

The Industrial Production Index (IPI)

The Industrial Production Index (IPI) is a seasonally adjusted, volume-based gauge of Malaysia's core industrial output. It aggregates physical production data from three sectors—mining (crude oil, natural gas, minerals), manufacturing (factories producing everything from electronics to food products) and electricity (power generation and distribution)—using fixed expenditure weights to strip out price effects and capture real changes in output. Because industry is sensitive to demand swings, input costs and supply-chain disruptions, the IPI often leads broader GDP readings by several months, making it a trusted barometer of the economy's short-term momentum.

Each month, the Department of Statistics Malaysia surveys over 5,000 establishments to collect quantities of goods produced (e.g. tonnes, kilowatt-hours, units) and then aggregates them into sector and total indices. An IPI value above 100 means output has grown; a value below 100 indicates a contraction. For example, when diesel prices rose sharply after subsidy cuts, higher transport and fuel costs showed up quickly in manufacturing sub-index slowdowns, even before they appeared in broader economic data.

By isolating the manufacturing sub-index—which in 2023 contributed just under 23 percent of GDP and employed about 2.2 million workers—we can measure the real-economy impact of policy changes like the diesel subsidy reform. Tracking its monthly path (January 2010 through December 2024) reveals not only cyclical swings driven by global demand but also structural trends—such as gradual shifts toward higher-value, less energy-intensive production—that inform both business decisions and government policy.

The full monthly IPI series (including the breakdown by sector) can be downloaded directly from DOSM's OpenDOSM portal: <https://data.gov.my/data-catalogue/ipi>

Overall Manufacturing Performance Trend in Malaysia (Jan 2024–Dec 2024)

The chart above presents Malaysia's Manufacturing Performance Index (blue line) alongside the Seasonally Adjusted Manufacturing Index (green line) over the period January 2024 through December 2024, using a 2015 = 100 base. A vertical dashed line marks June 2024, when major diesel subsidy reforms were enacted. This analysis examines how the reform influenced manufacturing activity, isolating short-term reactions and medium-term adjustments in cost structures, output, and sectoral resilience.

Pre-Policy Performance (Jan–May 2024)

From January to February 2024, the raw Manufacturing Index fell from approximately 142.3 to 133.7, reflecting typical post-holiday adjustments and inventory realignment. In contrast, the Seasonally Adjusted Index remained relatively flat (≈ 141.8 to 141.9), indicating that underlying activity was stable once seasonal factors were removed. Both series rose in March, with the raw index peaking near 144.5, suggesting a pickup in production ahead of the reform announcement amid pent-up demand and restocking. April saw a pullback in the raw series (≈ 132.6) as factories deferred major capital outlays pending policy clarity, while the seasonally adjusted series edged to 142.2, underscoring steady baseline output. The

gradual ascent of both indices into May (raw: ≈ 141.4 ; adjusted: ≈ 147.8) points to manufacturers preparing for higher input costs.

Immediate Impact of Diesel Subsidy Reform (June–August 2024)

June 2024's vertical line marks when diesel subsidies were restructured. The raw index climbed to about 150.2 in June, representing a strong short-term boost—likely driven by accelerated production ahead of full subsidy removal and one-off government support measures. The seasonally adjusted index, however, dipped slightly to approximately 146.5, suggesting that once seasonal patterns are accounted for, output growth was more muted. In July and August, the raw index moderated to 147.3 and then jumped again to 152.8, indicating mixed responses: some manufacturers ramped up activity to offset rising fuel costs, while others delayed production. The adjusted series rose to 150.5 in July before easing to 149.3 in August, reflecting an initial stabilization followed by a modest slowdown in core manufacturing momentum.

Medium-Term Adjustment (September–December 2024)

Following the immediate reform effects, both indices exhibit a gradual convergence. From September through October, the raw index declined from roughly 151.1 to 149.4, and the adjusted index decreased from 145.1 to 144.7. This docile downward trend signals that the full cost burden of higher diesel prices was increasingly absorbed by manufacturers, leading to slight output contraction. November saw a recovery in the raw index to about 150.7 and in the adjusted index to 145.5, suggesting that firms had begun implementing efficiency measures—such as fuel-saving technologies or revised logistics—to mitigate cost pressures. By December, indices leveled off (raw: ~ 148.8 ; adjusted: ~ 145.8), indicating that the sector had largely adjusted to the new subsidy regime, achieving a new equilibrium above the 2015 base.

Discussion

- **Cost Pass-Through and Pricing:** The initial surge in raw manufacturing output likely reflects temporary measures—stockpiling and government transitional support—rather than sustainable growth.
- **SME Vulnerability:** Smaller enterprises, less able to absorb price shocks, may have contributed to the pronounced volatility in the raw index, whereas larger firms maintained steadier production, as seen in the smoothed adjusted series.
- **Modernization Incentives:** The recovery in late 2024 corresponds with reported investments in cleaner machinery and optimized supply chains, aligning with policy objectives to incentivize efficiency (Ministry of Finance Malaysia, 2024).
- **Employment and Inflation:** The mild contraction in core manufacturing activity post-reform may have exerted modest upward pressure on product prices and could have short-term effects on labour demand, supporting the need for targeted subsidies and training programs.

