importer of 'plastics in primary forms' (in terms of value). However, in 2023, it reported a net surplus of ~RM1.3 billion.

In terms of volume, Malaysia has been a net importer of HDPE and LLDPE, with net imports reaching 260 in 2023 (but, down from 530 kT in 2022), primarily from Singapore, Saudi Arabia, Thailand, and Indonesia to meet domestic demand. In coming years, Malaysia is expected to balance PE with the start of the PRefChem plant (annual HDPE capacity of 400 kT), which will ease its capacity crunch and trade deficit.



Source: NexantECA; BCG ChemCom; Company Press Releases

FIGURE 2: Malaysia Net Equivalent Trade (Net Exports) in Key Polymer Resins

The country was a net importer of polypropylene before 2018, i.e., prior to the commencement of LOTTE Chemical Titan's PP production unit. The new capacity addition from PRefChem (900 ktpa of PP) is expected to further strengthen Malaysia's net exports position in the coming years.

2.2 Plastics Industry

Plastics and polymers offer the opportunity for broad downstream applications. The top five applications include consumer packaging, automotive, electronics, construction, and textile industries, with the industries consuming a range of commodities, engineering, and high-performance plastics. Packaging is the largest end-use sector, accounting for ~50% share[7] to produce plastic bags, containers, films, plates, sheets, foil, strip bottles and boxes. Established producers of plastic resins in Malaysia include LOTTE Chemical Titan, PETRONAS Chemicals Group (PCG), Kaneka, and Toray. These companies focus largely on commodity plastics (~4 mtpa[8]) such as polypropylene and polyethylene, as well as certain niche products within engineering plastics such as ABS and high-performance plastics such as PPS.

[7]Malaysian Plastics Manufacturers Association
[8]S&P Global (formerly IHS Markit); NexantECA; Company websites

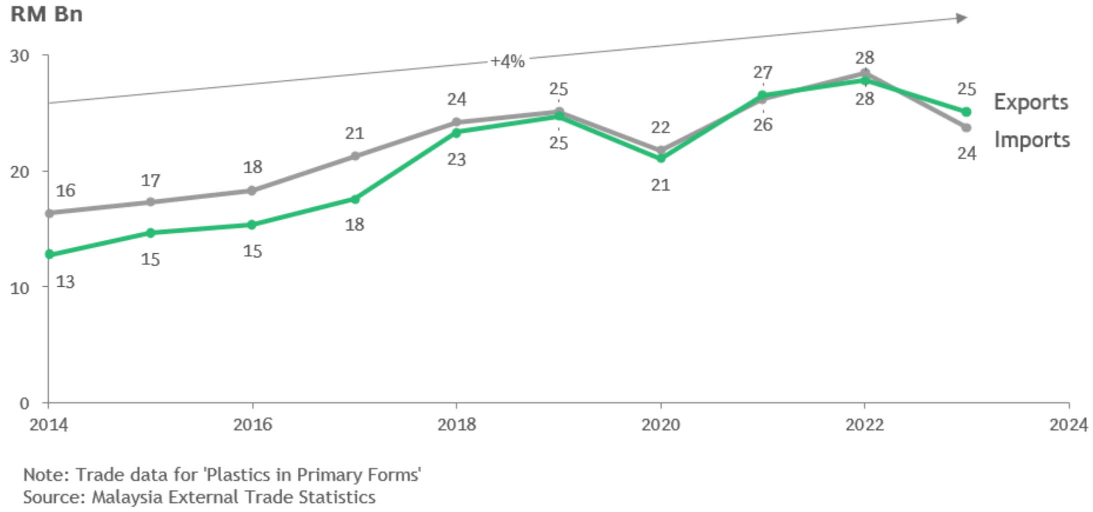


FIGURE 3: Malaysia Plastics Trade Performance

The plastics industry's sales turnover experienced a mild decline by 0.6% from RM61.80 billion in 2022 to RM61.44 billion in 2023[9] due to internal factors such as rising operating costs (e.g. energy). slowing down of consumer spending, etc. Some of the external factors that contributed to this were the softening of the global economy and the weakening of business activities in China leading to weak export demand, and the weaking of RM against the USD.

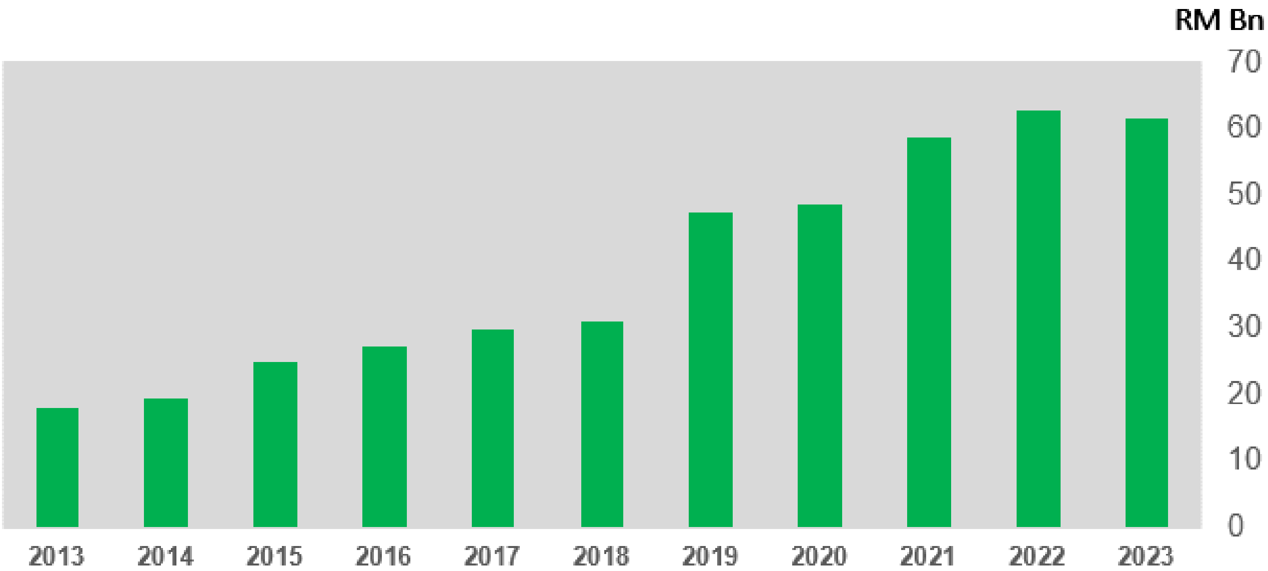


FIGURE 4: Malaysia Plastics Sales Turnover

[9] Malaysian Plastics Manufacturers Association

From a trade standpoint, Malaysia is an overall net exporter of key commodity plastics (esp. LDPE and PET), but a net importer of some engineering plastics and high-performance plastics. Higher value-add plastics are commanding strong growth within the plastics ecosystem, with the product segment forecast to grow at ~5% CAGR[7] in the next 5 years globally. Similarly, demand for engineering plastics will continue to increase at a higher than the current projections of 4.5% CAGR[10]. Global engineering plastic producers, such as BASF, Toray, and Avient Corporations have established their own compounding facilities in Malaysia, which further strengthens the demand potential for higher value-add plastics.

