



MALAYSIA PETROCHEMICAL COUNTRY REPORT 2025

ASIA PETROCHEMICAL INDUSTRY
CONFERENCE (APIC 2026)

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Chapter 1: Malaysian Economy

1.1 Overview of Malaysian Economy in 2025

Malaysia's economy in 2025 remained resilient and broadly stable, underpinned by strong domestic demand, sustained investments, and recovering external trade. GDP growth reached 5.2%, supported by private consumption, investment expansion, and export growth, particularly in the electrical and electronics (E&E) sector. Driven by private sector investments and consumer spending, the nation successfully navigated global headwinds while keeping inflation modest. Domestic demand remained the key growth anchor, driven by a strong labour market, income-support measures, and steady household spending. Inflation stayed moderate (around 1.3–2.3%), reflecting stable energy prices and policy measures despite global cost pressures. From a manufacturing perspective, the sector continued to expand, supported by:

- Strong global demand for E&E and high-tech products
- Increased output of consumer and intermediate goods
- Ongoing industrial upgrading under national policies such as the New Industrial Master Plan 2030 (NIMP 2030)

However, the operating environment became more challenging mainly due to:

- Geopolitical tensions (e.g. energy supply disruptions)
- Cost pressures from inputs and logistics
- Softening external demand

1.2 Trade Performance in 2025

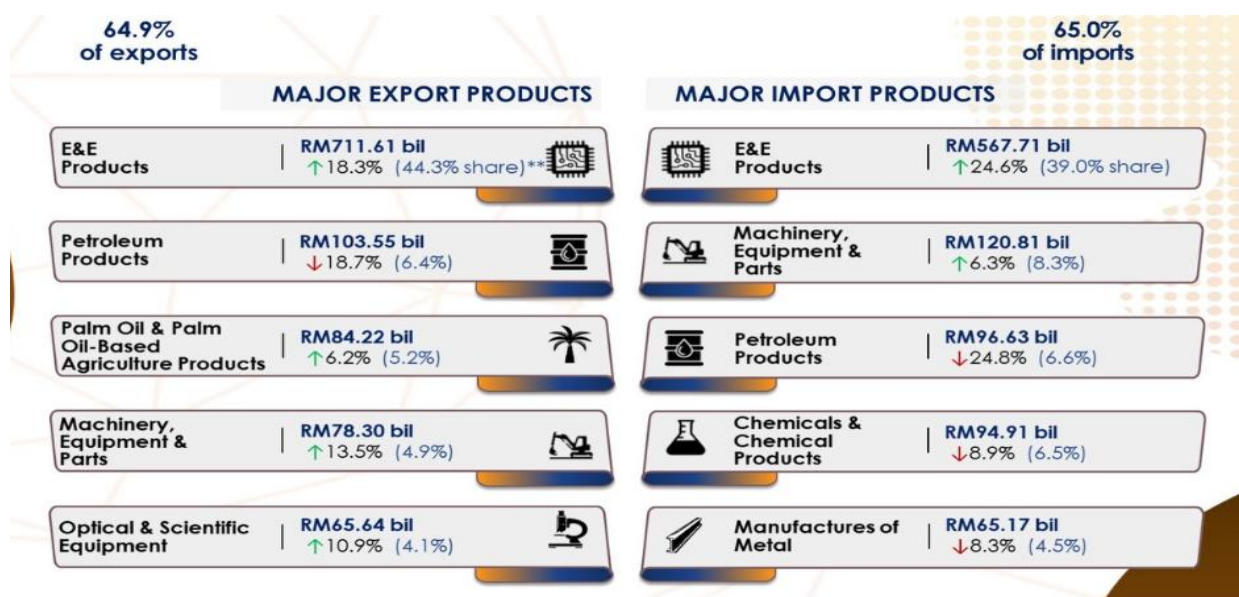
According to MATRADE, Malaysia's trade performance reached historical levels in 2025, registering the highest trade, export and import values on record and underscoring the nation's resilience and competitiveness amid an increasingly uncertain global trade environment. Total trade surpassed the RM3 trillion mark for the first time, amounting to RM3.061 trillion, a 6.3% year-on-year (y-o-y) increase. Exports exceeded RM1 trillion for the fifth consecutive year, rising 6.5% to the highest ever recorded value of RM1.607 trillion, while imports grew by 6.2% to RM1.455 trillion. This outstanding performance resulted in a trade surplus of RM151.80 billion, marking the 28th consecutive year of surplus since 1998.

Notable export growth underpinned by record-high shipments to traditional trading partners, namely ASEAN, the United States (US), Taiwan and the European Union (EU), reflecting Malaysia’s strong integration into high-value, technology-driven global supply chains. This performance was achieved despite rising global uncertainties, including geopolitical tensions, supply chain realignments and rising risks of protectionism. Exports to the People’s Republic of China (China), however, expanded at a more moderate pace.

Malaysia’s extensive network of Free Trade Agreements (FTAs), including major regional frameworks such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and Regional Comprehensive Economic Partnership (RCEP), continued to facilitate market access, diversify export destinations and mitigate trade risks. Leveraging these agreements, exports remained on an upward trend, with Hong Kong SAR, Mexico and Canada recording new highs, supported by broad-based growth across a wide range of products.

From a sectoral perspective, manufactured goods recorded their highest value to date, remaining the key driver of Malaysia’s historical export growth this year. This was led by electrical and electronic (E&E) products, machinery, equipment and parts as well as optical and scientific equipment, all of which also reached record highs. Strong export performance was further supported by the agriculture sector, driven primarily by palm oil and palm oil-based agriculture products.

Malaysia : Trade Performance in 2025



*% Growth in 2025 compared to 2024
 ** Share of total exports/imports.
 Note: Total figure may not add up due to rounding.
 Source: DOSM.

1.3 Investments in 2025¹

According to the Malaysian Investment Development Authority (MIDA), Malaysia recorded RM426.7 billion in approved investments for 2025, the highest level ever achieved. This represents an 11.0% increase from RM384.4 billion in 2024, marking continued growth in the country's investment performance. This achievement comes amid a cautious global climate.

Malaysia's performance is anchored in tangible project commitments: 8,390 approved projects across services, manufacturing, and primary sectors, expected to generate 244,902 new jobs. Beyond the record total, key indicators also showed improvement. The number of approved projects rose by 9.2%, while expected job creation increased by 17.9%. Domestic investments (DI) totalled RM219.6 billion (51.5%), while foreign investments (FI) increased by 20.9% to RM207.1 billion (48.5%). Foreign investments grew across all three economic sectors: 63.4% in the primary sector, 28.7% in services, and 13.1% in manufacturing –reflecting continued international confidence in Malaysia as an investment destination. This balanced composition reflects strong domestic participation alongside sustained foreign investor interest. The composition of FI3 also reflects evolving regional trends. Singapore (RM58.3 billion) and the People's Republic of China (RM58.0 billion) were the two largest sources, followed by the United States (RM15.1 billion), Japan (RM7.6 billion) and Hong Kong SAR (RM7.1 billion), rounding out the top five.

The manufacturing sector recorded RM131.3 billion in approved investments in 2025, representing 30.8% of Malaysia's total approved investments, across 1,354 projects. Foreign investments (FI) accounted for RM100.6 billion (76.6%), while domestic investments (DI) contributed a substantial RM30.7 billion (23.4%). This continued inflow of capital underscores Malaysia's position as a competitive destination for high technology and advanced manufacturing activities. The E&E industry remains a cornerstone of Malaysia's manufacturing prowess, securing RM28.5 billion, and affirming its role in the global technology supply chain through AI and green technologies integration. The Chemicals and Chemical Products industry recorded RM24.9 billion in investments, underscoring its importance to Malaysia's advanced industrial ecosystem. Other industries contributing to the manufacturing sector's growth include:

- Transport Equipment – RM14.9 billion
- Basic Metal Products – RM11.1 billion
- Machinery and Equipment (M&E) - RM11.0 billion

¹ Source: MIDA

1.4 Economic Outlook for 2026²

The Malaysian economy is projected to grow between 4% and 5% in 2026. Domestic demand will remain the main driver of growth, supported by steady private sector spending. Labour market conditions are expected to remain firm, as employment growth continues and the unemployment rate declines. Continued income, supported by steady economic growth and civil servant salary adjustment, will support private consumption. Moreover, fiscal support in the form of cash assistance and measures announced in Budget 2026 are expected to further lift consumption, particularly among lower-income households.

Investment activity is expected to maintain its momentum from the current investment upcycle, albeit expanding at a more moderate pace. The realisation of the high approved projects in 2025 will provide a solid foundation for continued growth. Malaysia's strong fundamentals, deep and extensive production ecosystem and supportive policy measures will sustain investor confidence. Hence, risks from reshoring of foreign investments in response to global trade pressure are likely to remain contained. Strong global demand for AI-related technologies and services, together with continued digitalisation and automation, will support investment growth in 2026.

Capacity expansion in the private sector will be driven by E&E as well as information and communications technology (ICT) sectors. The continued implementation of national masterplans across both the private and public sectors, including initiatives under the Thirteenth Malaysia Plan (RMK-13) will also provide additional impetus to economic activity. Ongoing public investment projects, particularly in transport and energy-related projects, will continue to support growth throughout the year. These include PETRONAS's Kasawari Carbon Capture Storage (CCS) project, Tenaga Nasional Berhad's Hydro and Solar initiatives as well as the Mutiara LRT Line.

Malaysia's trade outlook is expected to remain challenging in 2026 as exporters contend with new developments and uncertainties surrounding tariff and geopolitical conflict. However, Malaysia's diversified export structure and several supportive factors are expected to cushion the impact. The E&E sector is poised to gain from strong semiconductor demand in 2026 amid the global technology expansion, digitalisation and acceleration of AI adoption. Robust E&E ecosystem and earlier investments to move towards higher value-added activities, such as advanced packaging,

² Source: BNM Economic & Monetary Review 2025.