Overall, the diesel subsidy reform produced a two-phase effect: an initial spike in recorded output as manufacturers front-loaded production, followed by a gradual realignment to a slightly lower but more sustainable operating level. The sector's ability to stabilize by year-end indicates effective adaptation strategies, though continued monitoring of small-scale producers and inflationary impacts remains crucial

Industrial Production Index (IPI)

Department of Statistics Malaysia. (2025). *Industrial Production Index (IPI) – Data Catalogue*. Retrieved May 17, 2025, from <https://open.dosm.gov.my/data-catalogue/ipi>

Diesel Subsidy Reform Announcement

Ministry of Finance Malaysia. (2024, June 11). *Government implements targeted diesel subsidy for Peninsular Malaysia effective 10 June 2024* [Press release]. Retrieved May 17, 2025, from <https://www.mof.gov.my/portal/en/news/press-release/government-implements-targeted-diesel-subsidy-for-peninsular-malaysia-effective-10-june-2024>

SME Impact Analysis

SME Bank. (2023). *Impact of diesel subsidy rationalisation* [PDF]. Retrieved May 17, 2025, from <https://www.smebank.com.my/documents/d/guest/DieselSubsidyRationalisation>

Inflation Outlook Post-Reform

Reuters. (2024, June 13). Malaysia keeps inflation outlook for 2024 after diesel subsidy reforms. *Reuters*. Retrieved from <https://www.reuters.com/markets/asia/malaysia-keeps-inflation-outlook-2024-after-diesel-subsidy-reforms-2024-06-13/>

Ripple Effects on Transport-Related Prices

Jasmi, M. A. (2024, June 11). Opinion: The impact of the diesel price hike in Malaysia. *300th*. Retrieved from <https://threehundredth.com/opinion-the-impact-of-the-diesel-price-hike-in-malaysia/>

Analysis of Fuel-Sensitive Manufacturing Divisions

Impact on Fuel-Sensitive Manufacturing Sectors (Vertical Bar Chart)

What it shows:

Year-on-year growth rates in 2024 for ten manufacturing divisions deemed most sensitive to diesel price changes. The vertical axis measures percentage growth of the Industrial Production Index (IPI) for each division; the horizontal axis lists sectors from strongest growth (left) to contraction (right).

Key takeaways:

- Top growers under pressure:
 - *Computer, Electronic, and Optical Products* (+8.4 %) and *Machinery Repair and Installation* (+7.9%) recorded the highest growth despite higher fuel

costs—indicating either strong external demand or pre-reform stockpiling.

- *Fabricated Metal Products* (+6.4%) and *Chemicals and Chemical Products* (+5.7%) also sustained positive expansion, likely through cost-pass-through to end buyers.
- Sectors in decline:
 - *Other Transport Equipment* (−2.0%) and *Coke and Refined Petroleum Products* (−0.8%) contracted, underscoring their low flexibility to absorb diesel price hikes or to switch to alternative energy sources.
- Mid-range performers:
 - *Wearing Apparel* (+5.1%), *Rubber and Plastics* (+4.7%), and *Paper and Paper Products* (+2.3%) show moderate growth, reflecting mixed impacts from both higher logistics costs and varied degrees of automation.

Division Sensitivity Analysis (Horizontal Bar Chart)

What it shows:

A “Fuel Sensitivity Score” for each division, calculated as the average monthly change in output growth per 1% change in diesel price. Higher scores denote greater responsiveness of production to fuel costs.

Key takeaways:

- Most sensitive sectors:
 - *Non-metallic Mineral Products* (≈148 pts) and *Wearing Apparel* (≈139 pts) top the ranking, meaning a 1% diesel price rise correlates with roughly a 1.48% and 1.39% shift in their monthly IPI growth.
 - *Paper and Paper Products* (≈92 pts) and *Fabricated Metal Products* (≈84 pts) also exhibit strong fuel-driven volatility.
- Least sensitive sectors:
 - *Computer, Electronic, and Optical Products* (≈15 pts) and *Rubber and Plastics* (≈22 pts) are comparatively insulated, thanks to automation, value-dense output, and long-term freight contracts that hedge against spot fuel price swings.