The trend towards circular supply chains both globally and domestically is inspiring recent shifts in focus, with Malaysia taking initial steps into recyclable products. The country has introduced plastic waste reduction regulations/policies to curb plastics waste is the country. In 2018, the Government launched a roadmap to eliminate and replace single-use plastics with biodegradable and compostable products. Key action plans include a nationwide ban on plastic bags by 2030, restriction on the use of plastic straws, and implementation of a pollution charge for single-use plastic bags at a minimum of RM0.05 in 2021.

The nation achieved a 24%[11] recycling rate in 2019, with targets to achieve 40% by 2025 as defined in various initiatives and roadmaps such as Malaysia's Plastics Sustainability Roadmap 2021-2030. In parallel, the National Biomass Strategy 2020 targets an increased production of bioplastics, in an effort to strengthen the circular economy.

Improvements to recycling ecosystems and technologies are being driven by companies such as PETRONAS Chemicals Group, Indorama, BASF, Shell, as well as start-ups like Agilyx. These companies are testing efficient mechanical and chemical recycling technologies to achieve their sustainability goals and continue to drive the growth of the plastic recycling market. For example, efforts are underway to develop economically feasible depolymerization technologies.

[10] S&P Global (formerly IHS Markit)
[11] World Bank, Market Study for Malaysia: Plastics Circularity Opportunities and Barriers, March 2021

Secondly, bioplastics, which account for less than 1%[12] of the total plastics market, are being explored as a sustainable feedstock for both food and non-food packaging. Major consumer brands such as Unilever have pledged to use 25% recycled content for their packaging needs by 2025. Asia currently produces ~1.3 mtpa of bioplastics with more than 40% going into the packaging industry. Malaysia has already initiated pilot projects generating more than 10 ktpa of production and is currently working on plans to scale up.

Plastic product design has also seen some significant improvements in sustainability in recent years. For example, upstream stakeholders (i.e., petrochemical companies, specialty chemical companies, and packaging suppliers) are developing recyclable mono-material structures to replace non-recyclable multi-material structures and other plastics. Companies such as Nestle are using thinner, innovative materials to reduce plastic use in packaging.

[12] European Bioplastics, Bioplastics market data

Chapter 3: Committee Reports

3.1 General Matters & Raw Materials Committee

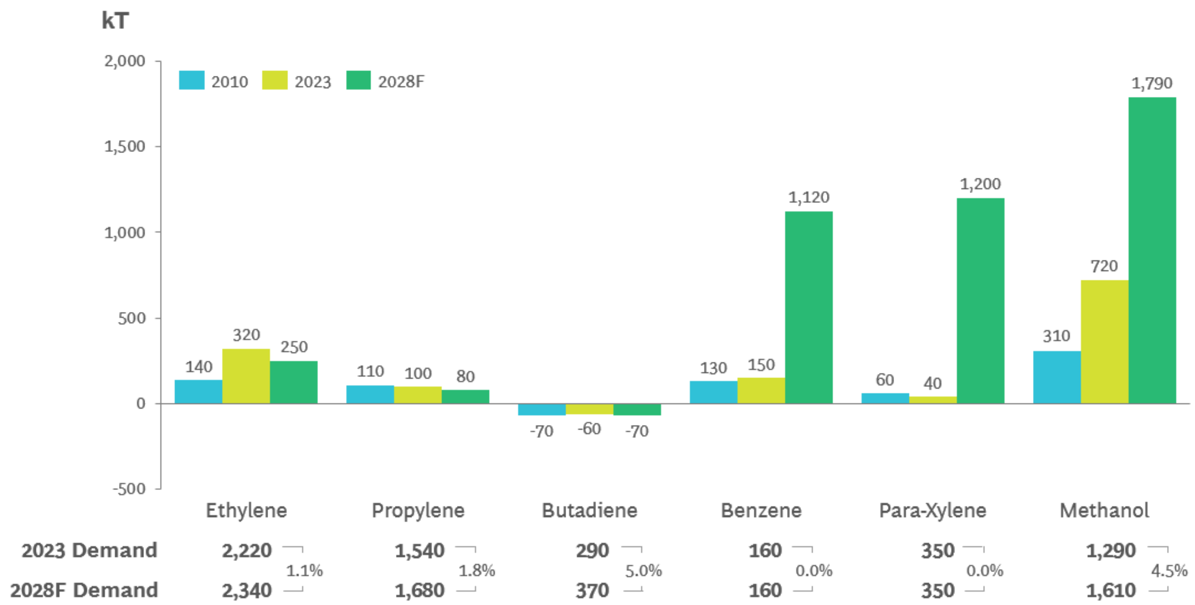
Malaysia is abundant in petrochemical building blocks, leveraging its consistent access to feedstock, which also fosters downstream opportunities. Currently, the market has less integration to downstream derivatives and thereby low domestic demand, which puts it in a surplus position and makes it a net exporter of key petrochemicals. The recent new capacity additions across the value chain, especially downstream, are anticipated to provide balance and further strengthen Malaysia's export competitiveness.

PETRONAS' Pengerang Refinery and Petrochemical (PRefChem) Complex was restarted in March 2023, with stable operations since June 2023; this is likely to significantly boost ethylene and propylene demand through the production of derivatives in the complex. The plant has the capacity to produce 1.3 million metric tons per annum (mtpa) of ethylene, along with PE and MEG. However, despite this upstream capacity addition, Malaysia is expected to remain a net importer of ethylene derivatives, particularly HDPE and LLDPE, on the back of higher demand growth.

Malaysia has a slight surplus of propylene; historically, the operating rates have remained lower than the regional average due to less integration downstream. The new PRefChem complex is expected to improve domestic demand—the propylene capacity of the plant is 1.2 mtpa, where three-quarters of the output[13] will be consumed captively to produce PP and the remaining will be supplied to the merchant market.

Malaysia is the only major butadiene-consuming country in Southeast Asia (SEA) with a net import position. The import reliance is due to limited capacity additions and relatively higher demand, primarily from nitrile rubber latex which is the key raw material for manufacturing nitrile gloves. Malaysia is the largest supplier of natural rubber and NBR gloves and has a 60-65% share[14] of the global glove market. The PRefChem complex has added 183 ktpa butadiene in 2023; however, higher demand growth (~5% CAGR over 2023-28) will not significantly displace import volumes and Malaysia is anticipated to remain a net importer of butadiene in the near future.

