

**Required Report:** Required - Public Distribution

**Date:** August 14, 2026

**Report Number:** ID2026-0033

## **Report Name:** Biofuels Annual

**Country:** Indonesia

**Post:** Jakarta

**Report Category:** Biofuels

**Prepared By:** Arif Rahmanulloh

**Approved By:** Kristina Schammel

### **Report Highlights:**

In early March 2026, Indonesia unveiled a new biofuel roadmap that phases in a 5 percent bioethanol blend (E5) for non-public service obligation (PSO) or non-subsidized gasoline, beginning with a geographic rollout across Java Island in 2026 to 2027 and expanding nationwide to a 10 percent blend (E10) by 2028. Rising global energy prices led the Government of Indonesia (GOI) to tighten controls on subsidized-fuel consumption while keeping retail prices for higher octane (RON 90) gasoline and subsidized diesel unchanged. This approach shielded consumers' purchasing power from the impact of global price increases. Against this backdrop, the GOI accelerated its biodiesel blending mandate raising it from a 40 percent biodiesel blend (B40) to a 50 percent biodiesel blend (B50) in July 2026, ahead of the new roadmap's original timeline and revising the fuel allocation upward.

*General Terms and Abbreviations:*

|       |                                                                                   |
|-------|-----------------------------------------------------------------------------------|
| BBD   | Biomass-based Diesel                                                              |
| CPO   | Crude Palm Oil                                                                    |
| ESDM  | Ministry of Energy and Mineral Resources                                          |
| EU    | European Union                                                                    |
| FAME  | Fatty Acid Methyl Ester (aka biodiesel)                                           |
| GHG   | Greenhouse Gas                                                                    |
| HDRD  | Hydrogenation Derived Renewable Diesel (also known as Hydrotreated Vegetable Oil) |
| HEFA  | Hydro-processed Fatty Acid Esters and Fatty Acids (ASTM-certified SAF pathway)    |
| HVO   | Hydrotreated Vegetable Oil (older term still used for HDRD)                       |
| ISPO  | Indonesian Sustainable Palm Oil                                                   |
| KLHK  | Ministry of Environment and Forestry                                              |
| LCA   | Life Cycle Analysis                                                               |
| MOT   | Ministry of Trade                                                                 |
| MW    | Mega Watt                                                                         |
| GW    | Giga Watt                                                                         |
| NDC   | Nationally Determined Contribution                                                |
| PFAD  | Palm Fatty Acid Distillate                                                        |
| PME   | Palm oil Methyl Ester                                                             |
| POME  | Palm Oil Mill Effluent                                                            |
| PKFAD | Palm Kernel Fatty Acid Distillate                                                 |
| PSO   | Public Service Obligation                                                         |
| PTA   | Preferential Trade Agreement                                                      |
| BDPO  | Refined Bleached Deodorized Palm Oil                                              |
| RON   | Research Octane Number                                                            |
| RSPO  | Roundtable Sustainable Palm Oil                                                   |
| SAF   | Sustainable Aviation Fuel                                                         |
| UCO   | Used Cooking Oil                                                                  |

## I. Executive Summary

Indonesia continues to advance its biofuels program in 2026, driven by energy self-sufficiency goals, greenhouse gas (GHG) emission reduction targets, and the national energy transition agenda. The regulatory framework has been substantially updated, with Ministry of Energy and Mineral Resources (ESDM) Regulation 4/2025 establishing the operational foundation for biofuel programs and ESDM Decree 113/2026 introducing a new blending mandate roadmap through 2030.

**Biodiesel** remains the cornerstone of Indonesia's biofuels program. In July 2026, the GOI raised the blending mandate from B40 to B50, with a three-month transition period. The GOI increased the 2026 biodiesel allocation from 15.6 billion liters to 17.6 billion liters in response. Post expects biodiesel consumption to reach 17.5 billion liters in 2026, a 17 percent increase from 2025. Indonesia relies almost exclusively on palm oil as biodiesel feedstock. The financial support mechanism financed through export levies and managed by Indonesia's Plantation Fund Management Agency (BPDP) is under mounting strain: its balance halved in 2025 to Indonesian Rupiah (IDR) 18.5 trillion (USD\$1.1 billion) by year-end, as subsidy payouts outpaced levy revenue. In March 2026, the GOI raised export levy tariffs to shore up the fund's financial position.

**Bioethanol** remains an emerging market. Indonesia is working to reactivate its bioethanol mandate program with the new roadmap scheduling an E5 mandate for non-PSO gasoline beginning in 2026 and scaling to E10 by 2028 with a geographically phased rollout starting in Java. As of early July 2026, the E5 rollout timeline remains unclear. Fuel ethanol blending volumes reached 0.8 million liters in 2025 and are forecast at 1.5 million liters in 2026, representing a negligible share of Indonesia's 37-billion-liter gasoline market. In May 2026, the Ministry of Finance (PMK) issued PMK 34/2026, exempting fuel ethanol from alcohol-related excise taxes, a key step towards lowering production costs and supporting blending expansion.

**Sustainable aviation fuel (SAF)** is at an early stage in market development, with a 1 percent blend mandate scheduled for 2027, initially limited to two major airports. Pertamina, Indonesia's sole SAF producer, faces significant hurdles including feedstock quality variability, high production costs, and a fragmented supply chain.

**On trade policy**, Indonesia tightened ethanol import controls under Ministry of Trade (MOT) Regulation 32/2025, requiring import approval beginning October 2025. Ethanol exports are forecast at 52 million liters in 2026, a 13 percent decline from the prior year, driven by tighter competition. The GOI also restricted exports of waste-stream feedstocks, including used cooking oil (UCO) and palm oil mill effluent (POME) to support domestic biodiesel production.

Indonesia's biofuels sector faces a complex balancing act: scaling up blending mandates while managing fund solvency, feedstock competition, infrastructure gaps, and international trade pressures, including ongoing World Trade Organization (WTO) disputes with the European Union over palm oil-based biofuel policies.

## II. Policy and Programs

Indonesia began adopting national-level biofuel policies in 2006 with the issuance of [Government Regulation \(GR\) Regulation 1](#) concerning the procurement and usage of biofuels. In support of the regulation, the President issued Presidential Decree (PD) Regulation 10/2006 establishing a National Biofuels Development Team, responsible for supervising the implementation of biofuel programs and creating a blueprint for biofuels development. The blueprint, which focuses on economic development goals rather than environmental goals, aims to (1) alleviate poverty and unemployment, (2) drive economic activity through biofuel procurement, and (3) reduce domestic fossil fuel consumption. In 2007, Indonesia's House of Representatives (DPR) passed the Energy Law ([UU 30/2007](#)) to strengthen regulations prioritizing the use of renewable energy.

The National Energy Policy (KEN), the most important basis for the biofuels program, is now updated with [GR 40/2025](#), signed in September 2025. GR 40/2025 reflects a shift from an era focused on meeting energy supply targets to an era of clean energy transition and total decarbonization. GR 40/2025 incorporates modern market-based instruments such as carbon tax, value of carbon economy, and net-zero emissions targets. The new KEN sets target of new and renewable energy share between 19 percent to 23 percent of primary energy supply in 2030.

GR 40/2025 affirms that biofuels are among the commodities whose exports must be strictly controlled to prioritize meeting domestic energy needs and ensuring domestic security first. According to GR 40/2025, biofuels are intended to support decarbonization in the transportation sector that is difficult to electrify as well as the substitution of thermal energy in the industrial sector. In short, biofuels are part of the country's decarbonization strategy, with declining contributions, in reaching net zero emissions in 2060 or sooner (see Table 1).

**Table 1. Biofuel Projection in National Energy Policy 2025**

|                                                                      | 2030        | 2040        | 2050        | 2060        |
|----------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| Biofuel use in Final Energy Utilization (million-ton oil equivalent) | 18.7 – 22.7 | 21.9 – 25.2 | 18.7 – 22.1 | 13.6 – 19.9 |
| Biofuel contribution target in Primary Energy Supply (percent)       | 5.1 - 5.2   | 4.2 – 4.7   | 3.1 – 3.2   | 2.1 – 2.6   |

*Source: GR 40/2025*

While GR 40/2025 mainly sets a series of goals, presidential regulations (PR) typically establish direct operational and technical elaboration. GOI is now [drafting a PR on the national energy master plan](#) which is expected to consist of a roadmap or a cross-sectional matrix and concrete steps to achieve target set by KEN.