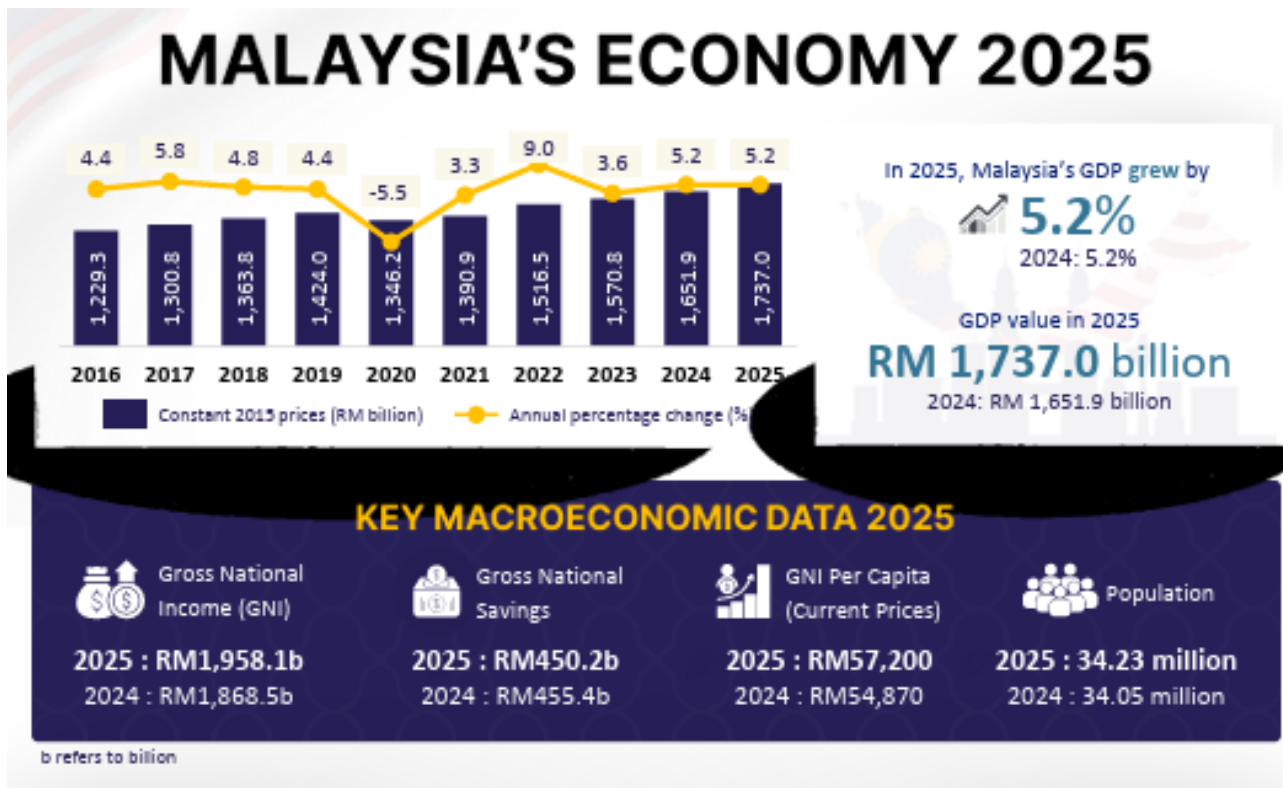
have enabled the sector to be in a prime position to capture these opportunities. The realisation of data centre investments, particularly those with AI capabilities will strengthen Malaysia's ICT ecosystem linkages and encourage more sophisticated manufacturing activities. Additionally, newly operational data centre facilities will also provide some support to ICT services exports. It is recognised that the global AI momentum remains sensitive to shifts in global financial markets, which shape financing conditions and capital allocation to AI-related investments. A correction in the valuation of AI-linked equities, for instance, may lead to lower investment in AI companies and spillover to related production and trade activities.

The outlook for non-E&E exports remains mixed, reflecting both persistent production surpluses in China and recent geopolitical conflict. The oversupply may keep competitive pressures elevated across selected non-E&E segments, while geopolitical conflict could affect price and demand conditions, especially in petroleum and chemical products.

Meanwhile, import growth is expected to pick up in line with the gradual recovery of intermediate imports to support the continued expansion of manufactured exports. This will be partly offset by the normalisation of capital import growth after a strong expansion in 2025.

The growth outlook for the Malaysian economy remains subject to uncertainties. Externally, downside risks stem from slower-than-expected global trade due to geopolitical conflict in the Middle East and tariffs. Domestically, lower-than-expected commodity production due to adverse weather conditions or unplanned maintenance could weigh on growth prospects. On the upside, better-than-expected global growth outlook, stronger demand for E&E and more robust tourism activity could boost Malaysia's export and growth prospects.

1.5 Malaysia – Key Macroeconomic Data 2025



GDP PERFORMANCE BY KIND OF ECONOMIC ACTIVITY AND TYPE OF EXPENDITURE

KIND OF ECONOMIC ACTIVITY			TYPE OF EXPENDITURE		
Activity	2025	2024	Expenditure	2025	2024
Services	5.4%	5.4%	Private Final Consumption Expenditure	5.3%	4.8%
Manufacturing	4.5%	4.2%	Gross Fixed Capital Formation	9.6%	12.1%
Agriculture	2.2%	3.4%	Government Final Consumption Expenditure	5.3%	4.6%
Mining & quarrying	0.6%	1.2%	Exports	4.9%	8.6%
Construction	12.2%	17.6%	Imports	6.3%	8.7%

Notes: Exclude import duties

Annual percentage change **2025** **2024**

Source: National Accounts, Annual Gross Domestic Product, Department of Statistics, Malaysia (DOSM)

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 industry is well-diversified, supported by strategic joint ventures with foreign multinationals such as BASF, Lotte Chemical, Idemitsu Kosan, Toray, INEOS, Kaneka, Eastman, Lotte Group, Sasol, Shell, Mitsui, and Reliance.

Potential investors can expect attractive returns from existing integrated petrochemical complexes, which offer centralized utilities, efficient storage services, and a comprehensive transportation network. These advantages collectively help reduce capital and operational costs, positioning Malaysia as one of ASEAN's most promising strategic investment destinations.

Currently, Malaysia's petrochemical industry is refocusing its efforts on embracing digitalisation, technological advancement through automation and robotics, cultivating a skilled workforce, and fostering innovative partnerships. The industry is poised for transformation and diversification to better adapt to the global energy transition while remaining competitive.

Backed by abundant oil and gas reserves and access to petrochemical feedstocks, Malaysia's petrochemical sector benefits from nearly 50 years of strong fundamentals. It remains a key growth area, supported by established infrastructure, reliable feedstock supply, mature supporting industries, and strategic partnerships with some of the world's largest MNCs, bolstered by continued support from the Government and Petroliaam Nasional Berhad (PETRONAS), the national oil and gas company.

Currently, Malaysia's petrochemical production is primarily driven by a strong base in olefins, polymers, and aromatics. However, there is growing ambition to move beyond commodity products, with industry players increasingly focusing on the development of more complex, specialty downstream chemicals.

PETROCHEMICAL PRODUCTS IN MALAYSIA

PETROCHEMICAL PRODUCTS	COMPANY / REFINERY
> Naphtha	<ul style="list-style-type: none"> • 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. & Pengerang Petrochemical Company Sdn. Bhd. (PRefChem)
> Ethane > Propane > Butane	<ul style="list-style-type: none"> • PETRONAS Energy & Gas Trading Sdn Bhd
> Ethylene	<ul style="list-style-type: none"> • Lotte Chemical Titan (M) Sdn. Bhd. • PETRONAS Chemicals Ethylene Sdn. Bhd. • PETRONAS Chemicals Olefins Sdn. Bhd. • PRefChem
> Propylene	<ul style="list-style-type: none"> • Lotte Chemical Titan (M) Sdn. Bhd. • PETRONAS Chemicals MTBE Sdn. Bhd. • PETRONAS Chemicals Olefins Sdn. Bhd. • PRefChem
> Butadiene	<ul style="list-style-type: none"> • PRefChem • Lotte Chemical Titan (M) Sdn. Bhd.
> Polyester PET > Polyester Chips	<ul style="list-style-type: none"> • Recron Malaysia Sdn Bhd
> Purified Terephthalic Acid (PTA)	<ul style="list-style-type: none"> • RP Chemicals (Malaysia) Sdn. Bhd.
> Methyl Tertiary Butyl Ether (MTBE)	<ul style="list-style-type: none"> • PRefChem • PETRONAS Chemicals MTBE Sdn. Bhd.

PETROCHEMICAL PRODUCTS	COMPANY / REFINERY
<ul style="list-style-type: none"> > Acrylics Acid & Esters > Aroma Ingredients > Oxo-Alcohols > Highly Reactive Polyisobutene > 2-Ethylhexanoic Acid Butyl Acrylate 	<ul style="list-style-type: none"> • BASF PETRONAS Chemicals Sdn. Bhd.
<ul style="list-style-type: none"> > Methanol 	<ul style="list-style-type: none"> • PETRONAS Chemicals Methanol Sdn. Bhd. • PETRONAS Chemicals Fertilizer Kedah Sdn. Bhd. • Sarawak Petchem Sdn Bhd
<ul style="list-style-type: none"> > Polypropylene (PP) > Linear Low-Density Polyethylene (LLDPE) > Low-Density Polyethylene (LDPE) > High Density Polyethylene (HDPE) 	<ul style="list-style-type: none"> • PRefChem • Lotte Chemical Titan (M) Sdn. Bhd. • PETRONAS Chemicals Polyethylene Sdn. Bhd. • PETRONAS Chemicals LDPE Sdn Bhd
<ul style="list-style-type: none"> > Mono Ethylene Glycol (MEG) > Di Ethylene Glycol (DEG) > Tri Ethylene Glycol (TEG) > Heavy Glycol (HG) 	<ul style="list-style-type: none"> • PETRONAS Chemicals Glycol Sdn Bhd • PRefChem
<ul style="list-style-type: none"> > Ethylene Oxide > Monoethylene Glycol > Di-Ethylene Glycol > Crude Glycol 	<ul style="list-style-type: none"> • PETRONAS Chemicals Glycols Sdn. Bhd.
<ul style="list-style-type: none"> > Ethanolamines > Ethoxylates > Butanol > Polyethylene Glycol > Glycols Ethers > Butyl Acetate 	<ul style="list-style-type: none"> • PETRONAS Chemicals Derivatives Sdn. Bhd.