[13] NexantECA; BCG ChemCom; Press Releases
[14] NexantECA; S&P Global (formerly IHS Markit); Press Releases



Note: Net Exports and Demand are rounded up to the nearest 10
Source: NexantECA; S&P Global (formerly IHS Markit); BCG ChemCom; Company Press Releases

FIGURE 5: Malaysia Net Equivalent Trade in Primary Petrochemicals

Petronas (Kerteh) and Mitsubishi (Kerteh) are the two producers of para-xylene (PX) in Malaysia, with a combined capacity of 540 ktpa. The PRefChem complex does not include any new PX capacity, however, a new refinery complex has been announced. Pengerang Energy Complex (PEC) has announced plans to set up an integrated aromatics complex consisting of 1,680 ktpa PX and 656 ktpa of benzene; it will come on-stream by 2027. The Pengerang complex of Petronas will add 300 ktpa of benzene capacity from 2025. In the near term, domestic demand for aromatics (i.e., benzene and PX) are expected to remain stable, but new capacity additions are targeted to significantly improve Malaysia's export position.

Malaysia is the only country in the Asia Pacific that holds a net export position for methanol. It has the largest capacity in Southeast Asia, accounting for ~80% share, with a demand of 1.3 mtpa in 2023. Currently, the country operates 2 facilities owned by PETRONAS with a combined capacity of 2.4 mtpa. The new Sarawak Petchem plant is scheduled to come into operation in 2024-25 and add 1.75 mtpa of new capacity, which will significantly boost exports.

3.2 Polyolefins Committee

Polyethylene (PE) and Polypropylene (PP) are high-volume commodity thermoplastics together accounting for 14.5 mtpa[15] demand in Southeast Asia in 2023. Because of their broad range of properties, they find applications in several end-use industries such as consumer goods, construction, automotive, and electronics.

The global PE market has witnessed several structural changes over the past few decades, mainly on unprecedented capacity buildup in China, the Middle East and the US as the regions pushed to improve their self-sufficiency (China consumes 35%+ of global PE production)[13] and exports competitiveness on the back of low-cost feedstock advantage (the ME and the US are the largest PE exporters).

Southeast Asia is a net exporter of PE; has a significant surplus in LLDPE but is deficit in HDPE and LDPE. The region is the largest producer of HDPE films and sheets after mainland China, consuming ~1.7 mtpa (or ~47%) of HDPE resin to produce films in 2023[13]. The demand is expected to rise, especially from Indonesia and Vietnam, however, relatively limited capacity expansions planned in these countries to drive imports.

Malaysia is a net importer of PE, primarily HDPE and LLDPE, led by high demand for films and sheets. Within Southeast Asia, Malaysia holds the 3rd largest position in HDPE with a 15% capacity share (595 kT) and is expanding significantly. PRefChem plant to add 400 ktpa of HDPE and 300 ktpa of LLDPE capacities during 2024-25. However, the country is expected to remain a net importer on the back of high (6%+ CAGR) demand growth over 2023-28, primarily driven by application in films. Net imports are forecast to surge from ~120 ktpa in 2023 to ~250 ktpa in 2028.

[15]NexantECA; S&P Global (formerly IHS Markit); BCG ChemCom; Press Releases

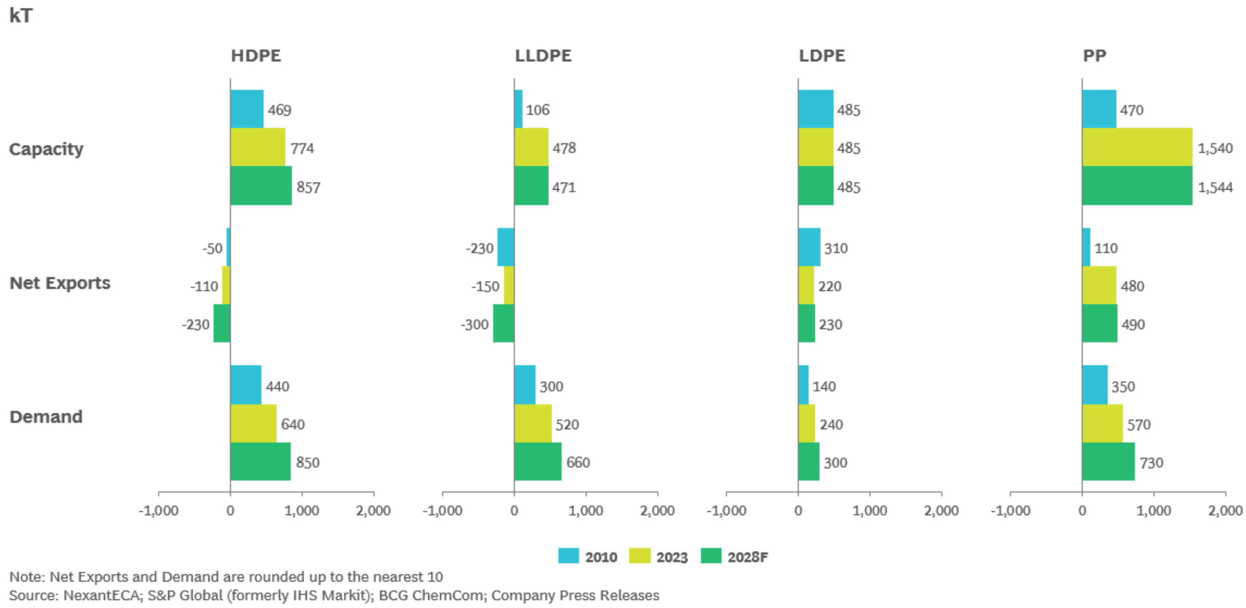


FIGURE 6: Malaysia Polyolefins Market Dynamics

LLDPE has registered the strongest growth among all PE resins over the last few years, driven mostly by film applications in food packaging. The overall LLDPE market in Malaysia was 518 ktpa in 2023, posting YoY demand growth of 3.4%. In the short-term, on-going expansion of e-commerce and adoption of packaged food within Malaysia are expected to contribute to 5%+ CAGR LLDPE demand growth over 2023-28.

The country is the 2nd largest producer of LDPE in Southeast Asia, with two producers (LOTTE Chemical Titan and Petronas Chemicals) adding a total capacity of 485 ktpa[13]. No new LDPE capacity additions are expected in the near term; with domestic demand growth of 4.5% CAGR to 300 ktpa over 2023-28, Malaysia will continue to maintain its net export position.