*A. Renewable Energy and GHG Emissions*

Indonesia submitted its [Second Nationally Determined Contribution \(NDC\)](#) to the United Nations Framework Convention on Climate Change (UNFCCC) in October 2025, marking a significant increase in climate ambition compared to its previous NDC. By 2023, the Second NDC projects lower emission scenario between 8.0 to 17.5 percent lower than that under the previous NDC. The Second NDC also sets Indonesia's national GHG emission reduction target for 2025 through 2030 at 915 million tons carbon dioxide equivalent (CO<sub>2e</sub>) (31.89 percent) through unconditional domestic efforts, and up to 1,240 million tons CO<sub>2e</sub> (43.20 percent) with international support, against the 2010 baseline.

Within the energy sector specifically, Indonesia targets an unconditional emission reduction of 358 million tons CO<sub>2e</sub> and a conditional reduction of 446 million tons CO<sub>2e</sub> against a sectoral baseline of 1,669 million tons CO<sub>2e</sub>. To help achieve these energy targets, the deployment of biofuels in power generation, industry, and transportation carries an unconditional mitigation target of 47.53 million tons CO<sub>2e</sub>. In addition, the utilization of bio gasoline in the transport sector will further support an additional 0.44 million tons CO<sub>2e</sub> unconditional reduction target. The Second NDC remains aligned with Indonesia’s Long-Term Strategy for Low Carbon and Climate Resilience 2050 ([LTS-LCCR 2050](#)).

The LTS-LCCR 2050 puts forth biofuels as Indonesia's main source of energy in the transportation sector by 2050 (see Table 2). It would gradually replace gasoline with bioethanol and palm oil-based gasoline and replace diesel with palm biodiesel and renewable diesel. This strategy calls for a massive increase in electricity generation, while reducing reliance on oil-based fuel sources.

**Table 2. Indonesia Transport Energy Share 2024 vs 2050**

| Energy Source | 2024 Status  | Contribution by 2050 |
|---------------|--------------|----------------------|
| Biofuels      | 46 percent   | 46 percent           |
| Oil Fuels     | 53 percent   | 20 percent           |
| Electricity   | 0.05 percent | 30 percent           |
| Natural Gas   | 0.06 percent | 4 percent            |

*Source: Indonesia LTS-LCCR, ESDM*

*B. Policy & Programs Aimed Specifically at Biofuels*

[ESDM Regulation 4/2025](#) establishes a regulatory framework for biofuel programs with major considerations including energy self-sufficiency, reduction of GHG emissions, renewable energy use, and biofuel management aligned with energy transition policy. The regulation prioritizes domestic production to meet national biofuel demand, notably prohibiting biofuel companies from importing biofuels while requiring them to ensure a continuous supply. It also encourages the use of locally sourced feedstocks, organic waste, and other biomaterials to reduce reliance on imported energy sources, consistent with the national goal of energy self-sufficiency. Additionally, ESDM Regulation 4/2025 requires fuel blending companies to prioritize the use of domestically produced biofuels.

In early April 2026, the Government of Indonesia (GOI) introduced a new blending mandate roadmap, superseding the previous roadmap established under ESDM Decree 12/2015. The new roadmap, adopted

under [ESDM Decree 113/2026](#), reaffirms the government's energy transition and self-sufficiency targets. It introduces a regional-based implementation approach, specifically for bioethanol. Bioethanol blending begins at E5 for 2026–2027, doubles to E10 by 2028, and is maintained thereafter. Rollout is geographically phased: starting with all provinces on Java Island in 2026 (East Java, DKI Jakarta, West Java, Banten, Central Java, and Yogyakarta); expanding to seven provinces in 2027–2028 (adding Bali); and reaching eight provinces by 2029–2030 (adding Lampung).

For biodiesel, the roadmap schedules B50 for the subsidized diesel (PSO diesel) segment beginning in 2027, expanding to both subsidized and non-subsidized diesel segments in 2028 and remaining at that level through 2030. Biodiesel implementation is nationwide for both segments, with no regional phasing. Renewable diesel follows the same trajectory as bioethanol, 5 percent in 2026 to 2027 and 10 percent from 2028 onward, but applies nationally. SAF blending is the most nascent stream, beginning at 1 percent in 2027 and scaling to 5 percent in 2029, initially limited to two major airports.

In addition to the implementation schedule, ESDM Decree 113/2026 explicitly conditions implementation on three readiness factors: feedstock availability, financing availability, and supporting infrastructure. The decree also states that volume allocations per fuel business entity will be established separately through a dedicated Ministerial Decree on biofuel volume allocation.

**Table 3. Indonesia Biofuel Blending Schedule 2026-2030**

| Biofuel          | Fuel Category    | 2026 | 2027 | 2028 | 2029 | 2030 |
|------------------|------------------|------|------|------|------|------|
| Biodiesel        | PSO Diesel       | 40%  | 50%  | 50%  | 50%  | 50%  |
| Biodiesel        | Non-PSO Diesel   | 40%  | 40%  | 50%  | 50%  | 50%  |
| Bioethanol       | Non-PSO Gasoline | 5%   | 5%   | 10%  | 10%  | 10%  |
| Renewable Diesel | Non-PSO Diesel*  | 5%   | 5%   | 10%  | 10%  | 10%  |
| Bio-avtur (SAF)  | Avtur            | —    | 1%   | 1%   | 5%   | 5%   |

*\*Diesel with Cetane Number 51, Source: ESDM 113/2026*

*Biodiesel Mandate Program*

Indonesia's biodiesel mandate program is a nationwide directive to blend fatty acid methyl ester (FAME), known as palm oil-based biodiesel, with diesel to reduce fuel imports, generate domestic demand for palm oil, and lower emissions. The biodiesel program was initially financially unstable. In 2015, the GOI shifted from funding subsidies through the national state budget (APBN) to funding them through the newly established Plantation Fund Management Agency, now known as BPDP<sup>1</sup>. Through BPDP, the GOI collects levies on palm oil exports. As this funding stream proved reliable, Indonesia aggressively expanded the biodiesel blending program from its initial scope limited to public service obligation (PSO) industries to a nationwide B20 mandate in 2018, and further advanced it to B30 in January 2020. In February 2023, Indonesia increased its biodiesel blending mandate to 35 percent (B35)

<sup>1</sup> Through [PR 132/2024](#), the GOI widens coverage of the Plantation Fund Management agency from only-palm oil to include coconut and cocoa.

for several regions and expanded it to nationwide coverage by August 2023<sup>2</sup>. Indonesia raised the mandate from B35 to B40 in January 2025, with a two-month transition period. Prior to implementation, the GOI conducted a B40 road test in 2022 to evaluate performance across two diesel fuel configurations: (1) 40-percent FAME, and (2) 30-percent FAME plus 10-percent renewable diesel.

In January 2025, Indonesia also moved to restrict exports of waste-stream feedstocks, including UCO, POME, and high acid palm oil residue (HAPOR), through [Ministry of Trade \(MOT\) Regulation 2/2025](#). According to MOT, this policy aims to ensure sufficient domestic availability of raw materials for the cooking oil industry to supply the "people's cooking oil" program ("Minyakita"). The policy also aims to support biodiesel production under the B40 mandate (see [ID2025-0009](#)).

In July 2026, the GOI raised the blend mandate from B40 to B50, with a three-month transition period. Fuel retailers may draw down remaining B40 stocks through September 2026, after which they must use B50. In conjunction with the higher blending rate, the [GOI increased the 2026 biodiesel allocation](#) from 15.6 billion liters to 17.6 billion liters. As of April 2026, biodiesel distribution reached 4.6 billion liters, equivalent to 29.5 percent of the initial allocation.

### *Financial Support for the Biodiesel Mandate Program*

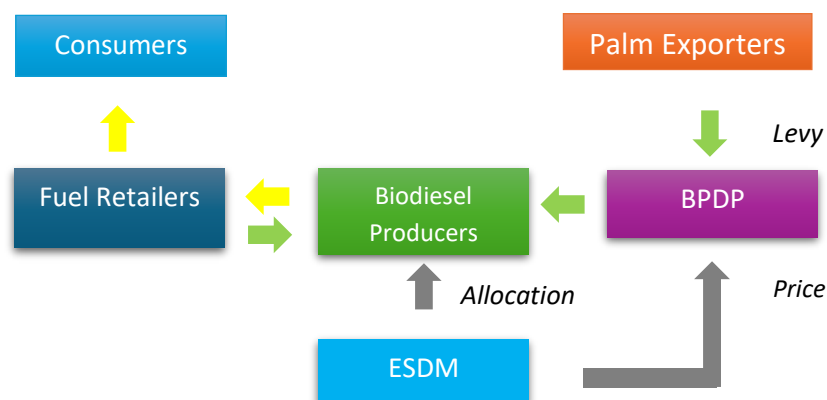
The GOI completely overhauled the financial support mechanism for domestic biodiesel consumption in 2015. The revised scheme, with modifications as needed, has proven effective and durable. BPDP manages the mechanism, collecting funds through a palm product export levy to offset the price gap between biodiesel and fossil diesel. The agency also directs funds towards research and development, replanting, and palm promotion activities.