PETROCHEMICAL PRODUCTS	COMPANY / REFINERY
<ul style="list-style-type: none"> > Benzene > Toluene > Xylene > Raffinate 2 	<ul style="list-style-type: none"> • Lotte Chemical Titan (M) Sdn. Bhd. • PETRONAS Chemicals Aromatics Sdn. Bhd. • PRefChem
<ul style="list-style-type: none"> > Paraxylene 	<ul style="list-style-type: none"> • PETRONAS Chemicals Aromatics Sdn. Bhd. • PRefChem
<ul style="list-style-type: none"> > C8 Hydrocarbons > Raffinate 3 > 	<ul style="list-style-type: none"> • Lotte Chemical Titan (M) Sdn. Bhd. • PETRONAS Chemicals Isononanol Sdn. Bhd.
<ul style="list-style-type: none"> > Isononanol > C12 Olefins > C18 Olefins > Oxo Oil 9N 	<ul style="list-style-type: none"> • PETRONAS Chemicals Isononanol Sdn. Bhd.
<ul style="list-style-type: none"> > Styrene Monomer 	<ul style="list-style-type: none"> • Idemitsu Petrochemicals (M) Sdn. Bhd.
<ul style="list-style-type: none"> > Polystyrene 	<ul style="list-style-type: none"> • Idemitsu Petrochemicals (M) Sdn. Bhd.
<ul style="list-style-type: none"> > Acrylonitrile Butadiene Styrene (ABS) 	<ul style="list-style-type: none"> • Toray Plastics (M) Sdn Bhd
<ul style="list-style-type: none"> > Polyvinyl Chloride (PVC) Paste & Emulsion > 	<ul style="list-style-type: none"> • Kaneka Paste Polymer Sdn Bhd
<ul style="list-style-type: none"> > Methylmethacrylate Butadiene Styrene Copolymer 	<ul style="list-style-type: none"> • Kaneka Malaysia Sdn Bhd
<ul style="list-style-type: none"> > Acrylic Polymer Processing Aids (PA) 	<ul style="list-style-type: none"> • Kaneka Malaysia Sdn Bhd
<ul style="list-style-type: none"> > Modified Silicone Polymer (MS Polymer) 	<ul style="list-style-type: none"> • Kaneka MS Malaysia Sdn Bhd
<ul style="list-style-type: none"> > Expanded PE & Expanded PP (EPE & EPP) 	<ul style="list-style-type: none"> • Kaneka Eperan Sdn Bhd

Source: MPA

The gross output of Malaysia's 'chemical' sector has increased steadily over the past decade, growing at a CAGR of 4.7%³ to reach RM154 billion (USD35 billion) in 2025. Full-scale commercial operations of the 'Pengerang Integrated Complex', PRefChem in November 2024 is expected to further boost the industry's gross output value.

³Oxford Economics

Meanwhile, the southern petrochemical cluster spanning Pengerang, Tanjung Langsat and Pasir Gudang attracted nine projects worth RM7.5 billion in 2025, including sustainable aviation fuel (SAF) production. Malaysia's chemicals and chemical products industry recorded 113 approved projects with total capital investment of RM24.85 billion in 2025, compared with 92 projects worth RM10.63 billion in 2024⁴.

In 2025, the sales value of the '*petroleum, chemical, rubber, and plastic*' sector was estimated at RM453 billion⁵ (USD106 billion), down 2.4% year-on-year (YoY), mainly because refined petroleum products weakened—through lower prices and export value. However, overall manufacturing sales increased to RM1.97 trillion in 2025 (+4.2% YoY), with the subsector representing 20.8% of manufacturing sales in December 2025.

Malaysia's broader economic development provides a favourable environment for the growth of its domestic chemical industry. According to the World Bank analysis⁶, Malaysia's real GDP per capita is projected to rise, placing the country on track to achieve developed nation status between 2024 and 2028, in alignment with the Shared Prosperity Vision (SPV) 2030. According to the IMF, Malaysia's real GDP growth rose from 5.1% in 2024 to 5.2% in 2025, supported by strong domestic demand, a global tech sector upcycle, and sound economic policies. For 2026, the IMF's February 2026 Article IV baseline projected growth to ease to 4.6% due to higher US tariffs and a moderately contractionary fiscal stance.

Malaysia accounts for 1.5%⁷ of global chemical-derived exports by value, below Thailand (2.4%) and Singapore (1.7%). Given Malaysia's well-established industry and its abundance of chemical feedstocks and raw materials, there is strong potential to further develop and expand its global market share.

In 2025, Malaysia's net equivalent trade in primary petrochemicals—namely olefins, aromatics, and methanol—stood at a net surplus of about 2,130 ktpa. The country has maintained a net export position for primary petrochemicals and their derivatives over the past decade. Notably, Malaysia is the only country in Asia with a substantial net export position for methanol (~1,450 ktpa in 2025), which comprises the majority of its export volume.

⁴Malaysian Investment Development Authority (MIDA)

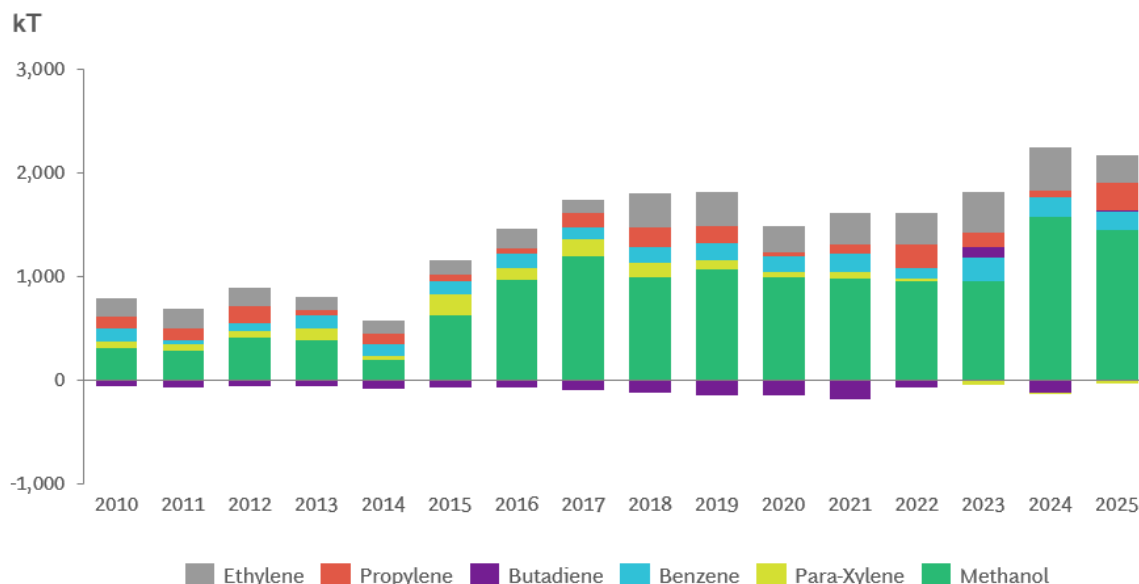
⁵Department of Statistics Malaysia

⁶World Bank, *Aiming High Navigating, the next stage of Malaysia's development*, March 2021

⁷UN Comtrade data based on HS codes 28 (inorganics), 29 (organics), 31 (fertilizers), 39 (plastics and articles thereof) and 40 (rubber and articles thereof); BCG analysis; Department of Statistics Malaysia (DOSM)

In August 2023, the Ministry of Investment, Trade and Industry (MITI) launched Malaysia’s first Chemicals Industry Roadmap 2030 (CIR), aimed at unlocking the sector’s full contribution to national socioeconomic development. The CIR targets a cumulative RM40 billion in incremental value to the industry’s GVA by 2030, raising its contribution to GDP from 3.4% to 4.5%. Other key goals include reducing import dependence (to below a 70% import-export ratio), achieving the #1 position in ASEAN for FDI inflows by 2030, reducing carbon emissions by 45% (compared to 2005 levels), increasing the plastics recycling rate to 50%, and establishing Malaysia as the ASEAN hub for high-tech chemical products such as bioplastics and biopesticides.

In September 2024, the Ministry of Investment, Trade and Industry (MITI) launched the Circular Economy Policy Framework (CEPF) with the aim of reformulating fossil-fuel-based industrial models and catalysing green growth practices across the manufacturing value chain. The CEPF was officially introduced by the Minister of Investment, Trade and Industry (MITI), YB Senator Tengku Datuk Seri Zafrul Abdul Aziz at the biennial Petrochemicals Sustainability Conference (PSC2024) organised by MPA on September 26-27, 2024, in Kuala Lumpur. The CEPF outlines extended producer responsibility (EPR) as a key strategy, ensuring that local producers take responsibility for the entire life cycle of their products, including their eventual disposal.