Southeast Asia has witnessed several major PP expansions in the last few years, doubling its capacity since 2010. Malaysia, in particular, has expanded its PP capacity fourfold with the commissioning of a 900 ktpa plant at Pengerang. In 2023, Malaysia's PP demand reached 572 ktpa, representing a steady recovery of ~5% YoY. However, the operating rate was subdued at 68% in 2023 due to higher feedstock costs, oversupply (significant capacity additions in China, ~4.2 mtpa in 2023) and decline in demand in the wake of economic downturn. In the longer term, operating rates to range between 75% and 80% with local as well as global demand recovery.

In Malaysia, PP is predominantly used in injection molding applications, representing ~45% of the demand. With the new capacity additions by the converters, it is expected to drive the PP consumption further Malaysia (5% CAGR over 2023-28).

In 2022, PETRONAS Chemicals Group (PCG) and ExxonMobil signed an MoU to assess the potential for a large-scale advanced plastics recycling technology in Malaysia with the objective of a circular economy for plastics. The companies are also evaluating opportunities to support improvements to plastic waste collection and sorting in the country.

At present, HDPE has the highest recycling rates among all PE resins as rigid packaging is relatively easier to collect compared to flexibles. Recycled HDPE is currently used to produce construction parts in Malaysia; in 2021, the country consumed ~140 ktpa of rHDPE—highest in the Southeast Asia.

3.3 Styrenics Committee

Styrene is a crucial intermediate chemical used in the production of a wide range of high-value polymer derivatives, including commodity and engineering plastics, as well as synthetic rubber. These derivatives find applications in various industries such as electronics, household goods, automotive, construction, healthcare, and packaging. Styrene is also one of the highly traded commodities with almost a quarter of production transported globally.

Southeast Asia has been a net exporter of styrene and is expected to continue to be so in the near future, driven by surplus capacity and positive demand growth for derivatives worldwide. The Malaysian styrene market, which represents 10-12% of the Southeast Asia's capacity[16], has been structurally deficient with only one producer, Idemitsu SM, catering to the market. Approximately 40% of Idemitsu's styrene output[14] is used captively for High Impact Polystyrene (HIPS) production, while rest of the SM is supplied to the domestic merchant market and exported to Southeast Asia and India.

Toray Plastics is the largest styrene consumer in Malaysia, primarily sourcing intermediate chemical from the Middle East. Although there are no anticipated capacity additions in near future, Malaysia is anticipated to remain a net importer due to growing demand in the end-use markets.

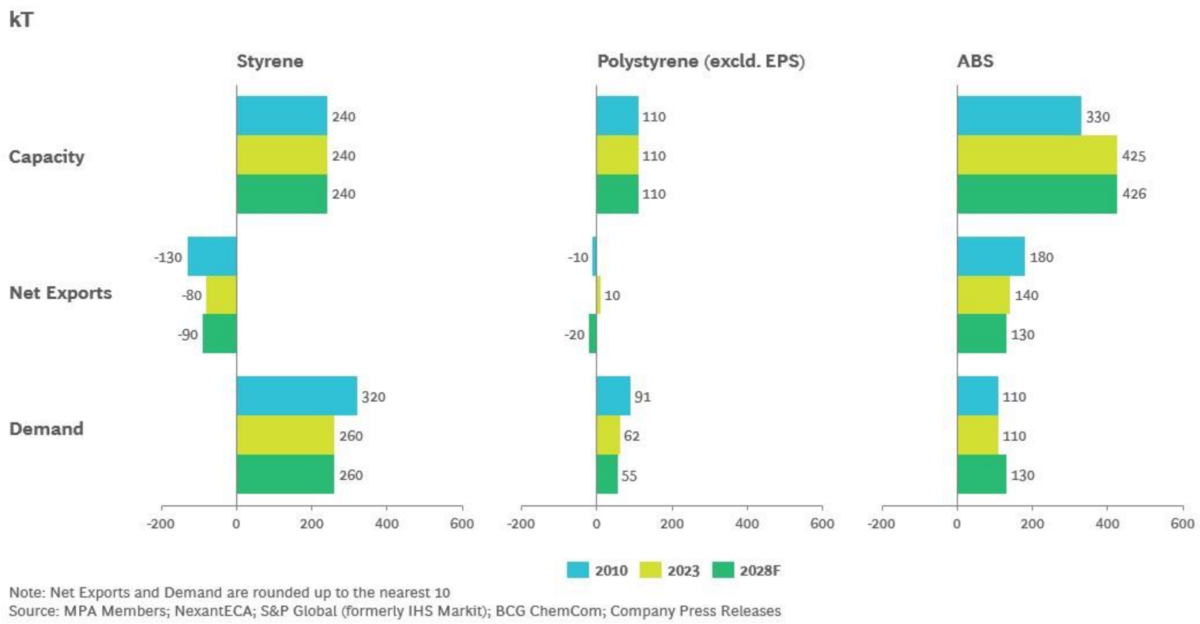


FIGURE 7: Malaysia Styrenics Market Dynamics

[16]NexantECA; S&P Global (formerly IHS Markit); BCG ChemCom; Press Releases

Polystyrene (PS), a thermoplastic polymer, is the largest end application of styrene globally; more than 40% of styrene (~500 kT) in Southeast Asia was consumed for PS production in 2023[17]. However, in Malaysia, PS is the second largest application segment, with 100-105 kT (or 40%) of styrene used for its production. The demand is evenly spread across consumer goods, electronics, and packaging sectors. HIPS accounts for 60% of the Malaysian PS market, while the remaining portion goes into General Purpose Polystyrene (GPPS), which is mainly used to produce food packaging. The majority of PS imports in Malaysia are of GPPS grade due to absence of local production.

HIPS is expected to lead demand growth due to the presence of many electronics and appliances OEMs, such as Panasonic and Sony located in Malaysia and Southeast Asia. However, the application of PS in the food packaging sector is facing the threat of substitution from polyolefins and paper, as the government has introduced policies to reduce the use of non-biodegradable packaging.

Acrylonitrile Butadiene Styrene (ABS), an engineering thermoplastic resin, is the largest end-user of styrene (55% or ~140 kT in 2023) in Malaysia. Key application industries are electronics and consumer goods, accounting for ~75% of the domestic demand. Malaysia represents more than half of the Southeast Asia ABS capacity and is a net exporter; the investments in the segment are driven by rapid demand growth globally and within the region. In 2023, the market witnessed a significant downturn on the back of slow demand both globally and locally; the Malaysian ABS plants operated at just ~60% capacity compared with pre-Covid (2019) levels of ~90%.