Tabular Summary of Growth vs. Sensitivity

The table juxtaposes two dimensions of sectoral performance in the wake of Malaysia's diesel-subsidy reform:

Manufacturing Sector	YoY Growth (%)	Fuel Sensitivity Score (pts)
Non-metallic Mineral Products	2.3	147.9
Wearing Apparel	5.1	138.8
Paper and Paper Products	1.2	91.6
Fabricated Metal Products (excl. Machinery)	6.4	84.0
Machinery Repair and Installation	7.9	64.5
Chemicals and Chemical Products	5.7	58.1
Other Transport Equipment	−2.0	54.8
Coke and Refined Petroleum Products	−0.8	53.5
Rubber and Plastics Products	4.7	21.9
Computer, Electronic, and Optical Products	8.4	15.1

Key analytical insights:

1. High Sensitivity vs. Modest Expansion

- *Non-metallic Mineral Products* and *Wearing Apparel* top the list in sensitivity (≈148 and 139 pts), meaning their monthly output swings ~1.4–1.5 % for every 1 % change in diesel price.
- Yet their annual growth (2.3 % and 5.1 %) is middling. This suggests that while these sectors can respond quickly to fuel-price swings—likely by cutting back production or passing costs on—they struggle to leverage higher costs into sustainable expansion.

2. Strong Growth, Low Vulnerability

- *Computer, Electronic, and Optical Products* achieve the highest YoY growth (8.4 %) yet rank lowest in sensitivity (15.1 pts). Their business model—high value per unit weight, advanced automation, and global supply-chain contracts—buffers them from local fuel-price shocks.
- *Rubber and Plastics* also grow at 4.7 % with a relatively low sensitivity (21.9 pts), reflecting a moderate ability to hedge or absorb fuel costs through process efficiencies or alternative feedstocks.

3. Contraction under Fuel Pressure

- *Other Transport Equipment* (−2.0 %) and *Coke and Refined Petroleum Products* (−0.8 %) both shrink year-on-year and exhibit above-average sensitivity scores (≈55 pts). These divisions rely heavily on diesel both as an energy source and — in the case of coke/refined products — as a core raw material, leaving them little flexibility when prices rise.

4. Mid-Tier Sectors: Variable Strategies

- *Fabricated Metal Products* (6.4 % growth; 84.0 pts sensitivity) and *Paper and Paper Products* (1.2 % growth; 91.6 pts) occupy the middle ground. Their moderate expansion alongside high sensitivity indicates mixed outcomes: some firms invest in fuel-saving technology or pass costs through, while others face margin squeeze.
- *Machinery Repair and Installation* (7.9 %; 64.5 pts) and *Chemicals and Chemical Products* (5.7 %; 58.1 pts) demonstrate that machinery-intensive and chemical processing divisions can both grow robustly and partially mitigate fuel-cost volatility—often via targeted efficiency upgrades or service premium pricing.

Implications for Policy and Industry

- **Targeted Relief:** High-sensitivity, low-growth sectors (e.g., Non-metallic Minerals, Apparel, Paper) may benefit most from conditional support (e.g., temporary rebates, low-interest modernization loans).
- **Incentivizing Insulation:** The resilience of electronics and plastics suggests that automation subsidies and long-term freight contracts are effective hedges—extending such incentives can help other divisions reduce vulnerability.
- **Monitoring Contraction Risks:** The downturn in transport equipment and petroleum products underscores the need for strategic oversight; structural shifts (e.g., alternative fuels, circular-economy feedstocks) may be vital to restoring competitiveness.

By reading the table this way—as a two-dimensional matrix of **growth capacity** versus **fuel-price vulnerability**—stakeholders can calibrate both immediate relief measures and longer-term industrial modernization strategies.

Methodology & Drivers

Methodology Overview:

- **Fuel Sensitivity Score:** For each division, monthly IPI growth differences (post-reform vs. pre-reform) are divided by corresponding monthly diesel price changes to yield a “sensitivity contribution.” The annual average of these contributions is the sector’s sensitivity score.
- **Sector Selection:** The analysis focuses on the top ten divisions by sensitivity score.

Why These Sectors Are More Affected

1. High Energy Intensity

Industries such as **Fabricated Metal Products** and **Chemicals and Chemical Products** consume disproportionately large volumes of diesel in core processes (e.g., melting, synthesis), making their production costs highly elastic to fuel prices. In Malaysia’s industrial energy audit, the chemical sector’s diesel consumption in 1998 was over 138 million litres—far exceeding most other divisions—while non-metallic mineral products and base metals similarly ranked among the top fuel users (Table 4) [UM Research Repository](#).

2. Dependence on Diesel-Powered Machinery

Sectors like **Machinery Repair and Installation** rely heavily on mobile equipment and on-site generators powered by diesel. A comprehensive audit of 64 Malaysian factories across seven manufacturing sectors found that diesel was a primary fuel type used for machinery operation, underscoring the direct linkage between diesel

prices and operational expenses in this division [ScienceDirect](#).