Since 2019, the GOI has set domestic biodiesel supply allocations on an annual basis. The ESDM establishes volumes for fuel retailers both private and state-owned companies and assigns supply allocations to biodiesel producers, who in turn supply palm oil-based biodiesel for blending. BPDP disburses funds based on the spread between the diesel market index price (HIP Diesel), published by the Directorate General of Oil and Gas (DG Migas), and the biodiesel market index price (HIP Biodiesel), published by the Directorate of New and Renewable Energy (DG EBTKE). Both offices are part of the ESDM (see Figure 1).

---

<sup>2</sup> Since 2019, certain sectors, including military vehicles, some power plants, and high-altitude mining operations, have been exempted from the mandate program.

**Figure 1. Indonesia Biodiesel Support Mechanism**



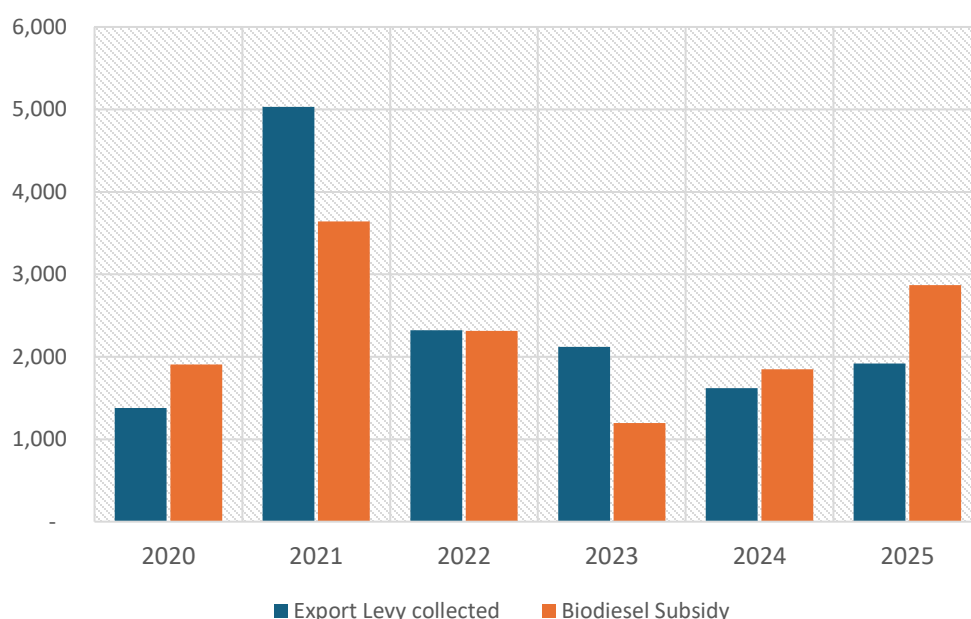
Source: ESDM

Over the past several years, the GOI has frequently adjusted its export levy scheme to maintain the solvency of the crude palm oil (CPO) fund amid palm oil price fluctuations. In December 2018, the export levy structure shifted from a flat rate to a progressive price-based formula in response to declining CPO prices. As prices continued to fall into 2019, the GOI suspended CPO levy collection altogether, resulting in no new revenues for the entirety of that year. Beginning in 2022, the GOI expanded the list of leviable palm products to include palm waste streams. As of the most recent update in May 2025, the leviable list includes 34 palm products.

In 2025, the GOI tasked the BPDP with supporting coconut and cacao development in addition to its palm oil mandate. However, because these additional commodity programs were introduced without a corresponding export levy, they are effectively subsidized by palm oil export revenues. This expansion is likely to modestly weaken BPDP's financial position, as most of collected funds remain committed to subsidizing the biodiesel mandate program. Additionally, since 2023, the GOI has allocated a portion of export-levy revenues to palm oil-producing regional governments through the Palm Oil Revenue Sharing Fund (DBH Sawit). In 2025, BPDP funded DBH Sawit totaling IDR 1 trillion (USD\$63 million).

With increased expenditures and substantial subsidy requirements in 2025, the palm oil fund balance declined by half, falling to IDR 18.5 trillion (USD\$1.1 billion) at the end of 2025, compared with IDR 36 trillion (USD\$2.3 billion) at the end of 2024. As a result, Indonesia's 2025 biodiesel program drew on fund balances accumulated in 2021 and 2023.

**Figure 2. Exports Levy and Biodiesel Subsidy 2020-2025 (\$ million)**



Source: BPDP

### *Bioethanol Mandate Program*

With the new roadmap introduced in early 2026, Indonesia is working to reactivate its bioethanol mandate program, which was discontinued in 2010 (see [ID-1823](#)). As of early July 2026, the rollout of the E5 mandate for non-PSO gasoline remains unclear, despite the roadmap scheduling E5 for 2026. In 2023, the GOI revived the bioethanol fuel program by introducing an E5 blending rate for the premium fuel market, limited to Java Island. The E5 blending rate was codified through [ESDM Decree 252/2023](#), which establishes specifications for RON 95 gasoline with 5 percent ethanol blending.

In May 2026, the Ministry of Finance issued [Regulation 34/2026](#), exempting fuel ethanol from alcohol-related excise taxes. This exemption eliminates a key financial bottleneck by providing an official excise tax exemption for bioethanol used in fuel blends, lowering production costs and supporting the expansion of fuel-ethanol blending operations.

To advance energy self-sufficiency goals, support local economic growth, improve the balance of payments, and strengthen the currency, the GOI established a task force to accelerate sugarcane expansion in Papua Province. [Presidential Decree \(PD\) 15/2024](#), issued in April 2024, aims to facilitate land acquisition for new sugarcane plantation areas and bioethanol production. Its implementing regulation, [Presidential Regulation \(PR\) 40/2023](#), sets Indonesia's targets of achieving self-sufficiency in sugar production for human consumption by 2028 and producing 1.2 billion liters of sugarcane-based ethanol by 2030. If all projected ethanol production were directed towards blending programs, it would be equivalent to an average nationwide blend rate of approximately E3.

In addition to sugarcane, the GOI and [Pertamina](#) are evaluating alternative feedstock crops, including sugar palm and sorghum. Both crops remain at a small-scale research-and-development stage and will

require years of development before reaching commercial supply levels sufficient for fuel ethanol production.

### *Sustainable Aviation Fuel (SAF)*

Indonesia is in the early stages of laying the groundwork for a 1 percent SAF mandate scheduled for 2027 under the 2026 biofuel roadmap. In 2025, Pelita Air, a Pertamina subsidiary, conducted a commercial test flight using SAF derived from a UCO blend. Pertamina received International Sustainability and Carbon Certification (ISCC) under the European Union-Carbon Offsetting and Reduction Scheme for International Aviation (EU-CORSIA) in December 2024. In 2023, Pertamina and state-owned airline Garuda conducted a test flight on a Boeing 737-800 NG using palm-based SAF. Additional tests included a military aircraft test flight and a static test on CFM56-7B jet engines.

As Indonesia's only SAF producer, Pertamina faces significant hurdles in scaling SAF development. On the production side, high variability in UCO quality and specifications complicates the refining process relative to conventional crude oil. On the supply chain and economic front, Pertamina contends with unsustainable supply chains, high production costs, and a fragmented ecosystem connecting feedstock suppliers, refineries, and airlines. To overcome these barriers and secure the financial certainty needed to build dedicated SAF refineries, Pertamina requires consistent regulations, economic incentives, and feedstock price controls.

### *Policy Impacting Indonesia's Fuel Pool*

Key policies affecting Indonesia's fuel pools are fuel subsidies and pricing, the low-carbon vehicles program, emissions standards, and electric vehicles.

#### *Fuel Subsidy and Pricing*

Indonesia provides subsidies for fuels, specifically for gasoline RON90 ("Pertalite") and diesel with cetane number 48 ("Biosolar"). The fuel subsidy mechanism sets a fuel retail price nearly fixed for each year, accommodated in the national budget (APBN) that was approved by the House of Representatives. Subsidized fuels have encouraged consumption, with RON90 holding the largest share of the gasoline market, between 82 and 84 percent, since 2022. Similarly, subsidized diesel holds between 87 and 91 percent of the diesel market.