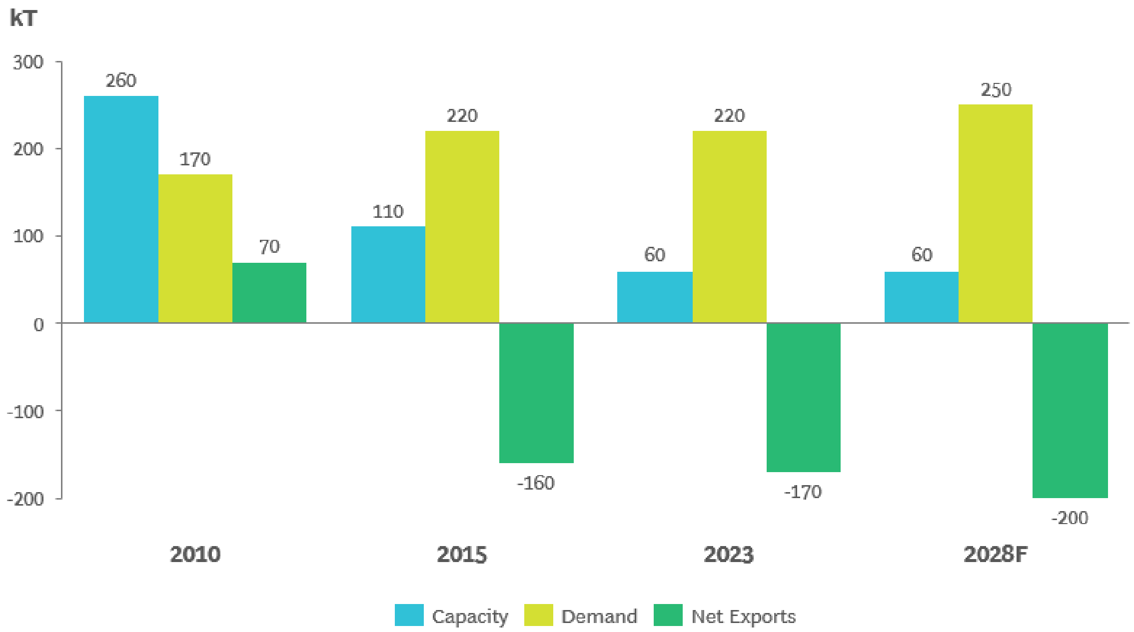
The ABS market faces competition from polypropylene in the thermoformed packaging segment. Additionally, HIPS has been replacing ABS in the refrigerator liner market due to cost considerations. However, ABS resin consumption in Southeast Asia is expected to grow at an average annual rate of 4-5% in the next 5 years, on the back of the recovering end-use automotive sector, with Malaysia expected to maintain its export competitiveness.

[17] NexantECA; S&P Global (formerly IHS Markit); BCG ChemCom; Press Releases

3.4 PVC Committee

Polyvinyl chloride (PVC) is the third largest consumed plastic globally, after PE and PP. Its versatile performance characteristics, such as mechanical strength, water resistance, inherent fire retardancy, and electrical insulating properties, make it a suitable choice for a wide range of applications, from rigid pipes used in the construction sector to thin, crystal-clear films for packaging. PVC is also preferred over commodity plastics, such as polyolefins, in certain applications due to ease of processibility. The major uses of PVC are in the construction sector, including pipes, fittings, and sidings, and its demand tends to track the regional GDP growth.

Over 60% of PVC's composition is based on chlorine, which is derived from salt and is co-produced with caustic soda. Hence, factors such as transportation constraints related to chlorine, demand for caustic soda, cost of energy, availability of ethylene, etc., are considered while determining the setup of a manufacturing plant for the feedstocks, i.e., ethylene dichloride (EDC) and vinyl chloride monomer (VCM).



Note: Net Exports and Demand are rounded up to the nearest 10
Source: NexantECA; S&P Global (formerly IHS Markit); BCG ChemCom; Company Press Releases

FIGURE 8: Malaysia PVC Market Dynamics

In Malaysia, all the demand for EDC and VCM is met through imports as there are no producers of these feedstocks. Kaneka Paste Polymers is the sole PVC producer in Malaysia, producing emulsion PVC with a capacity of 60 ktpa. The company sources VCM from Japan and Indonesia.[18]

Malaysia primarily exports emulsion PVC, while suspension PVC is imported from China, Indonesia, and Thailand. Domestic demand for PVC is expected to grow at a 3% CAGR in the next 5 years, which will be primarily met through imports; no new capacity additions are anticipated due to the lack of upstream integration.[19]

[18]NexantECA; S&P Global (formerly IHS Markit); BCG ChemCom; Press Releases
[19]NexantECA; S&P Global (formerly IHS Markit); BCG ChemCom; Press Releases

3.5 Synthetic Rubber Committee

Synthetic rubber has a wide range of applications in Malaysia, including in the automotive industry for tire production, construction for pipes, healthcare for gloves and sports venues for floor coverings. The downstream applications of synthetic rubber are expected to contribute approximately ~RM170 Billion to Malaysia's cumulative GDP, encompassing all four major types of rubbers: Styrene Butadiene Rubber (SBR), polybutadiene, nitrile elastomers, and polyisoprene.

Malaysia is set to fully capitalize on the large feedstock availability, with around 180 ktpa of butadiene produced locally by PRefChem in Johor. Other major producers of synthetic rubber in Malaysia include Lotte UBE (a subsidiary of LOTTE Chemical), which is a main producer of polybutadiene, and Synthomer, which is the main producer of nitrile elastomers.

Currently, Malaysia relies heavily on imports of synthetic rubber across all key types, with a significant dependence on imports of nitrile elastomers, amounting to 430 ktpa in 2022[17]. The majority of these imports are sourced from Asia Pacific countries such as South Korea and Japan.