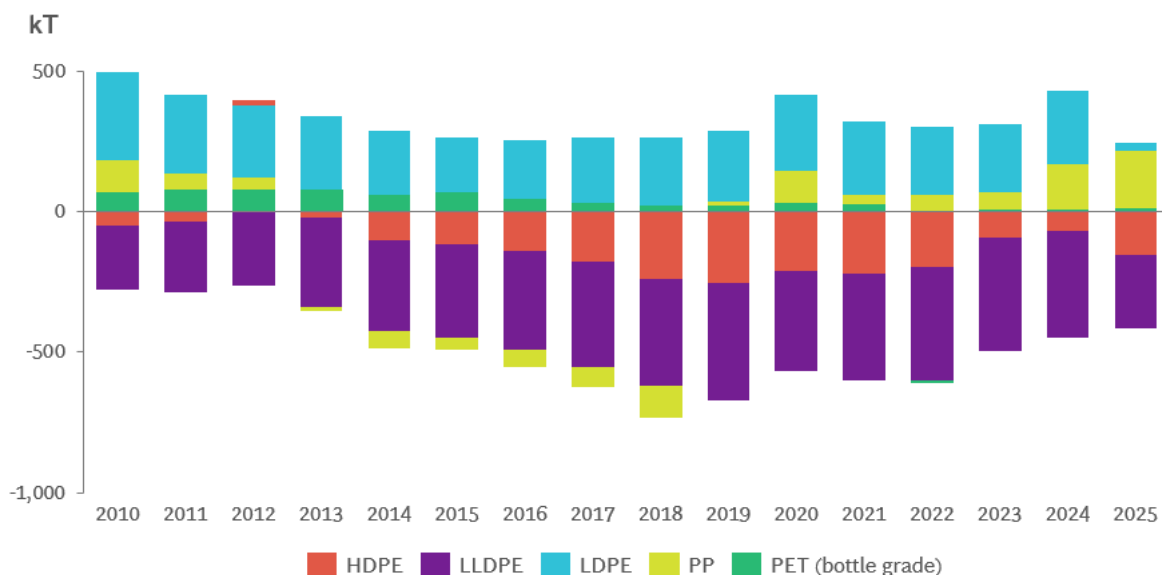
Source: NexantECA; BCG ChemCom; Company Press Releases

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



Over the past decade, Malaysia has been a net importer of ‘*plastics in primary forms*’. In value terms, it recorded a trade surplus of over RM1.3 billion in 2024, but this shifted to a trade deficit of RM0.5 billion in 2025, as imports of RM23.0 billion exceeded exports of RM22.5 billion.

In volume terms, Malaysia has been a net importer of HDPE and LLDPE, with net imports reaching ~415 ktpa in 2025. These imports primarily come from Singapore, Saudi Arabia, Thailand, and Indonesia to meet domestic demand. The decline in import volume is largely attributed to the start-up of the PRefChem plant, which added 400 ktpa of annual HDPE capacity and 350 ktpa of annual LLDPE helping to ease the country’s capacity constraints and reduce its trade deficit.



Source: NexantECA; BCG ChemCom; Company Press Releases

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

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

2.2 Overview of Plastics Industry

Plastics and polymers offer broad opportunities for downstream applications. The top five end-use sectors include consumer packaging, automotive, electronics, construction, and textiles—each utilizing a range of commodity, engineering, and high-performance plastics. Packaging is the largest end-use sector, accounting for approximately 50% of demand, and is used to produce plastic bags, containers, films, plates, sheets, foils, strips, bottles, and boxes.

Established producers of plastic resins in Malaysia include PRefChem, LOTTE Chemical Titan, and PETRONAS Chemicals Group (PCG), Recron, Idemitsu and Toray. These companies primarily focus on commodity plastics, such as polypropylene and polyethylene, while also producing select niche products in engineering plastics (e.g., ABS) and high-performance plastics (e.g., PPS).

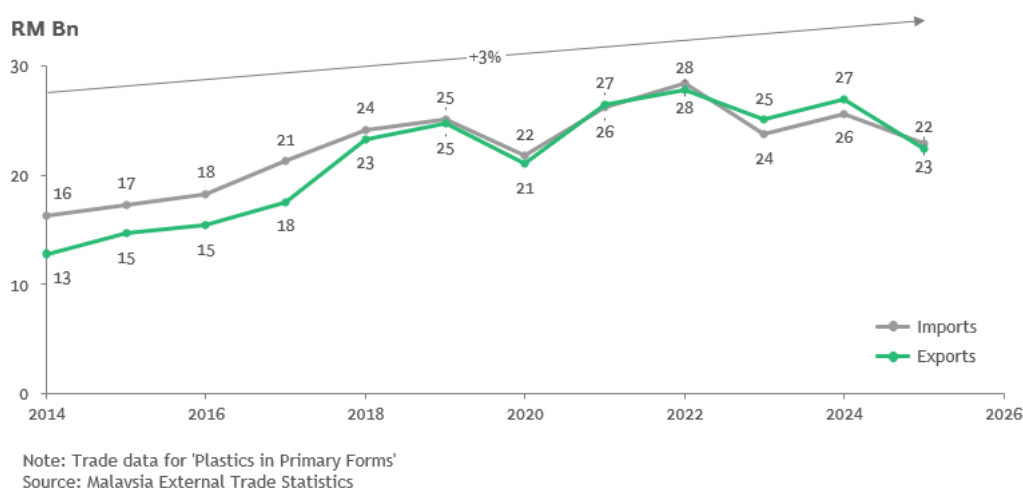


FIGURE 3: Malaysia Plastics Trade Performance

In 2025, Malaysia’s plastics exports declined due to weaker global demand, lower resin prices, and continued oversupply, especially from China. These same pressures also reduced domestic sales, with the sales value of ‘*plastics in primary forms*’ falling from RM21.8 billion in 2024 to RM18.4 billion in 2025 as selling prices and order volumes weakened. Rising domestic costs, including higher wages and electricity tariffs, further reduced the competitiveness of Malaysian producers.

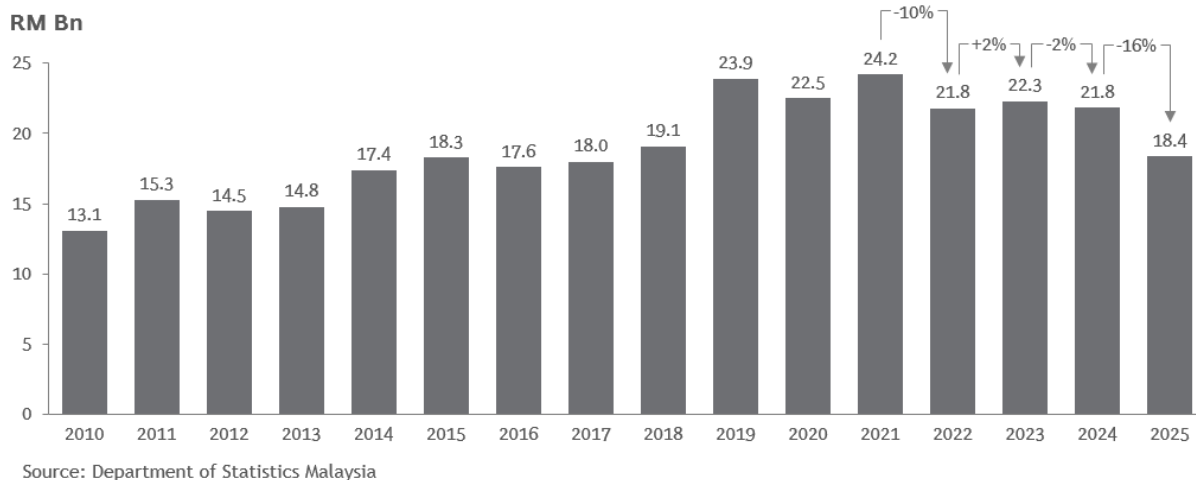


FIGURE 4: Malaysia Plastics (in primary form) Sales Turnover

From a trade standpoint, Malaysia is a net exporter of key commodity plastics particularly LDPE, PP and PET but remains a net importer of certain engineering and high-performance plastics. For example, for PET (bottle-grade), Malaysia had a net exports position of ~15 ktpa in 2025.

Higher value-added plastics are experiencing strong growth within the plastics ecosystem, with this product segment projected to grow at a CAGR of approximately 5% globally over the next five years. Similarly, demand for engineering plastics is expected to grow at a rate higher than the current projection of 4.5% CAGR.

Global engineering plastic producers such as BASF, Toray, and Avient Corporation have established compounding facilities in Malaysia, further strengthening the country’s potential for higher value-added plastics.

The global and domestic shift toward circular supply chains is also driving recent changes in focus, with Malaysia taking initial steps toward recyclable products. The country has introduced various plastic waste reduction regulations and policies to curb plastic waste.

In 2018, the government launched a roadmap to eliminate and replace single-use plastics with biodegradable and compostable alternatives. Key action plans include a nationwide ban on plastic bags by 2030, restrictions on the use of plastic straws, and the implementation of a pollution charge of at least RM0.05 for single-use plastic bags starting in 2021.

Malaysia achieved a 35.4%⁸ recycling rate in 2023 and aims to further enhance it, as outlined in various initiatives and roadmaps, including the *Malaysia Plastics Sustainability Roadmap 2021–2030*. In parallel, the *National Biomass Strategy 2020* targets increased bioplastics production to further strengthen the circular economy.

Malaysia's plastics and circular-economy agenda advanced in 2025. In May 2025, KPKT's National Circular Economy Council approved in principle an Extended Producer Responsibility (EPR) policy framework and mandatory eco-design measures and also agreed that shopping malls must provide recycling centres or drive-through recycling centres as a licensing condition from 1 January 2026. These steps sit alongside the Circular Economy Blueprint for Solid Waste in Malaysia 2025–2035, which sets the waste-sector framework through five strategic pillars and 20 initiatives.

At state level, Penang strengthened its single-use plastic controls through the 2025 “No Plastic Bag Every Day” campaign, with full phased enforcement from 1 September 2025 across eight categories of licensed business premises. Under the guidelines, the state also said it would no longer collect plastic-bag contribution charges from those businesses.