In response to the spike in energy prices due to the closure of Hormuz Strait, the GOI froze the prices of subsidized fuels to protect domestic purchasing power. To fund this, the Ministry of Finance (MOF) injected an additional IDR 100 trillion (USD\$5.6 billion) into the energy subsidy buffer in 2026 state-budget, driving the state budget deficit near its legal 2.9 percent limit. The GOI chose to absorb the fiscal strain through early-year tax revenues and structural reserves rather than cutting funding for flagship programs.

To prevent the massive subsidy bill from spiraling further, the government simultaneously enforced aggressive volume controls and demand-suppression strategies starting in early April 2026. This included a strict 50-liter per day purchase limit on subsidized fuel for private and public vehicles, mandatory work-from-home for civil servants one day per week, and cuts to official state travel.

Meanwhile, non-subsidized fuel prices (gasoline with RON above 90 and diesel with higher than cetane number (CN) 48) were allowed to float.

### *Low Carbon Vehicles and Tax Incentives*

The GOI provides lower sales taxes on flex-fuel vehicles (FFVs), electric cars, and hybrids to encourage the adoption of low carbon emission vehicles. [GR Regulation 74/2021](#) provides lower sales taxes based on carbon emissions, engine capacity, and alternative technology. The tax incentive for flex-fuel vehicles likely generated little industry demand, given the limited availability of bioethanol fueling stations and more attractive tax cuts for electric vehicles (EVs). In August 2023, a local auto manufacturer exhibited a passenger vehicle with a flex-fuel engine capable of running on 100 percent bioethanol. However, the market penetration of flex-fuel vehicles remains at zero.

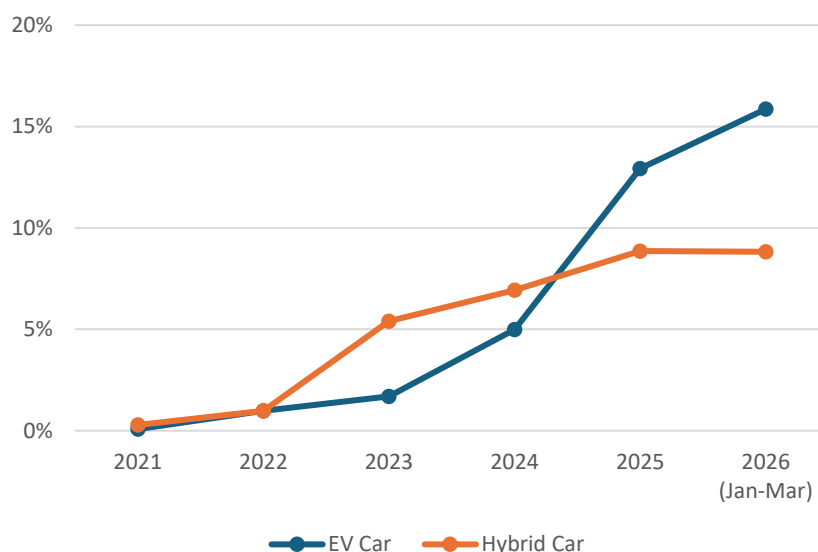
### *Emission Standards*

Indonesia has officially adopted Euro 4 emission standards, which cap sulfur content at 50 parts per million (ppm), but full implementation remains far off. While some fuels on the market meet this threshold, most fuel sold still fails to comply with Euro 4 requirements.

### *Electric Vehicle (EV) Adoption*

GOI has promoted the adoption of EVs since 2023 by providing tax incentives and subsidies, making EV cars and two-wheeler electric vehicles more affordable. Indonesia is set to deploy 2 million electric cars and 12 million two-wheelers by 2030, equal to 8 to 9 percent of the total vehicle population. Sales of EV vehicles have continued to rise in recent years. In 2024, EV sales accounted for approximately 6 percent of Indonesia's total car sales, or roughly 860,000 units. By the following year, EV sales surpassed 100,000 units, more than double the 2024 figure. Hybrid vehicle sales have also shown a rising trend, despite the absence of fiscal incentives.

**Figure 3. EV and Hybrid Share of New Car Sales (2021–2026)**



*Source: Gaikindo*

### ***C. Environmental Sustainability and Certification***

Indonesia expanded its domestic sustainability standard, the Indonesian Sustainable Palm Oil (ISPO) certification, from palm plantations to the bioenergy industry through [ESDM Regulation 3/2026](#), which takes effect in March 2027. The ISPO mandate covers bioenergy producers, including those in the biodiesel, biogas, and biomass sectors. Under the bioenergy ISPO framework, companies must comply with applicable laws, enforce traceability, practice environmental management, protect biodiversity, and uphold labor and social responsibilities. The existing ISPO standard for palm plantations covers a range of criteria, including greenhouse gas (GHG) emissions, land use, biodiversity, and labor practices.

The ISPO certification process is conducted by certifying agents recognized by the National Accreditation Committee (KAN). Since 2021, at least 15 certifying companies have received KAN recognition. As of May 2025, approximately 6.5 million hectares of palm plantations were ISPO-certified, representing about 39 percent of total planted area.

In addition to the mandatory ISPO requirements, several voluntary sustainability certification schemes support palm oil product exports, including the Roundtable on Sustainable Palm Oil (RSPO). Voluntary certifications are also available for POME processing facilities, covering both export-oriented and methane capture operations. Third-party certifiers, such as the International Sustainability and Carbon Certification (ISCC), conduct certification for selected facilities and operators in accordance with applicable standards.

The GOI also maintains a national public disclosure program, called PROPER, which evaluates and publicly ranks companies on environmental compliance, pollution control, and sustainable development efforts. PROPER is mandatory for companies in high-impact sectors, including palm oil and sugarcane plantations. In the most recent update, a life cycle assessment (LCA) became a mandatory prerequisite

for companies seeking to achieve "Beyond Compliance" tier status. A 2021 requirement for publicly listed companies to disclose their emissions could further pave the way for sustainability certification among biofuel producers participating in the blending mandate program.

Publicly listed ethanol producers have begun publishing sustainability reports as mandated by Indonesia's Financial Services Authority (OJK)<sup>3</sup>. These reports highlight sustainability aspects and programs within the ethanol production process. Notable initiatives reported include replacing coal-fired boilers with low-emission alternatives and applying zero-waste and zero-discharge principles. The OJK rule requires publicly listed ethanol producers to disclose the volume of emissions generated and detail their emission reduction activities.

### *EU Biofuel-Related Measures*

The European Union (EU)'s focus on sustainability criteria for biofuels weighs heavily on the Indonesian biofuels sector. The EU outlines its sustainability criteria in its Renewable Energy Directive (RED) and RED II which were adopted in 2018, and EU member states transposed its provisions into national law in 2021. A revised version of RED II that aligned with EU's Green Deal goals entered into force in November 2023 (see [E42024-0024](#)).

In March 2019, the EU Commission adopted the delegated act which set criteria both for (1) determining the high indirect land-use change (ILUC) risk feedstock for which there is a significant expansion of the production area into land containing high carbon stocks, and (2) certifying low ILUC-risk biofuels. The report, published alongside the delegated act, concluded that palm oil is a high-ILUC-risk feedstock. As a result, EU member states must cap palm oil-based biodiesel and renewable diesel, whether imported or domestically produced, at 2019 consumption levels for mandate-fulfillment purposes, phasing it out entirely by 2030. No SAF made from food or feed-based feedstock is eligible to meet any member state or EU-wide SAF mandate. Several EU member states, including France, Austria, Belgium, and Germany, have already eliminated palm oil from biodiesel and Hydrogenation Derived Renewable Diesel (HDRD). As a result, the EU-wide phase-out of palm oil-based biodiesel and HDRD (imported or domestic) is well ahead of schedule and nearly complete, while imports of palm oil biodiesel from Southeast Asia have declined. However, the report also notes that palm oil-based biodiesel and HDRD production, under certain conditions, may be considered in the low ILUC risk category. This phaseout applies only to palm oil-based biofuels, and it does not cover biofuels made from palm oil mill effluent (POME) or palm fatty acid distillate (PFAD), nor does it affect palm oil products used for other purposes, such as food.