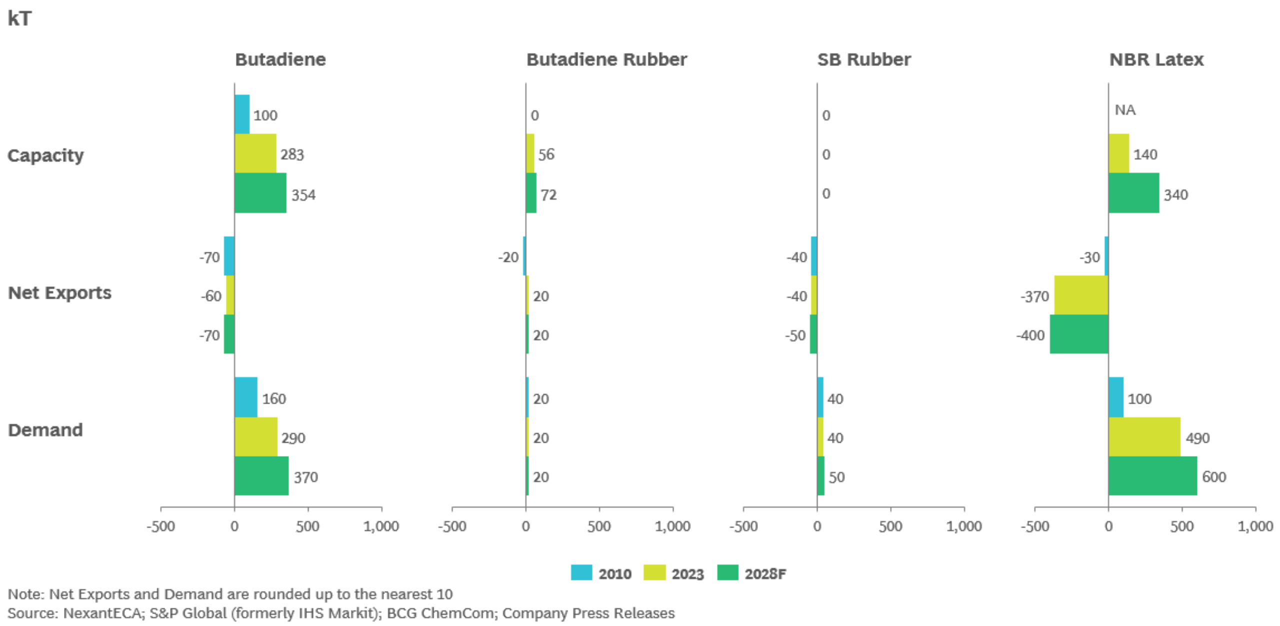


FIGURE 9: Malaysia Synthetic Rubber Market Dynamics

Malaysia's trade position in synthetic rubber is similar to other Southeast Asian countries, with most of them being net importers of synthetic rubber. However, there are ongoing efforts to expand domestic production capacity to meet the growing demand. For example, PETRONAS and LG Chemical have commenced the construction of a new NBR latex plant in Johor. The new plant will have a capacity of 200 ktpa[20] (wet basis) and aims to meet domestic demand for glove manufacturing.

Despite the capacity addition, the domestic demand for NBR latexes in Malaysia is growing at an average annual rate (ARR) of ~5%; this suggests that while the new plant will contribute to enhancing domestic production capacity, Malaysia may continue to rely on imports to meet the increasing demand for NBR latexes in the country.

Globally, three major trends are influencing market growth. Firstly, the downstream tyre and automotive sectors are requiring higher quality synthetic rubber. Secondly, the demand for synthetic rubber has structurally increased post-pandemic, with major shifts in consumer attitudes towards health driving increased demand for synthetic rubber for glove production beyond healthcare settings. Thirdly, rising sustainability concerns are also incentivizing the development of eco-friendly synthetic rubber and promoting circular economy practices through the recycling and recovery of useful chemicals from both dry and latex rubber waste.

[20] NexantECA; S&P Global (formerly IHS Markit); BCG ChemCom; Press Releases

3.6 Synthetic Fiber Raw Materials Committee

Mono ethylene Glycol (MEG) is a highly traded organic compound accounting for over 90% of the volume share in the Ethylene Glycol market[18]. Its demand primarily tracks polyester as almost 90% of its production goes into it, which is subsequently used in the manufacturing of fibres, films, solid-state resins, etc., Most of the plants produce around 10% of Diethylene Glycol (DEG) and approximately of 1% of Triethylene Glycol (TEG) per ton of MEG produced. As MEG demand heavily outpaces that of DEG and TEG, the co-products are largely sold at a discount to MEG. Most of the new export-oriented Glycol projects are using improved processes, such as Shell's OMEGA process that provide MEG yield of more than 99%.

Global MEG demand growth is driven by the expansion of the PET fiber market, esp. in China. Large capacity additions in China along with downstream competitiveness is eroding demand for MEG in other regions. MEG operating rate in Southeast Asia, dropped from 90% in 2021 to 55-60% in 2022 and 75% in 2023. During 2023-28, the MEG consumption in the region is forecast to grow at just ~2% CAGR; plant operating rate to range between 60% and 65% during 2024-28.

In Malaysia, MEG demand has been under pressure due to declining fibre production, resulting in limited domestic consumption growth, <3% CAGR over 2023-28. Currently, PET melt phase demand is evenly split between PET bottle resin production and PET fibre. Pre-covid, regional and local demand had been relatively stable, and the market had majorly been export-oriented with plants operating at 85-90% capacity[18]. However, huge capacity additions in China along with growing competitiveness of the downstream PET market has been the major factor in subduing demand growth in other regions, including SEA; operating rates of Malaysia MEG plants dropped to 65-68% in 2022, and 55-58% in 2023. The new PETRONAS cracker project includes a large MEG plant with a capacity of 740 ktpa[21] and occupies a large portion of the regional supply. The plant operating rates in Malaysia are expected to be <80% during 2024-28, and it will continue to be the net exporter serving regional demand, esp. from Indonesia, Vietnam, and Thailand.

PETRONAS Chemicals Glycols Sdn Bhd (a subsidiary of PETRONAS) is the sole producer of Ethylene Oxide, a precursor of MEG, in Malaysia. The new PETRONAS complex has added 592 ktpa of EO capacity[19].

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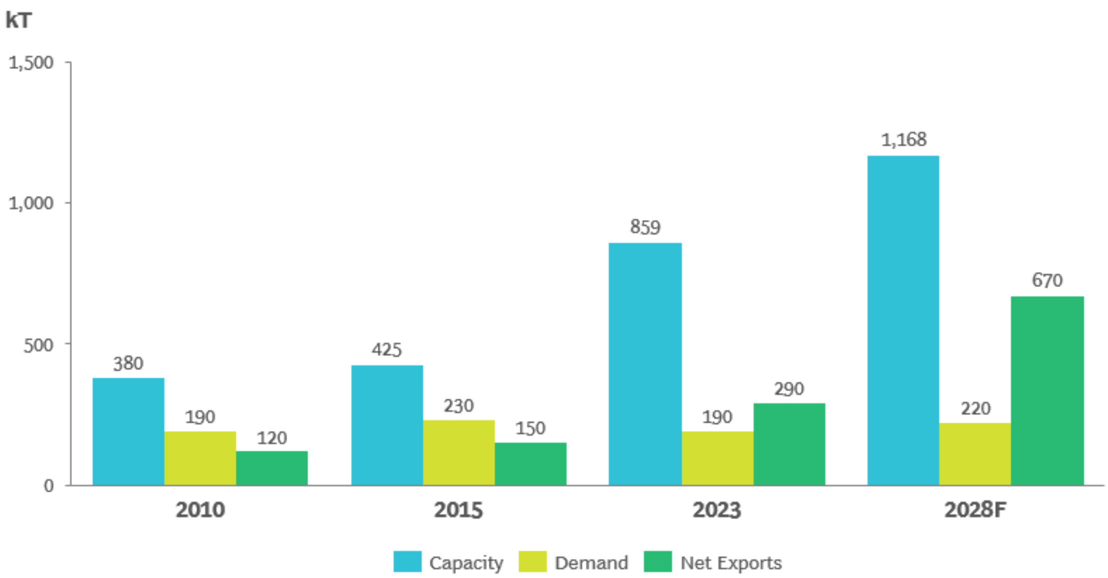
[21]NexantECA; S&P Global (formerly IHS Markit); BCG ChemCom; Press Releases



Note: Net Exports and Demand are rounded up to the nearest 10
Source: NexantECA; S&P Global (formerly IHS Markit); BCG ChemCom; Company Press Releases

FIGURE 10: Malaysia MEG Market Dynamics

Terephthalic acid (PTA) is another crucial feedstock that is reacted with MEG and then polymerized to produce PET/polyester fiber. The PTA market in Malaysia is relatively small compared with Thailand and Indonesia, due to stagnant growth in fiber production caused by high costs relative to imports. Limited growth is expected in the near future due to the highly competitive exports market.