3. **Reliance on Road Transport**

Many sectors—including **Wearing Apparel, Rubber and Plastics**, and **Paper and Paper Products**—depend on diesel-powered logistics for both inbound raw materials and outbound finished goods. According to the ERIA Energy Outlook, the transport sector alone accounted for **39 %** of Malaysia's total final energy consumption in 2020, the largest share of any sector, highlighting the outsized impact of diesel costs on logistics-intensive manufacturing [ERIA](#).

4. **Fuel-Sensitive Supply Chains**

Even higher-value, lower-volume industries such as **Computer, Electronic, and Optical Products** are not immune to diesel price shocks. Global supply-chain freight costs often include diesel surcharges, meaning a 1 % rise in diesel prices can translate into measurable increases in inbound shipping and warehousing expenses. The World Bank's framework for measuring fuel-price pass-through documents how logistics-driven sectors exhibit sensitivity to fuel-cost fluctuations through contractual freight-rate adjustments .

5. **Limited Alternatives to Diesel**

Divisions like **Coke and Refined Petroleum Products** have few viable substitutes for diesel, as it serves both as a feedstock and a fuel source. While Malaysia's National Biofuels Policy promotes biodiesel blends (B10/B20), uptake remains partial—just under 1 billion litres of biodiesel produced in 2023 versus over 3 billion litres of diesel consumed—leaving refineries largely exposed to market-price diesel and its 50 % price increase post-reform [mida.gov.my](#).

Industrial Production Index by Division (2-digit MSIC)

- Monthly volume and year-on-year growth rates for each manufacturing division:
https://open.dosm.gov.my/data-catalogue/ipi_2d

Diesel Subsidy Reform Press Release

- Official announcement of the RM 2.15→RM 3.35-per-litre diesel price change, effective 10 June 2024:

<https://www.mof.gov.my/portal/en/news/press-release/government-implements-targeted-diesel-subsidy-for-peninsular-malaysia-effective-10-june-2024>

Diesel Price Impact Analysis Chart

The dual-axis line chart plots the **Manufacturing Production Index** (blue line, left axis, base 2015 = 100) against the **average retail diesel price** in Peninsular Malaysia (orange line, right axis, RM per litre) for each month in 2024. Key analytical observations:

- **Pre-Reform Stability (Jan–May 2024):** Diesel prices held steady at **RM 2.15/L**, while the manufacturing index oscillated between **133** and **145**—reflecting normal seasonal production shifts and inventory cycles.
- **Reform-Driven Price Spike (Jun–Jul 2024):** On **10 June 2024**, the diesel subsidy was restructured, catapulting prices to **RM 3.35/L** by June and **RM 3.50/L** in July. Despite this **~55 %** price jump, manufacturing output **rose sharply** to **150.2** in June and then dipped to **147.3** in July—indicating a brief stockpiling effect followed by initial cost absorption.
- **Lagged Output Response (Aug–Dec 2024):** Diesel prices eased modestly back to **RM 3.25–3.30/L**, but manufacturing growth **peaked** at **153.0** in August before declining to **148.8** by December. This lag suggests that higher fuel costs gradually eroded margins, particularly in energy-intensive sub-sectors, leading to a measurable slowdown in later months.

What Citizens Should Know

- **Short-Term Resilience:** Manufacturing output continued to expand through August despite a **~50 %** diesel price hike, suggesting preparatory stockpiling and large-firm buffer capacity.
- **Delayed Impact:** From September to December, the index fell from **151.3** to **148.8**, showing that cost pressures materialized over several months rather than immediately.
- **Cost Pass-Through:** Diesel drives logistics, transport, and on-site machinery. Rising diesel costs increase production expenses, potentially translating into higher consumer prices and tighter margins for small and medium enterprises (SMEs) .
- **Large vs. Small Firms:** Large manufacturers often hedge risk through bulk procurement and automation, whereas SMEs—lacking scale—absorb price shocks directly, risking slower growth or reduced output.
- **Policy Monitoring:** The lag between price change and output contraction highlights the need for ongoing tracking of both fuel costs and industrial performance to time any support measures effectively.

Reuters. (2024, June 9). *Malaysia begins diesel subsidy reforms; prices rise by about 50% Monday*. Retrieved from <https://www.reuters.com/markets/commodities/malaysia-begins-diesel-subsidy-reforms-price-s-rise-by-about-50-monday-2024-06-09/>

Reuters. (2024, August 13). *Malaysia's July industrial production up 5.3% y/y, above forecast*. Retrieved from https://www.tradingview.com/news/reuters.com%2C2024%3Anewsml_P8N3I500A%3A0-malaysia-s-july-industrial-production-up-5-3-y-y-above-forecast/

Reuters. (2024, December 10). *Malaysia's October industrial production up 2.1%, below forecast*. Retrieved from <https://www.reuters.com/markets/asia/malaysias-october-industrial-production-up-21-below-forecast-2024-12-10/>