The GOI continues to challenge this policy, initially requesting a WTO consultation in December 2019. A dispute panel was established in July 2020 at the request of Indonesia. In January 2025, the panel circulated key findings that confirm discriminatory practices in the EU's palm oil policies and palm-based biofuels, and therefore, the EU must adjust its regulations to ensure compliance.

In March 2026, Indonesia formally requested authorization from the WTO's Dispute Settlement Body to suspend trade concessions after the EU's legislative adjustments to correct the discrimination remained incomplete. In effect, Indonesia is seeking legal authorization to impose retaliatory trade measures or

---

<sup>3</sup> See [OJK Regulation 57/2017](#)

import tariffs on EU products, to offset the substantial export losses incurred by Indonesian palm oil businesses. Currently, Indonesia is conducting a technical review of the EU's newly updated regulations to see if they genuinely restore fair market access for palm oil. (Link to the [WTO case summary](#).)

The EU has delayed the EU Deforestation Regulation ([EUDR](#)) for a second time. Originally intended to take full effect by the end of 2024, the regulation will now begin on December 30, 2026, for large companies and June 30, 2027, for small enterprises. The EUDR is expected to affect several palm oil and derivative product exports, including palm oil waste used for biofuel feedstocks such as PFAD and POME. Companies exporting targeted products to the EU market must collect information ensuring that the product was not produced on land deforested after December 31, 2020. The EUDR also requires importers to carry out mandatory due diligence and mitigation measures such as using satellite monitoring tools to verify information.

In July 2025, Indonesia and the EU reached a political agreement on a Comprehensive Economic Partnership Agreement (IEU-CEPA). This agreement is expected to remove tariff barriers, including palm-based products. The final CEPA text includes a dedicated sustainability protocol for palm oil. This establishes an ongoing platform for bilateral dialogue on regulatory developments, easing frictions, and safeguarding market access. Indonesia is concurrently pursuing its own national legal and legislative processes to ensure full readiness for the early 2027 launch date.

#### *Studies on Life Cycle Assessment (LCA) Approach for Indonesia Biodiesel Production*

Studies on LCA biodiesel in Indonesia have been carried out with varying results. From land preparation to biodiesel combustion, several LCA studies identified stages that critically contribute to the value of Global Warming Potential (GWP). The studies found that minimizing extreme negative environmental impacts of biodiesel production is best achieved by selecting non-burning techniques for land clearing and choosing non-forest and non-peat land. Another study highlighted additional key factors, including farm fertilizer and soil management techniques, POME disposal methods, and the presence of biomethane capture.<sup>4</sup> Another study pointed out that total GWP for a metric ton of biodiesel production is 2,762 kg CO<sub>2</sub>e, 90 percent of which is caused by the planting stage, 1.1 percent from the CPO production stage, and 8.6 percent from biodiesel production stage.<sup>5</sup>

A 2023 LCA report found that internal combustion engine (ICE) vehicles running on a B35 biodiesel blend produce roughly twice the emissions of comparable battery electric vehicles. This gap becomes especially significant when the analysis includes land-use change emissions, the emissions released when natural land is cleared and converted into farmland to grow crops for biodiesel.<sup>6</sup>

#### ***D. Trade Policy***

Indonesia's trade policy shifted in 2025 with respect to ethanol importation. Following a set of deregulation measures introduced in June 2025, the GOI reversed course on ethanol imports several months later. Under [MOT Regulation 32/2025](#), ethanol importation requires import approval beginning in October 2025. Specifically, ESDM Regulation 4/2025 prohibits biofuel companies from importing

---

<sup>4</sup> See [K Siregar et al, 2021](#)

<sup>5</sup> See [Paminto AK et al, 2022](#)

<sup>6</sup> See [ICCT report](#), published in September 2023

biofuels, while also stipulating that fuel companies must prioritize domestically produced biofuels for blending purposes. This has created confusion within the industry: the regulation implies that no party may import fuel-grade ethanol, yet it also states that fuel ethanol may only be imported by biofuel companies holding ESDM permits to produce and trade biofuels.

**Table 4. MFN Imports Duties on Fuel Ethanol, Biodiesel, Gasoline and Fuel Additives**

| HS code                                | Description                                                                                                                                                    | Duty Rate |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 2207.10<br>2207.20                     | Undenatured ethanol<br>Denatured ethanol                                                                                                                       | 30%       |
| 2710.12.21<br>2710.12.24<br>2710.12.27 | Gasoline, RON 97 and above, unblended<br>Gasoline, RON 90 and above, below RON 97, unblended<br>Gasoline, below RON 90, unblended                              | 0%        |
| 2710.12.22<br>2710.12.25<br>2710.12.28 | Gasoline, RON 97 and above, pre-blended with ethanol<br>Gasoline, RON 90 and above, below RON 97, pre-blended<br>Gasoline, below RON 90, pre-blended           | 0%        |
| 2710.19.79                             | Hydrotreated Vegetable Oil/HDRD                                                                                                                                | 0%        |
| 2710.20                                | Petroleum oils containing biodiesel up to 30 percent by volume                                                                                                 | 0%        |
| 2902.20<br>2902.30<br>2902.44          | Benzene<br>Toluene<br>Xylene                                                                                                                                   | 0%        |
| 2909.19                                | Methyl Ter-Butyl Ether (MTBE)                                                                                                                                  | 5         |
| 3826.001<br>3826.002<br>3826.003       | Biodiesel, with coconut methyl ester content more than 70 percent<br>Biodiesel, with methyl ester content more than 96.5 percent<br>Biodiesel, other feedstock | 5         |

Source: [INSW](#), Ministry of Finance

Indonesia is bound by several trade agreements that have enabled lower duties on ethanol imports from certain countries. The Preferential Trade Agreement (PTA) between Indonesia and Pakistan has permitted zero-percent tariffs on imports of medical-grade and non-fuel industrial ethanol from Pakistan to Indonesia since 2019.<sup>7</sup>

In February 2026, Indonesia and the United States signed the U.S.-Indonesia Agreement on Reciprocal Trade (ART), under which Indonesia agreed to eliminate its ethanol import tariff and remove barriers to U.S. ethanol imports. It also outlined a phased blending timeline commitment: E5 by 2028, E10 by 2030, and an eventual E20 goal, subject to supply and infrastructure readiness. As of July 2026, the ART is pending formal implementation.

In March 2026, Indonesia raised exports levies for most palm oil products, from 9.5 percent to 12 percent for crude products and up to 10 percent for refined products. The increases affect 34 palm products. The increase in export levies is intended to strengthen the financial stability of the CPO fund managed by BPDP.

<sup>7</sup> See [ID2022-0017](#) for details trade agreements providing lower ethanol import duties.

Indonesia plans to centralize palm oil exports beginning in January 2027. Currently, exports of select palm products are notified to a newly appointed state-owned company, Danantara Sumberdaya Indonesia (see [ID2026-0024](#)). This policy covers palm oil (both crude and refined), used cooking oils (UCO) and palm waste products (POME, high acid palm oil residue, empty fruit bunch oil).

**Table 5. Export Levy on Biodiesel and other Palm Products**

| HS code                  | Description                                              | Export Levy |
|--------------------------|----------------------------------------------------------|-------------|
| 1511.10.00               | Crude Palm Oil (CPO)                                     | 12.5%       |
| 1513.21.10               | Crude Palm Kernel Oil                                    |             |
| 2306.60.90<br>2306.90.90 | Palm Oil Mill Effluent (POME)                            |             |
| 3823.19.20               | Palm Fatty Acid Distillate (PFAD)                        | 12%         |
| 1518.00                  | Used Cooking Oil (UCO) <sup>8</sup>                      |             |
| 3823.19.30               | Palm Kernel Fatty Acid Distillate (PKFAD)                |             |
| 1511.90.20               | Refined Bleached Deodorized Palm Oil (RBDPO)             | 10%         |
| 1511.90.20               | Refined POME, Refined UCO, PAO                           |             |
| 3826.00                  | Palm-based Biodiesel (with Methyl Ester more than 96.5%) | 7.25%       |

Source: [MOF 9/2026](#)

### III. Ethanol

#### *Consumption*

Indonesia's fuel ethanol consumption expanded alongside a gradual increase in participating retail gas stations, growing from 17 to 179 stations between 2023 and 2026. Fuel ethanol blending volumes rose from 80,000 liters in 2023, to 400,000 liters in 2024, and reached 800,000 liters in 2025. While these figures represent a very small fraction of Indonesia's broader 37-billion-liter gasoline market, Pertamina E5 sales show marginal but steady growth. Following first-quarter consumption of 400,000 liters (January to March 2026), annualized projections estimate total fuel ethanol consumption will reach 1.5 million liters by year-end.