3.7 Chemicals Committee

Malaysia's chemical sector represents a critical engine of national growth, contributing 7% in total (~RM130 Billion) to the national GDP in 2023 (including petroleum, chemical, rubber and plastic products)[22]. This contribution has been relatively stable at around 4% since 2015. The sector accounted for 8% of total export value in 2022, with a contribution valued at approximately ~RM126 billion[20].

The chemical sector remains a major source for FDI, accounting for about 11% of Malaysia's total FDI over the five years from 2015-2019[20]. In 2021, the sector accounted for 7% share; this dropped to 2% (of the total net FDI flow) in 2022 on the back of global economic downturn and the subdued chemicals market.

The chemical sector is also a major catalyst for national socio-economic development. The industry (i.e., Petroleum, Chemical, Rubber and Plastics) directly employed 431,568 people in 2023, representing 18% of the total manufacturing sector workforce[23], and delivering a positive ecosystem impact across other industries.

A vibrant domestic chemical industry is paramount to competitive downstream industries within Malaysia. The automotive, construction, electrical and electronics, as well as agriculture, are among the many industries that benefit from the adjacent success of Malaysia's chemical industry, with access to high-quality chemicals and solutions that drive global competitiveness. For example, the chemical industry's plastics and synthetic rubber sub-sectors provide products that are utilized for a range of applications within the automotive industry. Malaysia's key manufacturing industries also benefit from the presence of a strong domestic chemical industry, which acts as a critical raw material provider, sustainability enabler, and technology and innovation partner.

Malaysia's investment landscape compares favorably to its regional neighbors in terms of support for FDI, with a number of established incentive levers in place designed to stimulate foreign investment. This includes corporate income tax exemptions for qualifying investments, import duty exemptions on raw materials, and research and development incentives. The presence of Pioneer Status incentives offers a five-year 70% to 100% tax exemption on statutory income to enable early growth for promising companies. Investment allowance offers further tax relief for qualifying

[22] Department of Statistics Malaysia
[23] Department of Statistics Malaysia

companies in order to encourage investment. Malaysia's intellectual property incentives also set it apart in the region, with a full tax exemption on intellectual property income for a ten-year period.

Between 2010-2020, Malaysia's chemical industry attracted USD9.1 billion[21] in inflows with a significant proportion of these investments attributed to megaprojects such as the Pengerang Integrated Complex (PIC). This value was about three times the inflows of Thailand (USD3.2 billion) across the same period and compared favorably to established chemical-producing countries such as Germany (USD6.0 Billion) and Netherlands (USD6.5 Billion).

Malaysia's FDI inflow was captured across 81 individual chemical projects, compared to over 100 projects in Thailand and over 300 in Germany. While the overall FDI trend is positive, it demonstrated an overreliance on megaprojects, hence, a sustainable pipeline of fresh chemical projects is required to ensure continued positive FDI inflows over the coming decade.

3.8. Sustainability & Circular Economy Committee

Sustainability is an increasingly vital part of both the national and industrial agendas. It is a critical pre-requisite for nations as they seek to future-proof the global economy, reflecting both persistent changes in consumer expectations, and the responsibility to provide socio-economic growth while mitigating the impact on the planet.

The accelerating pace of sustainability efforts driven by regulation and consumer expectations is changing the demand landscape. At the same time, the supply chain is shifting towards sustainable, low-carbon operations that are altering the existing industry dynamics. The chemical industry is already shifting towards a more circular and integrated ecosystem in response to these challenges, with recyclability, amongst other topics, becoming an increasingly pressing concern for investors. Bio-based feedstocks may also play a crucial role for the chemical industry in responding to these sustainability demands.

The chemical industry accounted for 15%[24] of the global share of industrial CO_2 emissions in 2021. The direct CO2 emissions from primary chemical production have stayed constant at around ~935 million metric tons[22] in 2022, largely due to production levels remaining stagnant. This is in tandem with a relatively stable primary chemicals CO2 intensity over recent years, at ~1.3 t CO2 per tonne[22] of primary chemicals. The industry's sustainability impact is also highlighted by the projected 973mil tonnes[25] of plastic waste in the world's oceans by 2050. Without intervention and adoption of appropriate measures, the growing demand for chemicals in everyday life will lead to an even greater impact on the planet through an expanding chemical industry footprint. The CO_2 intensity of the industry grew by 4.4% CAGR[26] between 2013-2017, and energy intensity grew by 2.9% CAGR over the same period. The use of water resources is also a major area of concern, growing at 0.2% CAGR, while waste intensity grew at 1.2% CAGR. A dramatic response is needed to improve the sustainability of our economies.

While investing in a transition to enhance sustainability undoubtedly comes with initial upfront costs, it will ultimately unlock significant long-term economic value[27] for companies and the country, particularly those that move quickly to capture market opportunities. Companies that achieve sustainability targets ahead of regulations could benefit from a ~5% revenue equivalent uplift, avoiding potential carbon tax costs at an assumed USD 50/tonne of CO_2. Increasing the reuse and

[24] International Energy Agency
[25] World Economic Forum, The New Plastics Economy Rethinking the future of plastics, January 2016
[26] Refinitiv
[27] AISI; BCG

recycling of plastics could also provide a pathway to extracting significant value, with an estimated USD60 Billion profit pool over the next 10 to 15 years generated in the petrochemical sector by investing in circular plastic practices.

Enhancing sustainability credentials also places businesses in favorable positions with investors, who are increasingly looking for more socially, environmentally, and economically positive investment opportunities, offering a potential 12% value premium for chemical companies with lower carbon intensity. These sustainability credentials also influence changing customer demand in growing markets, with ~15% CAGR expected in 2016-2050 for recovered and recycled plastics, far above the 1% expected in virgin plastic products.

Investing in adaptability has a further ecosystem benefit of boosting flexibility through innovation, generating significant potential R&D benefits. There is an estimated five-fold cost-benefit ratio through investing in more resilient infrastructure and water management, aside from the broader benefits around competitiveness and market attractiveness.