Malaysia also tightened governance of plastic-waste imports in 2025. Effective 1 July 2025, SIRIM became the sole inspection body and Certificate of Approval issuer for waste-plastic imports into Malaysia, with approvals tied to compliance with Malaysian law and the Basel Convention. Regionally, Malaysia used its 2025 ASEAN chairmanship to push stronger cooperation on plastic waste, and NRES also used the ASEAN Conference on Combating Plastic Pollution 2025 to reinforce regional coordination on the issue.

Improvements to recycling ecosystems and technologies are being driven by major companies such as PETRONAS Chemicals Group, Indorama, BASF, and Shell, along with start-ups like Agilyx. These companies are testing advanced mechanical and chemical recycling technologies to meet their sustainability goals and contribute to the growth of the plastic recycling market. For example, ongoing efforts include the development of economically viable depolymerisation technologies. The latest official KPKT update reports, Malaysia's national recycling rate reached 37.9% in 2024, up from 35.4% in 2023.

⁸Greenpeace

In addition, bioplastics—currently accounting for less than 1%⁹ of the total plastics market—are being explored as sustainable feedstocks for both food and non-food packaging. The global biobased plastics production capacity stands at about 2.3 million tonnes, with packaging remaining the largest application at ~41% (0.95 million tonnes). Asia remains the leading production hub, accounting for 55% of global capacity, equivalent to ~1.3 mtpa. In Malaysia, the industry is moving from pilot activity toward early commercialisation: ‘Free The Seed’ plans to expand biodegradable packaging production in Kedah under a RM400 million agreement that envisions up to 10 factories, while Verdastro has already commercialised palm-based bioplastic products such as eco straws.

Plastic product design has also made notable strides toward sustainability in recent years. Upstream stakeholders—including petrochemical companies, specialty chemical firms, and packaging suppliers—are developing recyclable mono-material structures to replace non-recyclable multi-material ones. Companies such as Nestlé are also adopting thinner, innovative materials to reduce plastic usage in packaging.

⁹European Bioplastics, Bioplastics market data

Chapter 3: Committee Report

3.1 General Matters & Raw Materials Committee

Malaysia is rich in petrochemical building blocks, leveraging consistent access to feedstock, which also fosters downstream development opportunities. Currently, the market has limited integration into downstream derivatives and relatively low domestic demand. This positions Malaysia as a surplus producer and a net exporter of key petrochemicals. However, recent capacity additions across the value chain—especially downstream—are expected to provide greater balance and enhance Malaysia's export competitiveness.

A joint venture (JV) of PETRONAS and Aramco, PRefChem Complex completed performance testing in October 2024 and began commercial operations on 30 November 2024. However, operations in 2025 remained uneven, with PCG citing feedstock shortages in Q1 and a focus in Q2 on meeting its Creditors Reliability Test by year-end. PCG also said the new isononanol plant in Pengerang started commercial operations on 12 August 2025, supporting a downstream ramp-up. The restart is expected to lift demand for ethylene and propylene as derivative production increases within the complex. The plant has the capacity to produce 1.3 mtpa of ethylene, along with polyethylene (PE) and mono ethylene glycol (MEG). Despite this upstream capacity expansion, Malaysia is expected to remain a net importer of ethylene derivatives—particularly HDPE and LLDPE—due to higher demand growth.

Malaysia's olefins chain is also rationalising under weak margins and persistent global oversupply. Lotte Chemical Titan announced a temporary shutdown of its NC1 cracker at Pasir Gudang effective 15 December 2024, citing prolonged industry weakness that had pushed margins negatively. In Q1 2025, Lotte guided FY2025 operating rates at 45%–50% and the NC1 shutdown. This facility has the capacity to produce 294 ktpa of ethylene and 150 ktpa of propylene. As a result, total domestic ethylene capacity declined from ~3,160 ktpa in 2024 to 2,860 ktpa in 2025, against a declining demand growth forecast of -0.6% CAGR over 2025–2030, reaching ~1,955 ktpa by the end of the period.

Malaysia has a trade surplus of propylene; however, operating rates have historically remained below the regional average due to limited downstream integration. The new PRefChem complex has helped boost domestic consumption. The complex has a propylene capacity of 1.2 mtpa, with three-quarters of its output¹⁰ planned for captive use in PP production and the remainder supplied

¹⁰NexantECA; BCG ChemCom; Press Releases



to the merchant market. In 2025, propylene consumption surged by 42% YoY to approximately 1,490 ktpa (at an operating rate of around 75%), while net exports increased to ~265 ktpa from ~145 ktpa in 2024.

Malaysia is the second largest butadiene consuming country in SEA, accounting for 30% of the region's consumption. In 2025, Malaysia's domestic butadiene capacity stood at ~285 ktpa, while consumption and net exports reached 195 ktpa and 13 ktpa, respectively.

Demand is primarily driven by its use in nitrile rubber latex, a key raw material for manufacturing nitrile gloves. Malaysia is the largest supplier of natural rubber and NBR gloves, holding a 60-65% share¹¹ of the global glove market.

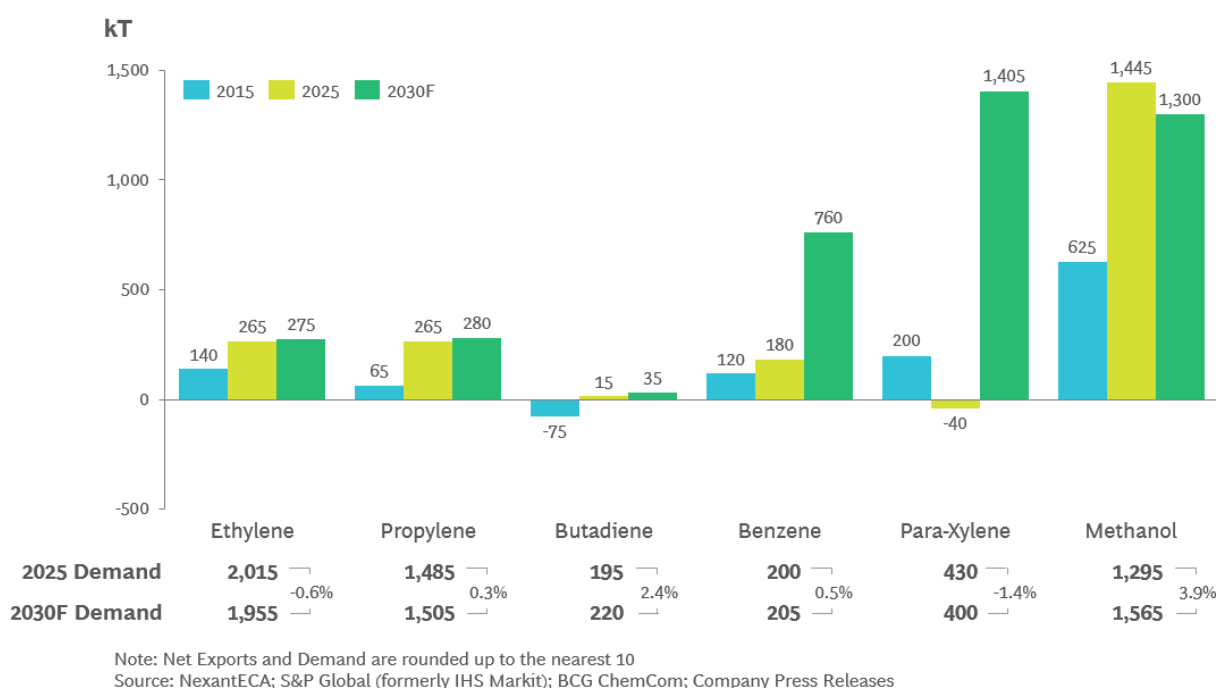


FIGURE 5: Malaysia Net Equivalent Trade in Primary Petrochemicals

PETRONAS (Kerteh) is the only plant (550 ktpa) to produce and sell Paraxylene (Px) in Malaysia. The PRefChem complex does not include any new PX capacity; however, a new refinery project has been announced.

¹¹NexantECA; S&P Global (formerly IHS Markit); Press Releases



The Pengerang Energy Complex (PEC) plans to establish an integrated aromatics complex comprising 1,680 ktpa of PX and 656 ktpa of benzene, scheduled to come on-stream by 2028. With this addition, domestic PX capacity will increase fourfold to 2,220 ktpa, significantly boosting net exports to 1,400+ ktpa by 2030. If the PEC project proceeds, the total benzene capacity is expected to rise to ~1,250 ktpa by 2030, and else will remain at 594 ktpa.

In the near term, domestic demand for aromatics—primarily benzene—is expected to remain stable, while the new capacity additions are aimed at significantly enhancing Malaysia’s export position.

Malaysia other than Brunei is the only country that holds a net export position for Methanol. It has the largest methanol capacity in the region, accounting for over 85% (or 4.2 mtpa) while domestic demand stands at over 1.3 mtpa in 2025. Currently, the country operates three facilities owned by PETRONAS, with a combined capacity of 2.5 mtpa. The new Sarawak Petchem plant started in Dec 2023, adding 1.75 mtpa of new capacity, which will significantly boost export volumes.

3.2 Polyolefins Committee

Polyethylene (PE) and Polypropylene (PP) are high-volume commodity thermoplastics together accounting for 14.5 mtpa¹² demand in Southeast Asia in 2025. Owing to their versatile properties, they are widely used across several end-use industries, including consumer goods, construction, automotive, and electronics.