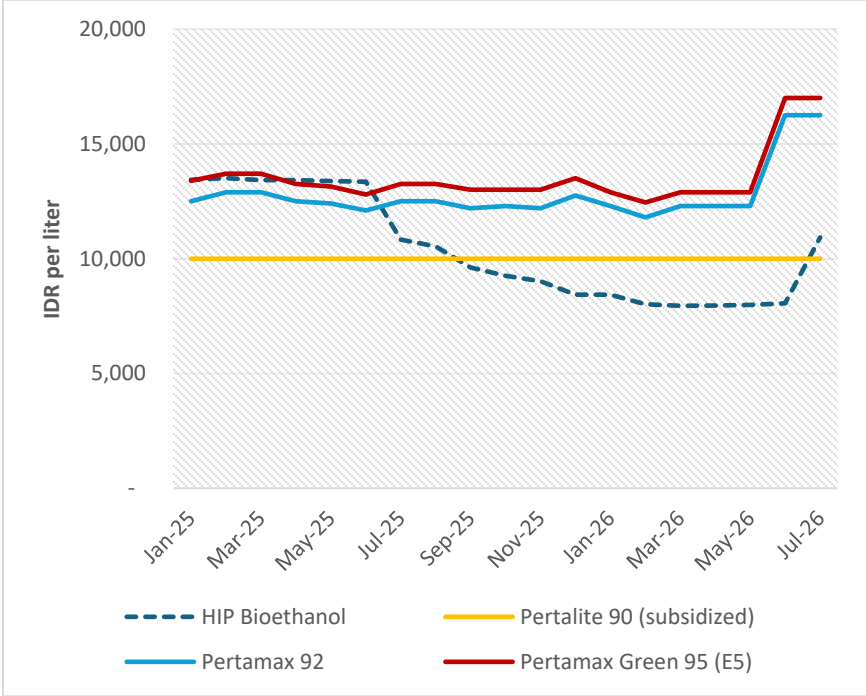
Pertamina's E5 is a non-PSO fuel meeting RON 95 quality standards. Combined with RON 98 gasoline, high-RON gasoline sales have accounted for approximately 1 percent of total gasoline sales in recent years. The largest gasoline segment remains subsidized RON 90 gasoline, known as Pertalite, sold at a government-fixed retail price. Over the past three years, RON 90 gasoline has consistently accounted for more than 80 percent of Indonesia's total gasoline sales. In response to rising energy prices, the GOI has maintained the retail price of RON 90 gasoline at IDR 10,000 per liter (USD\$0.56 per liter).

<sup>8</sup> MOF details HS Code for UCO: 1518.00.14, 1518.00.19, 1518.00.32, 1518.00.38, 1518.00.60 and 1518.00.90

In June 2026, Pertamina raised prices for non-PSO segment gasoline, increasing RON 92 by 32 percent to IDR 16,250 per liter (USD\$0.91 per liter) and E5/RON95 from IDR 12,900 per liter (USD\$0.72) to IDR 17,000 per liter (USD\$0.96). Price increases for non-PSO gasoline are expected to dampen consumption and prompt some consumers to shift to lower-grade RON 90 gasoline. A purchase cap of 50 liters per day is expected to modestly ease consumption growth.

Indonesia's ethanol demand strengthened in 2025, driven primarily by the health, beverage, and cosmetics industries. The domestic cosmetics market grew rapidly, with value growth rising from 12 percent to 16 percent in 2025; the number of domestic cosmetics companies increased from 1,292 in 2024 to more than 1,500 by year-end 2025.<sup>9</sup> Indonesia's pharmaceutical sector also continued to expand, supported by a large middle class and the national health insurance program. Post estimates total ethanol consumption reached 167 million liters in 2025 and projects 2 percent growth to 170 million liters in 2026.

**Figure 4. Prices of E5, HIP Bioethanol and Gasoline, 2025-2026 (IDR per liter)**



Source: ESDM, Pertamina

*Production*

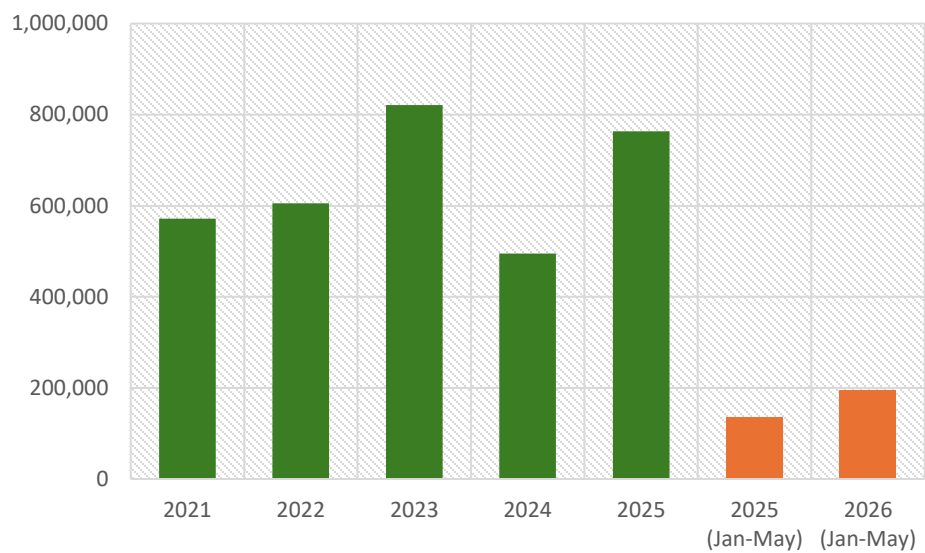
Indonesia's fuel ethanol production is forecast at 1.6 million liters in 2026, driven by higher E5 gasoline demand. Currently, fuel ethanol production depends on molasses sourced from a state-owned sugarcane company in East Java. The majority of ethanol distillers use sugarcane molasses as feedstock, while one distiller in Lampung, Sumatra, uses corn.

<sup>9</sup> See [Antara](#) (May 19, 2026)

Total ethanol production is projected to rise slightly to 225 million liters in 2026, on expectations of lower export demand and higher 2025 ending stocks. The 2025 ethanol production estimate is revised upward to 224 million liters, as distillers improved operational efficiency amid stable and lower molasses prices. At the same time, strong domestic and export demand absorbed the additional supply.

Molasses supplies in 2026 are forecast at 1.75 million metric tons (MMT), based on projected sugarcane output of 35 MMT (see [ID2026-0014](#)), down from 1.9 MMT in 2025, when larger sugarcane production supported higher availability. Local ethanol producers continue to face challenges from competition for molasses, which is also a valued feedstock in food processing, monosodium glutamate (MSG) production, and export markets. In corn ethanol production, distillers face rising competition as demand for feed use remains strong.

**Figure 5. Indonesia Molasses Exports 2021-2026 (MT)**



Source: Statistics Indonesia via Trade Data Monitor, LLC  
Note: HS Code for molasses 1703

*Trade*

Indonesia's ethanol exports are forecast at 52 million liters in 2026, based on annualized trade data for January to May 2026. The estimate reflects a 13 percent decline from the prior year, driven by tighter competition from other origins. Indonesia exports primarily industrial-grade ethanol, with the Philippines and Thailand as key destinations, accounting for 96 to 99 percent of exports over the past five years. Indonesia's ethanol shipments to the Philippines rebounded to 56 million liters in 2025, recovering from a decline to 47 million liters in 2024. From January to May 2026, Indonesia shipped 22 million liters of ethanol, a 14 percent decline from the same period the prior year.

On the import side, stricter import policies and reduced demand from key markets drove ethanol imports down 69 percent to 4 million liters in 2025. Imports are expected to remain low at 1 million liters in 2026. Approximately 88 to 97 percent of ethanol imports since 2021 have originated from Pakistan and are of non-fuel-grade quality, benefiting from zero import duty under the PTA.