Malaysia has a strong history of supporting the sustainability agenda, with a number of present and planned policies aimed at tackling the resource intensity of the economy. The new National Energy Policy identifies the optimization of energy resources and enhancement of the energy sector's contribution to environmental sustainability as two of four key strategic thrusts. It sets out a vision to boost macroeconomic resilience and energy security while enhancing social equitability and affordability, all while respecting environmental sustainability. Other contemporary efforts are outlined in KASA's Plastics Sustainability Roadmap 2021-2030 and Roadmap Towards Zero Single-Use Plastics 2018-2030. These roadmaps offer a positive vision of a greener Malaysia, working to reduce the resource burden of the economy and ensure sustainable growth for the benefit of all.

Malaysia's commitment to the sustainability agenda is also apparent in its Nationally Determined Contributions to the Paris Climate Agreement, in which it committed to a reduction of greenhouse gases by 35% by 2030 relative to the emissions intensity of 2005, or up to 45% conditionally to international support[28]. In August 2021, Malaysia increased its ambitions under this agreement, targeting unconditional reductions of 45%[29], once again demonstrating its commitment towards the

[28]United Nations Framework Convention on Climate Change

[29]The Edge Markets, Malaysia updates NDC to reduce intensity of unconditional greenhouse gas emissions by 45%, August 2021: https://www.theedgemarkets.com/article/malaysia-updates-ndc-reduce-intensity-unconditional-greenhouse-gas-emissions-45

sustainability agenda. In September, Malaysia further announced its goal to become carbon neutral as early as 2050.

Major companies based in Malaysia have also taken proactive steps to improve sustainability in line with this agenda. PETRONAS recently pledged to achieve net-zero carbon emissions by 2050. Similarly, Tenaga National Berhad (TNB) launched its sustainability pathway setting out its ambitions to expand the installed capacity of renewable energy within its energy portfolio. It is clear that the sustainability agenda is one which is actively being adopted by both private and public organizations.

In October 2023, Petronas Chemicals Group (PCG) announced to have reached the final investment decision to construct Asia's largest advanced chemical recycling plant with a capacity of 33 ktpa in Pengerang, Johor; it will be operational by H1 2026. In February 2024, PCG and Sarawak Petchem announced to have signed a MOU to carry out a joint feasibility study for a low-carbon ammonia and urea project at Bintulu in Sarawak, Malaysia. In another development, Idemitsu Kosan has obtained the International Sustainability & Carbon Certification (ISCC) Plus certification for renewable styrene and HIPS produced by its two Malaysian subsidiaries [i.e., Idemitsu SM (Malaysia) Bhd. and Petrochemicals (Malaysia) Bhd.].

The industry will seek opportunities to improve sustainability through the modernization of the chemical value chain and industry operations, alongside the adoption of innovative new methods, processes, and technologies, while strengthening commercialization. The successful development of the circular economy will continue to require stronger regulatory support and enhanced incentive mechanisms, backed by an ecosystem of innovative players.

Chapter 4: Malaysian Petrochemicals Association

The Malaysian Petrochemicals Association (MPA) was officially formed on March 19, 1997 and it is a formal association registered with the Registrar of Societies, Malaysia. MPA has 26 members engaged in the manufacture and trading of petrochemicals and plastic resins.

The main objectives of MPA are:

- To provide a forum to discuss and resolve common problems of the petrochemical industry.
- To provide a focal point for the petrochemical industry to liaise with the public and government and to make recommendations on relevant issues.
- To advance the philosophy of Responsible Care, its implementation and compliance throughout the industry.
- To represent the petrochemical industry within Malaysia to interface with similar groups on international basis.
- To compile and disseminate information of common concerns and provide facilities for consultation and exchange of views between members.

4.1 Members

1. Air Liquide Global E&C Solutions Malaysia Sdn Bhd
2. Ancom Kimia Sdn Bhd
3. Aramco Overseas Malaysia Sdn Bhd
4. BASF (M) Sdn Bhd
5. BASF PETRONAS Chemicals Sdn Bhd
6. Dairen Chemical (M) Sdn Bhd
7. Excel Provisions Sdn Bhd
8. Exxonmobil Chemical Malaysia Sdn Bhd
9. Idemitsu Chemicals (M) Sdn Bhd
10. Kaneka (Malaysia) Sdn Bhd
11. KOPETRO Trading & Services Sdn Bhd
12. Lotte Chemical Titan (M) Sdn Bhd
13. Mitsubishi Corporation Kuala Lumpur Branch
14. Mogas Sdn Bhd
15. Optimistic Organic Sdn Bhd
16. Pengerang Petrochemical Company Sdn Bhd
17. Petrochemicals (M) Sdn Bhd
18. PETRONAS Chemicals Derivatives Sdn Bhd
19. PETRONAS Chemicals Ethylene Sdn Bhd
20. PETRONAS Chemicals Group Berhad
21. PETRONAS Chemicals LDPE Sdn Bhd
22. PETRONAS Chemicals MTBE Sdn Bhd
23. Poratha Corporation Sdn Bhd
24. Recron (Malaysia) Sdn Bhd
25. Satake Technologies Sdn Bhd
26. Technip Energies (M) Sdn Bhd
27. Toray Plastics (M) Sdn Bhd

4.2 Secretariat

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E-mail: info@mpa.org.my
Website: www.mpa.org.my
Facebook: www.facebook.com/mpa.org.my

4.3 MPA Council (2023-2025)

MR. SHAKEEL AHMAD KHAN
PETRONAS Chemicals Group Berhad

President

MR. PHILIP KONG
Lotte Chemical Titan (M) Sdn Bhd

Vice President

MR. SHAZALI BIN WOSNIN
PETRONAS Chemicals LDPE Sdn Bhd

Honorary Secretary

MR. LIM BOON HOE
Petrochemicals (M) Sdn Bhd

Treasurer

Council Members:

MR. MARKO OLAVI MURTONEN
BASF PETRONAS Chemicals Sdn Bhd

MR. ARIF HAKIMI MOHAMMAD NAIM
BASF (M) Sdn Bhd

MR. YUKI ARAO
Idemitsu Chemicals (M) Sdn Bhd

MR. SYED AHMAD BIN SYED IDRUS ALHABSHI
Kaneka (Malaysia) Sdn Bhd

MR. AMBRISH KUMAR MAHESWARI
Optimistic Organic Sdn Bhd

MS. FILZAH AINI BINTI SAAD
Pengerang Petrochemical Company Sdn Bhd

MR. LEE CHUN JOO
PETRONAS Chemicals Derivatives Sdn Bhd

MR. ZAKI AZZUDDIN B AHMAD ZAIDEE
PETRONAS Chemicals MTBE Sdn Bhd

MR. HEMANT KEDIA
Recron Malaysia Sdn Bhd

MR. SABRI BIN AWANG RAHIM
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