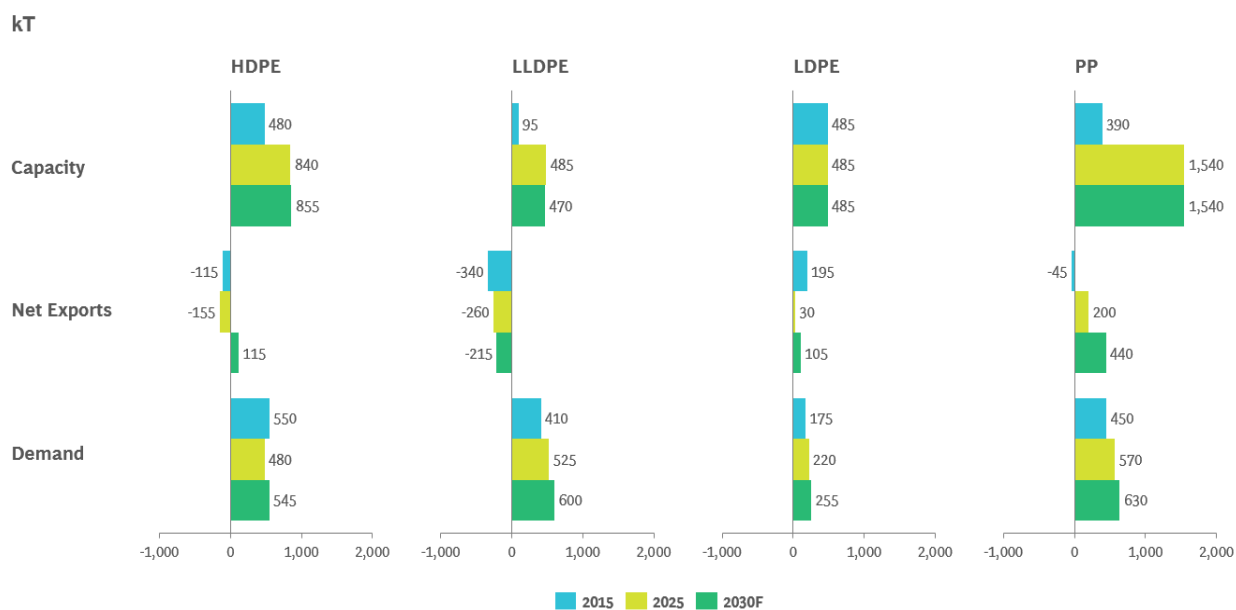
The global PE market has undergone significant structural changes over the past few decades, driven largely by unprecedented capacity expansions in China, the Middle East, and the United States. These regions have focused on improving self-sufficiency—China alone accounts for over ~36% of global PE consumption¹³—and boosting export competitiveness, supported by access to low-cost feedstocks (the Middle East and the US are the largest PE exporters globally).

Southeast Asia is a net exporter of PE overall. The region has a surplus in LLDPE but faces deficits in HDPE and LDPE. It is also the second-largest producer of HDPE films and sheets after mainland China, consuming approximately 1.6 mtpa (or about 45%) of HDPE resin for film production in 2025¹³. Demand is expected to rise, particularly in Indonesia and Vietnam; however, with relatively limited capacity expansions planned in these countries, imports are expected to increase to meet the growing demand.

Malaysia is a net importer of polyethylene, particularly HDPE and LLDPE, driven mainly by strong demand for films and sheets. Within Southeast Asia, Malaysia is the second-largest HDPE producer, accounting for about 20% of regional capacity, or roughly 840 ktpa.

Pengerang Refining and Petrochemical (PRefChem) added 400 ktpa of HDPE capacity and 350 ktpa of LLDPE capacity over 2024 - 2025. With moderate demand growth projected at a 2-3% CAGR from 2025 to 2030, alongside this new capacity, Malaysia is expected to become a net exporter of HDPE in the coming years.

¹²NexantECA; 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 6: Malaysia Polyolefins Market Dynamics

Overall, in 2025, PE resins consumption growth in Malaysia was muted at 1-2% YoY due to oversupplied market conditions and weak downstream demand. In 2025, the overall LLDPE market in Malaysia reached 525 ktpa, with year-on-year demand growth of 1.2%. In the short term, continued expansion of e-commerce and rising adoption of packaged food are expected to drive LLDPE demand growth at a CAGR of 2.8% over 2025–2030.

Malaysia is the second-largest producer of LDPE in Southeast Asia, with two major producers—LOTTE Chemical Titan and PETRONAS Chemicals—operating a combined capacity of 485 ktpa¹³. No new LDPE capacity additions are expected in the near term. With domestic demand projected to grow at a CAGR of 2.8%, reaching 255 ktpa by 2030, Malaysia is expected to maintain its net export position.

Southeast Asia has seen several major PP capacity expansions in recent years, with regional capacity doubling since 2010. Malaysia, in particular, has quadrupled its PP capacity following the commissioning of a 900 ktpa plant at Pengerang. In 2025, Malaysia’s PP demand reached ~570 ktpa, representing modest YoY growth of around 1.5%. However, the operating rate was subdued at 50% in 2025, impacted by weak market economics, global oversupply (notably, China added 5+ mtpa of capacity in 2025), and softer demand amid the economic downturn. Over the longer term (2030), operating rates are expected to recover, ranging between 68% and 69%, driven by both local and global demand recovery.

In Malaysia, PP is predominantly used in injection molding applications, accounting for approximately 45% of total demand. With new capacity additions by downstream converters, PP consumption is projected to grow at a CAGR of 2%+ over 2025–2030.

Currently, HDPE has the highest recycling rate among all PE resins, as rigid packaging is relatively easier to collect compared to flexible formats. Recycled HDPE (rHDPE) is used in Malaysia to produce construction components. In 2021, the country consumed approximately 140 ktpa of rHDPE—the highest consumption level in 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 both commodity and engineering plastics, as well as synthetic rubber. These derivatives have applications across various industries such as electronics, household goods, automotive, construction, healthcare, and packaging. Styrene is also one of the most heavily traded petrochemical commodities, with nearly a quarter of global production transported across international markets. Southeast Asia has been a net exporter of styrene and is expected to maintain this position in the near future, supported by surplus capacity and growing global demand for styrene derivatives. The Malaysian styrene market, which accounts for 10–12% of Southeast Asia’s total capacity¹³, has been structurally deficient, with only one producer—Idemitsu serving the market. Approximately 40% of Idemitsu’s styrene output is used captively for the production of High Impact Polystyrene (HIPS), while the remainder is supplied to the domestic merchant market and exported to Southeast Asia and India.

Toray Plastics is the largest consumer of styrene in Malaysia, primarily sourcing material from the Middle East—particularly Saudi Arabia. Although no new styrene capacity additions are anticipated in the near future, Malaysia is expected to remain a net importer due to growing demand in key end-use sectors and increasing supply pressures from China.

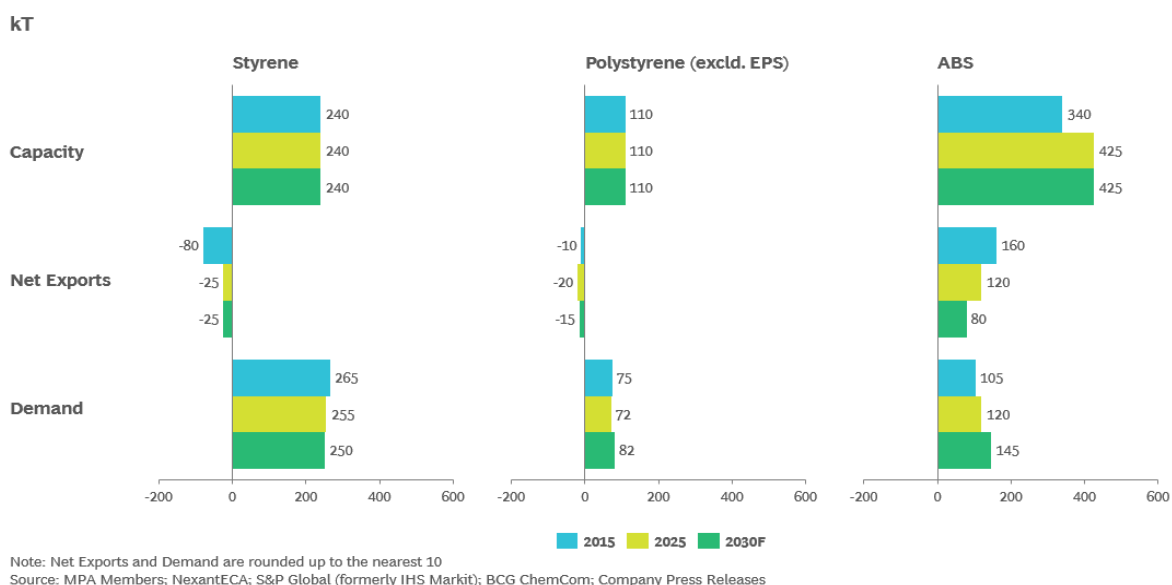


FIGURE 7: Malaysia Styrenics Market Dynamics

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

Polystyrene (PS), a thermoplastic polymer, is the largest end-use application of styrene globally. In Southeast Asia, more than 40% of styrene consumption—over 500 ktpa—was used for PS production in 2025¹⁴. However, in Malaysia, PS is the second-largest application segment for styrene (after ABS), accounting for approximately 100 ktpa, or 40% of total domestic styrene consumption. Demand is evenly distributed across the consumer goods, electronics, and packaging sectors. High Impact Polystyrene (HIPS) makes up 60% of Malaysia’s PS market, while the remaining share is attributed to General Purpose Polystyrene (GPPS), which is primarily used for food packaging. The majority of PS imports into Malaysia are of the GPPS grade, due to the absence of local production.

HIPS demand is expected to lead growth, driven by the presence of major electronics and appliance OEMs—such as Panasonic—located in Malaysia and across Southeast Asia. However, PS applications in the food packaging sector face substitution threats from polyolefins and paper, following government policies aimed at reducing the use of non-biodegradable packaging materials.

Acrylonitrile Butadiene Styrene (ABS), an engineering thermoplastic, is the largest end-use segment for styrene in Malaysia, accounting for 55%—or approximately 135 kt—in 2025. Key application sectors include electronics and consumer goods, which together represent around 75% of domestic demand. Malaysia hosts over half of Southeast Asia’s ABS production capacity and is a net exporter. Investments in the ABS segment have been driven by strong demand growth both globally and regionally. However, following the COVID-19 pandemic, the market experienced a significant downturn due to sluggish demand, with Malaysian ABS plants operating at just 65–70% capacity in 2025, compared to pre-COVID levels of around 90% in 2019.