**Table 6. Ethanol Supplies, Trade, and Use in Indonesia****Ethanol Used as Fuel and Other Industrial Chemicals (Million Liters)**

| Calendar Year                                             | 2017   | 2018   | 2019   | 2020   | 2021   | 2022   | 2023   | 2024r  | 2025r  | 2026f  |
|-----------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Beginning Stocks</b>                                   | 15     | 14     | 14     | 6      | 6      | 11     | 8      | 11     | 14     | 15     |
| Fuel Begin Stocks                                         | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 1      | 1      |
| <b>Production</b>                                         | 195    | 200    | 200    | 193    | 200    | 205    | 221    | 205    | 224    | 225    |
| Fuel Production                                           | 0      | 0      | 0      | 1      | 0      | 0      | 1      | 1      | 1      | 2      |
| <b>Imports</b>                                            | 5      | 96     | 1      | 29     | 54     | 32     | 6      | 13     | 4      | 1      |
| Fuel Imports                                              | 0      | 95     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| <b>Exports</b>                                            | 64     | 158    | 70     | 47     | 82     | 77     | 60     | 50     | 60     | 52     |
| Fuel Exports                                              | 0      | 95     | 0      | 1      | 0      | 0      | 0      | 0      | 0      | 0      |
| <b>Consumption</b>                                        | 137    | 138    | 139    | 175    | 167    | 163    | 164    | 165    | 167    | 170    |
| Fuel Consumption                                          | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 1      | 2      |
| <b>Ending Stocks</b>                                      | 14     | 14     | 6      | 6      | 11     | 8      | 11     | 14     | 15     | 19     |
| Fuel Ending Stocks                                        | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 1      | 1      | 1      |
| <b>Refineries Producing Fuel Ethanol (Million Liters)</b> |        |        |        |        |        |        |        |        |        |        |
| Number of Refineries                                      | 3      | 3      | 3      | 3      | 3      | 3      | 3      | 3      | 3      | 3      |
| Nameplate Capacity                                        | 100    | 100    | 100    | 100    | 100    | 100    | 100    | 100    | 100    | 100    |
| Capacity Use (%)                                          | 0%     | 0%     | 0%     | 1%     | 0%     | 0%     | 1%     | 1%     | 1%     | 2%     |
| <b>Feedstock Use for Fuel Ethanol (1,000 MT)</b>          |        |        |        |        |        |        |        |        |        |        |
| Molasses                                                  | 0      | 0      | 0      | 4      | 0      | 0      | 2      | 2      | 4      | 6      |
| <b>Market Penetration (Million Liters)</b>                |        |        |        |        |        |        |        |        |        |        |
| Fuel Ethanol Use                                          | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 1      | 2      |
| Gasoline Pool 1/                                          | 33,548 | 34,490 | 35,677 | 31,194 | 32,953 | 35,796 | 36,024 | 36,645 | 36,800 | 36,900 |
| Blend Rate (%)                                            | 0%     | 0%     | 0%     | 0%     | 0%     | 0%     | 0%     | 0%     | 0%     | 0%     |

Source: ESDM, Statistics Indonesia via Trade Data Monitor, LLC, Post estimate

\*Fuel Ethanol may appear unbalanced in some years due to small values and rounding error.

#### IV. Biodiesel or Biodiesel/Renewable Diesel

##### *Consumption*

Indonesia's biodiesel consumption is driven by the government's blending mandate program, which is financially supported by levies on palm oil exports. Diesel truck engine designs are periodically updated to reduce the risk of engine damage associated with higher blend levels.

Post expects biodiesel consumption to reach 17.5 billion liters in 2026, a 17 percent increase from 2025, driven by the rollout of the B50 mandate beginning in July 2026 with a three-month transition period. Post projects that actual consumption will reach 92 to 98 percent of the total allocation. On an annual basis, the GOI assigns biodiesel producers to supply the mandatory program and sets individual volume allocations for each participating producer.

On the government's decision to maintain subsidized diesel prices, Post expects on-road diesel consumption to reach 39 billion liters in 2026, 7 percent higher than the revised number of 36.5 billion liters for diesel. With the new blending rate beginning in the second semester, and with a three-month transition period, the biodiesel blend rate is projected to increase to 41 percent in 2026. Related to off-

road diesel use, Post expects consumption to decrease as Indonesia sets its 2026 coal production target at 600 MMT, down from 790 MMT in 2025. Other sectors that use off-road diesel, such as power generation and agriculture, consume lower volumes by comparison. Accordingly, off-road biodiesel consumption is expected to decrease by 14 percent to 1.5 billion liters, in line with reduced diesel use in mining activities.

Post predicts that hydrotreated renewable diesel (HDRD) consumption will be virtually zero in 2026. The blending mandate program uses only fatty acid methyl ester (FAME) as the bio-component for blending with fossil diesel and provides no inclusion scheme or financial support for HDRD, despite HDRD's inclusion in the new biofuel roadmap.

The biodiesel mandate program relies on subsidies funded by Indonesia's palm oil export levy to cover the price spread between biodiesel and fossil diesel. Over the past two years, biodiesel subsidy payments have exceeded levy collections, eroding the fund balance by half to USD\$1.1 billion as of late December 2025. In response, the GOI raised export levy tariffs in March 2026 to strengthen the program's financial footing.

### *Production*

Post forecasts 2026 palm biodiesel production at 17.6 billion liters, up 2.6 billion liters from 2025, reflecting a transition from B40 to B50 implementation and modest fuel pool growth. The GOI set the 2025 biodiesel mandate allocation at 15.6 billion liters and is expected to revise the allocation upward for 2026. Production nameplate capacity is projected to rise again in 2026, reaching 22 billion liters, 12 percent higher than the prior year, while capacity utilization rates remain high.

Agrinas Palma, a newly established state-owned company tasked with managing land seized from palm companies that violated forest rules, plans to reactivate a biodiesel plant with an annual capacity of 600,000 MT before 2030.

Indonesia relies almost exclusively on palm oil to produce biodiesel, despite the government's official recognition of waste-based feedstocks. Key waste and co-product feedstocks, including POME, palm fatty acid distillate (PFAD) from palm oil refineries, and UCO from food processing, restaurants, and households, were exported in large volumes prior to 2025. The GOI began restricting exports of these waste-stream feedstocks in January 2025.

### *Trade*

Indonesia's biodiesel exports are expected to be virtually zero in 2026, as the government prioritizes securing the B50 program amid limited production growth. Over the past decade, Indonesia exported palm biodiesel to several key markets, including China, the EU, and the United States, with smaller volumes shipped to Peru, the Philippines, and South Korea. Exports surged when Chinese demand for discretionary blending emerged and collapsed when demand disappeared, a pattern driven by the price spread between palm oil biodiesel and conventional diesel.

Exports also tend to decline following the imposition of high duties in key markets. U.S. imports of Indonesian palm biodiesel remain limited due to countervailing and anti-dumping duties. In addition,

Indonesian palm biodiesel does not meet the 20-percent minimum GHG savings threshold required under the Renewable Fuel Standard (RFS). As a result, obligated parties cannot use it to meet RFS volumetric obligations, and it is ineligible for Renewable Identification Numbers (RINs), which carry market value.

The EU has imposed countervailing duties of 8 to 18 percent on Indonesian biodiesel since December 2019 and has broadly shifted away from palm oil biodiesel. Most recently, the United Kingdom decided to retain anti-dumping duties on Indonesian biodiesel imports for an additional five years, concluding that the measures remain necessary to protect its domestic market.

### ***Select Feedstocks for Biofuel Production***<sup>10</sup>

Indonesia's exports of low-carbon waste oils dropped significantly after the government began implementing stricter controls in early 2025 (see [ID2025-0009](#)). In May 2025, the GOI added refined palm waste oil products to the leviable list under HS code 1511.90.20, the same code used for edible refined, bleached, and deodorized palm oil (RBDPO). This change affected refined POME and refined UCO.

UCO exports fell sharply following these measures. After shipping 317,000 MT in 2024, Indonesia's UCO exports plummeted 78 percent to 69,000 MT in 2025. Malaysia, Singapore, and China remained the top destinations, collectively accounting for 49 to 70 percent of total UCO exports between 2021 and 2025. Shipments to China recovered in early 2026, reaching 21,000 MT from January through May, nearly double the volume shipped to China for all of 2025.

POME exports declined even more sharply. Indonesia's POME exports fell nearly 98 percent, from 1.5 MMT in 2024 to just 22,000 MT in 2025. No POME shipments to China were recorded in the first months of 2026.