The ABS market also faces growing competition from polypropylene in the thermoformed packaging segment. Nevertheless, ABS resin consumption in Southeast Asia is projected to grow at an average annual rate of 4-5% over the next five years, supported by recovery in the automotive sector, with Malaysia expected to retain its export competitiveness.

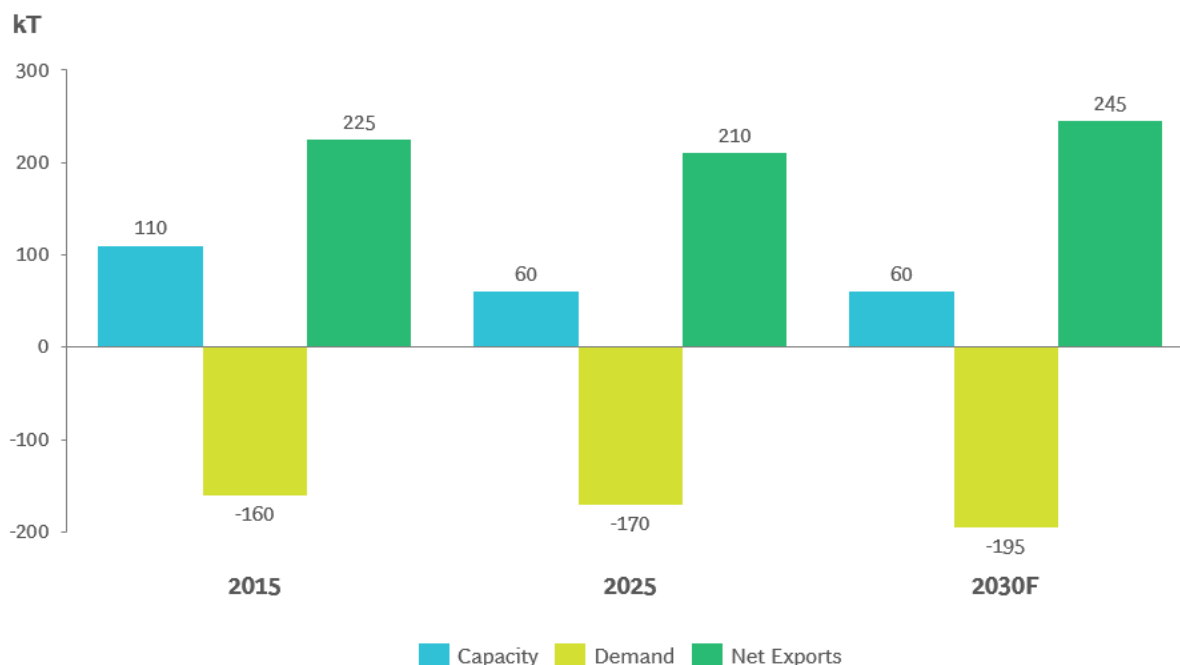
¹⁴NexantECA; S&P Global (formerly IHS Markit); BCG ChemCom; Press Releases

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 suitable for a wide range of applications, from rigid pipes used in construction to thin, crystal-clear films for packaging. In certain applications, PVC is preferred over commodity plastics like polyolefins due to its ease of processability.

The construction sector is the largest end-use market for PVC, where it is used extensively in products such as pipes, fittings, and sidings. As a result, PVC demand tends to correlate closely with regional GDP growth.

More than 60% of PVC’s composition is based on chlorine, which is derived from salt and co-produced with caustic soda. Therefore, factors such as transportation constraints for chlorine, demand for caustic soda, energy costs, and ethylene availability are critical considerations when determining the location and setup of feedstock manufacturing facilities, namely for ethylene dichloride (EDC) and vinyl chloride monomer (VCM) production.



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 demand for EDC and VCM is met through imports, as there are no domestic producers of these feedstocks. Kaneka Paste Polymers is the sole PVC producer in Malaysia, manufacturing emulsion-grade PVC with a capacity of 60 ktpa. The company sources its VCM primarily from Japan and Indonesia.¹⁵

Malaysia mainly exports emulsion PVC, while suspension PVC is imported from China, Indonesia, and Thailand. Domestic demand for PVC is expected to grow at a CAGR of 2-4% over the next five years, and this demand will continue to be met largely through imports, as no new capacity additions are anticipated due to the absence of upstream integration.¹⁶

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

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

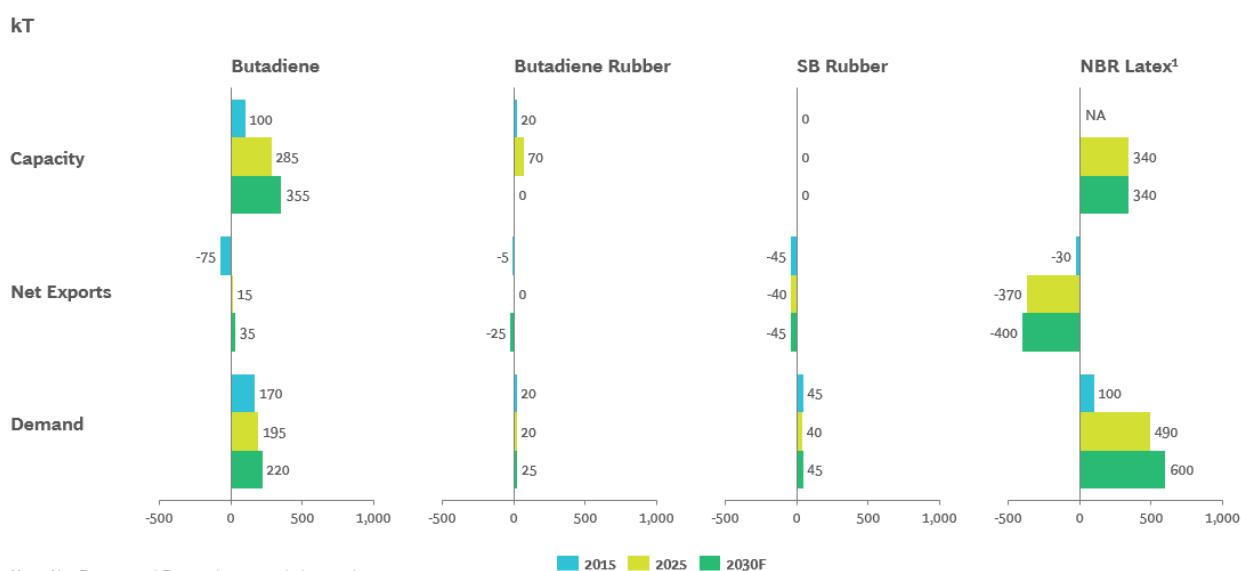


3.5 Synthetic Rubber Committee

Synthetic rubber has a wide range of applications in Malaysia, including use in the automotive industry for tire production, construction for piping, healthcare for gloves, and sports venues for floor coverings. The downstream applications of synthetic rubber are expected to have significant contribution to Malaysia’s cumulative GDP, encompassing all four major types of rubber: Styrene Butadiene Rubber (SBR), polybutadiene, nitrile elastomers, and polyisoprene.

Malaysia is well-positioned to capitalise on abundant feedstock availability, with around 180 ktpa of butadiene produced locally by PRefChem in Johor.

Despite local production, Malaysia currently relies heavily on imports of synthetic rubber across all key types, with particularly high dependence on nitrile elastomers, amounting to 430 ktpa in 2022¹⁷. The majority of these imports are sourced from Asia-Pacific countries, notably South Korea and Japan.



Note: Net Exports and Demand are rounded up to the nearest 10
 1. Latest data as of 2022 for net exports and demand
 Source: NexantECA; S&P Global (formerly IHS Markit); BCG ChemCom; Company Press Releases

FIGURE 9: Malaysia Synthetic Rubber Market Dynamics

Malaysia’s trade position in synthetic rubber is similar to that of other Southeast Asian countries, with most being net importers. However, ongoing efforts are underway to expand domestic production capacity to meet growing demand. For example, in 2024, PETRONAS and LG Chemical commenced construction of a new NBR latex plant in Johor, which has now achieved commercial

operation. The facility has a capacity of 200 ktpa¹⁷ (wet basis) and is aimed at supporting domestic demand, particularly for glove manufacturing.

Despite this capacity addition, domestic demand for NBR latex in Malaysia is growing at an average annual rate of ~5%. This indicates that, while the new plant will help strengthen domestic production, Malaysia may continue to rely on imports to meet the rising demand for NBR latex.

Globally, three major trends are shaping market growth. First, the downstream tire and automotive sectors are increasingly demanding higher-quality synthetic rubber. Second, demand for synthetic rubber has structurally increased post-pandemic, with a shift in consumer attitudes toward health driving greater use of synthetic rubber for glove production—even beyond healthcare applications. Third, rising sustainability concerns are incentivizing the development of eco-friendly synthetic rubber and promoting circular economy practices, including the recycling and recovery of valuable chemicals from both dry and latex rubber waste.

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

3.6 Synthetic Fiber Raw Materials Committee

Monoethylene glycol (MEG) is a highly traded organic compound, accounting for over 90% of the volume share in the ethylene glycol market¹⁸. Its demand primarily tracks the polyester industry, as nearly 90% of MEG production is used in polyester manufacturing—including fibers, films, and solid-state resins.

During MEG production, ~10% diethylene glycol (DEG) and around 1% triethylene glycol (TEG) are also generated as co-products. Most new export-oriented glycol projects utilize improved technologies, such as Shell's OMEGA process, which delivers MEG yields of over 99%.

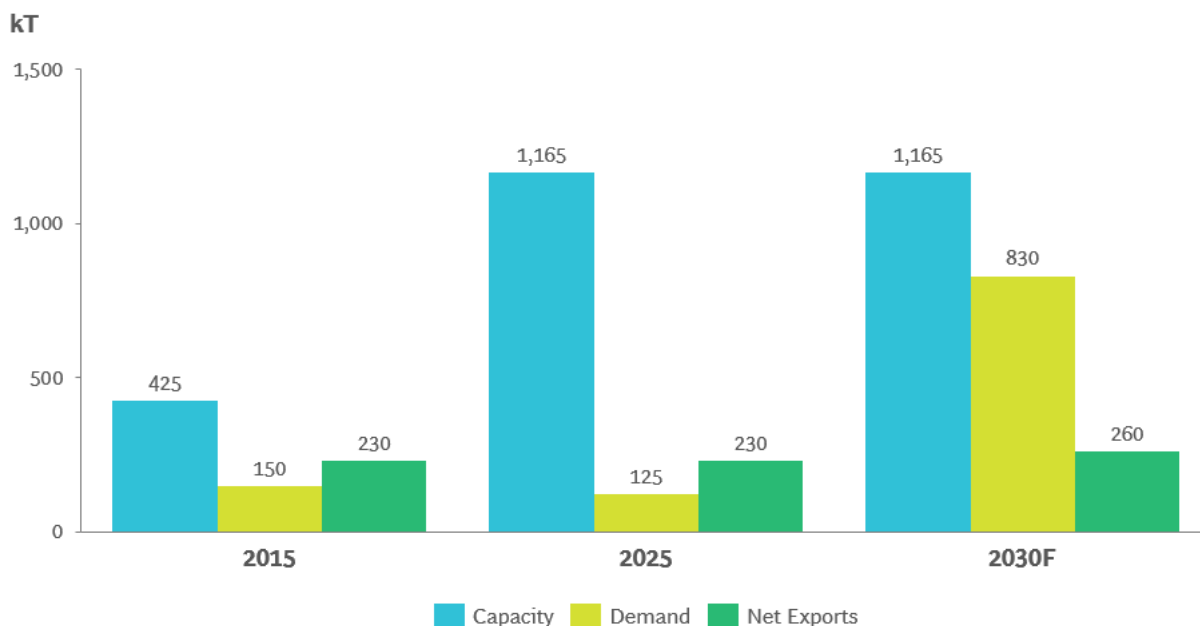
Global MEG demand growth is largely driven by the expansion of the PET fiber market, especially in China. However, large capacity additions and strong downstream competitiveness in China are eroding demand for MEG in other regions. In Southeast Asia, MEG plant operating rates declined from ~85% in 2021 to 50–55% in 2022, and further to around 40% in 2025. Between 2025 and 2030, MEG consumption in the region is expected to grow at a CAGR of approximately 4.8%, with plant operating rates projected to range between 70% and 75% during 2026–2030.

In 2025, MEG demand in Malaysia was 230 ktpa, projected to grow to 260 ktpa by 2030. While capacity above 1.1 million, the excess will be exported to other SEA and rest of the world.

The new PETRONAS cracker project includes a large MEG facility with a capacity of 740 ktpa¹⁸, representing a significant share of regional supply. Operating rates for Malaysia's MEG plants are expected to range between 85% and 95% during 2026–2030, and Malaysia is anticipated to remain a net exporter, serving regional demand—particularly from Indonesia, Vietnam, and Thailand.

PETRONAS, is the sole producer of ethylene oxide (EO)—precursor to MEG—in Malaysia with cumulative capacity of 1,042 ktpa in 2025.

¹⁸NexantECA; 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

Purified Terephthalic Acid (PTA) is another essential feedstock that reacts with MEG and is then polymerised to produce PET/polyester fiber. RP Chemicals (Malaysia) Sdn. Bhd. is the sole manufacturer of PTA in Malaysia with a capacity of 610 ktpa. The PTA market in Malaysia is relatively small, with consumption reaching ~560 ktpa in 2025, compared with ~1,350 ktpa in Indonesia, ~1,380 ktpa in Thailand, and ~1,100 ktpa in Vietnam. This is primarily due to stagnant growth in fiber production, driven by high domestic production costs relative to imports. Limited growth is expected in the near future, given the highly competitive export market.

3.7 Chemicals Committee

Malaysia's chemical sector represents a critical engine of national growth, contributing 6.0% in total (~RM120 Billion) to the national GDP in 2025 (including petroleum, chemical, rubber and plastic products)¹⁹. This contribution has been relatively stable at around 4% since 2015. The sector accounted for 13% of total export value in 2025, with a contribution valued at approximately RM210+ billion²⁰.

The chemical (i.e., petroleum, chemical, rubber and plastic) sector remains a major source for FDI, accounting for about 11% of Malaysia's total FDI over the five years from 2015-2019²⁰. 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. In 2023 and 2024, the sector recorded net outflows of RM5.5 billion and RM6.1 billion, respectively. Despite the weaker recent flow trend, its FDI position remained sizeable at RM56.8 billion in 2024, equivalent to 5.7% of Malaysia's total FDI position and 14.2% of manufacturing FDI position.

The chemical sector is also a major catalyst for national socio-economic development. The industry (i.e., Petroleum, Chemical, Rubber and Plastics) directly employed 432,139 people in 2025, representing 18% of the total manufacturing sector workforce²⁰, 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.

¹⁹Department of Statistics Malaysia

²⁰Department of Statistics Malaysia

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%²¹ of the global share of industrial CO₂ emissions in 2021. The direct CO₂ emissions from primary chemical production have stayed constant at around ~935 million metric tons²² 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 tonne²² of primary chemicals. The industry's sustainability impact is also highlighted by the projected 973mil tonnes²² 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 CO₂ intensity of the industry grew by 4.4% CAGR²³ 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 value²⁴ 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 CO₂. Increasing the reuse and

²¹International Energy Agency

²²World Economic Forum, The New Plastics Economy Rethinking the future of plastics, January 2016

²³Refinitiv

²⁴AISI; 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 optimisation 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 the 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 support²⁵. In August 2021, Malaysia increased its ambitions under this agreement, targeting unconditional reductions of 45%²⁶, once again demonstrating its commitment towards the

²⁵United Nations Framework Convention on Climate Change

²⁶The 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 2024, Malaysia further announced its goal to become carbon neutral as early as 2050.

Malaysia's climate commitments have also tightened. Malaysia had already revised its nationally determined contribution to cut greenhouse-gas emissions intensity by 45% by 2030 relative to 2005 levels. On 24 October 2025, Malaysia submitted Nationally Determined Contribution (NDC) 3.0 to the United Nations Framework Convention on Climate Change (UNFCCC). According to the NDC Partnership summary, the new submission commits Malaysia to peak greenhouse-gas emissions between 2029 and 2034, with the goal of peaking by 2030, and to reduce up to 30 million tonnes CO₂e by 2035, including 20 million tonnes CO₂e unconditionally and 10 million tonnes CO₂e conditionally on international support.

Major companies based in Malaysia have also taken proactive steps to improve sustainability in line with this agenda. PETRONAS continues to pursue its Net Zero Carbon Emissions by 2050 pathway, while TNB's Energy Transition Plan targets a 35% reduction in emissions intensity by 2035 and net-zero, coal-free plant operations by 2050.

PCG's 33 ktpa advanced chemical recycling plant in Pengerang remained targeted for first-half 2026 start-up. PCG and Sarawak Petchem signed a February 2024 MoU to study a low-carbon ammonia and urea plant in Bintulu, followed by a July 2024 PETROS gas-supply MoU for that project. Idemitsu's Malaysian subsidiaries have also obtained ISCC PLUS certification for styrene monomer and polystyrene production.

In January 2025, KT-Kinetics Technology, part of Maire SpA, has been awarded a US\$125 million contract for a new hydrogen production unit at Pengerang Biorefinery, part of the Pengerang refinery and petrochemical integrated complex in Johor state, Malaysia. In November 2025, PETRONAS, Enilive and Euglena broke ground on biorefinery, which is targeted to begin operations in the H2 of 2028. It is clear that the sustainability agenda is one which is actively being adopted by both private and public organizations.

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 commercialisation. 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 19 March 1997 and it is a formal association registered with the Registrar of Societies, Malaysia. MPA has 29 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 | 15. Mitsubishi Corporation Kuala Lumpur Branch |
| 2. Ancom Kimia Sdn Bhd | 16. Mogas Sdn Bhd |
| 3. Aramco Overseas Malaysia Sdn Bhd | 17. Optimistic Organic Sdn Bhd |
| 4. BASF (M) Sdn Bhd | 18. Pengerang Petrochemical Company Sdn Bhd |
| 5. BASF PETRONAS Chemicals Sdn Bhd | 19. Petrochemicals (M) Sdn Bhd |
| 6. CSA Chemicals Sdn Bhd | 20. PETRONAS Chemicals Derivatives Sdn Bhd |
| 7. Dairen Chemical (M) Sdn Bhd | 21. PETRONAS Chemicals Ethylene Sdn Bhd |
| 8. Excel Provisions Sdn Bhd | 22. PETRONAS Chemicals Group Berhad |
| 9. Exxonmobil Chemical Malaysia Sdn Bhd | 23. PETRONAS Chemicals LDPE Sdn Bhd |
| 10. Idemitsu Chemicals (M) Sdn Bhd | 24. PETRONAS Chemicals MTBE Sdn Bhd |
| 11. Johor Petroleum Development Corporation Berhad | 25. Poratha Corporation Sdn Bhd |
| 12. Kaneka (Malaysia) Sdn Bhd | 26. Recron (Malaysia) Sdn Bhd |
| 13. KOPETRO Trading & Services Sdn Bhd | 27. Satake Technologies Sdn Bhd |
| 14. Lotte Chemical Titan (M) Sdn Bhd | 28. Technip Energies (M) Sdn Bhd |
| | 29. Toray Plastics (M) Sdn Bhd |

4.2 Secretariat

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4.3 MPA Council (2025-2027)



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