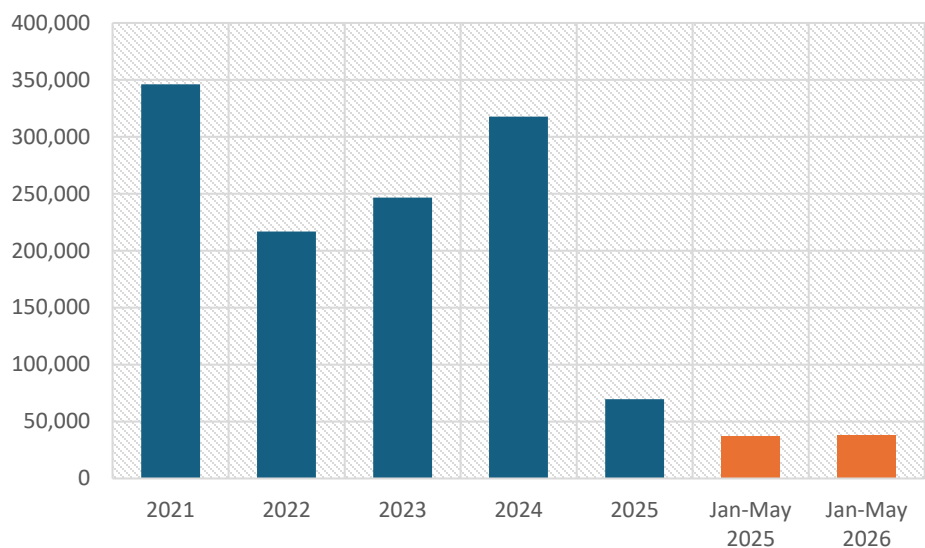
Stricter export controls prompted the closure of many UCO collection points and their associated suppliers. Remaining UCO collectors now sell to the UCO refineries that export to Malaysia and Singapore, while Pertamina's collection network accounts for only a small share of total UCO volume.

[In late 2025](#), Indonesia opened an investigation into POME export fraud that occurred from 2022 to 2024. Indonesia's Attorney General Office (AGO) found that exporters evaded domestic market obligation (DMO) quotas and higher exports levy by conspiring with custom officials to reclassify high acid CPO exports as POME using altered HS codes.

---

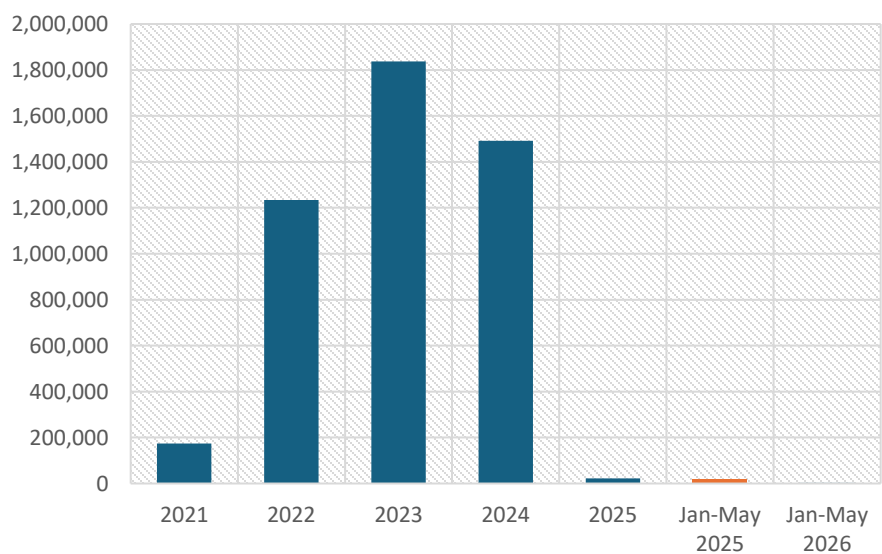
<sup>10</sup> HS Code for UCO: 1518, POME: 230690 and 382319 for PFAD.

**Figure 6. Indonesia UCO Exports, 2021-2026 (MT)**



*Source: Statistics Indonesia via Trade Data Monitor (TDM), LLC*

**Figure 7. Indonesia POME Exports, 2021-2026 (MT)**



*Source: Statistics Indonesia via Trade Data Monitor (TDM), LLC*

**Table 7. Biodiesel Supplies, Trade and Use in Indonesia**

| <b>Biodiesel (Million Liters)</b>           |        |        |        |        |        |        |        |        |        |        |
|---------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Calendar Year                               | 2017   | 2018   | 2019   | 2020   | 2021r  | 2022r  | 2023r  | 2024r  | 2025r  | 2026f  |
| <b>Beginning Stocks</b>                     | 110    | 151    | 257    | 293    | 328    | 378    | 364    | 347    | 406    | 466    |
| <b>Production</b>                           | 2,800  | 5,600  | 7,700  | 8,500  | 9,550  | 10,900 | 12,600 | 13,300 | 15,000 | 17,600 |
| <b>Imports</b>                              | 0      | 28     | 0      | 0      | 1      | 0      | 0      | 0      | 0      | 0      |
| <b>Exports</b>                              | 187    | 1,772  | 1,271  | 39     | 205    | 496    | 370    | 83     | 0      | 0      |
| <b>Consumption</b>                          | 2,572  | 3,750  | 6,393  | 8,426  | 9,296  | 10,418 | 12,247 | 13,158 | 14,940 | 17,500 |
| <b>Ending Stocks</b>                        | 151    | 257    | 293    | 328    | 378    | 364    | 347    | 406    | 466    | 566    |
| <b>Production Capacity (Million Liters)</b> |        |        |        |        |        |        |        |        |        |        |
| Number of Biorefineries                     | 32     | 31     | 31     | 31     | 32     | 33     | 34     | 34     | 35     | 36     |
| Nameplate Capacity                          | 11,547 | 11,357 | 11,357 | 11,357 | 14,415 | 16,656 | 18,548 | 18,700 | 19,600 | 22,000 |
| Capacity Use (%)                            | 24.2%  | 49.3%  | 67.8%  | 74.8%  | 66.3%  | 65.4%  | 67.9%  | 71.1%  | 76.5%  | 80.0%  |
| <b>Feedstock Use (1,000 MT)</b>             |        |        |        |        |        |        |        |        |        |        |
| Crude Palm Oil                              | 2,576  | 5,152  | 7,084  | 7,820  | 8,786  | 10,028 | 11,592 | 12,236 | 13,799 | 16,191 |
| Used Cooking Oil (UCO)                      | na     | na     | na     | na     | na     | na     | na     | na     | na     | Na     |
| Palm Oil Mill Effluent (POME)               | na     | na     | na     | na     | na     | na     | na     | na     | na     | Na     |
| <b>Market Penetration (Million Liters)</b>  |        |        |        |        |        |        |        |        |        |        |
| Biodiesel, On-road use                      | 1,963  | 2,982  | 5,238  | 7,341  | 7,945  | 9,076  | 10,703 | 10,900 | 13,200 | 16,000 |
| Diesel Pool, On-road use 1/                 | 29,264 | 30,963 | 30,880 | 28,850 | 30,122 | 34,311 | 33,600 | 32,987 | 36,543 | 39,026 |
| Blend Rate (%)                              | 6.7%   | 9.6%   | 17.0%  | 25.4%  | 26.4%  | 26.5%  | 31.9%  | 33.0%  | 36.1%  | 41.0%  |
| Diesel Pool, Total 1/                       | 31,441 | 33,268 | 33,169 | 31,230 | 34,728 | 38,684 | 39,532 | 40,451 | 43,443 | 44,926 |

Source: ESDM, Aprobi, Post estimate

## V. Advanced Biofuels

GOI agencies and state-owned companies are collaborating to conduct research and various tests for developing advanced biofuels. Despite the 2026 mandate regulation update, no financial support is available for SAF, renewable gasoline, or HDRD.

### *Sustainable Aviation Fuel (SAF)*

As a trial stage, Pertamina utilized UCO to produce SAF in 2025. Pertamina previously produced SAF utilizing co-processing technology and used feedstocks of Refined Bleached Deodorized Palm Oil (RBDPO) at the Cilacap Refinery facility in Central Java.

**Table 8. Indonesia SAF and HDRD Production Capacity**

| Producers | Location              | Production Capacity      | Products  | Status                                           |
|-----------|-----------------------|--------------------------|-----------|--------------------------------------------------|
| Pertamina | Cilacap, Central Java | 477,000 liters per day   | HDRD, SAF | Trial Production, Phase 2 to be onstream by 2026 |
| Pertamina | Plaju, South Sumatera | 3,180,000 liters per day | HDRD      | Development, to be completed in 2027             |
| Pertamina | Dumai, Riau           | 159,000 liters per day   | HDRD      | Trial                                            |

*Renewable Gasoline*

The ESDM plans to expand its research to include palm-based renewable gasoline at a pilot plant in South Sumatera with a production capacity of 238,500 liters per day (87.1 million liters/year). This project converts palm oil to renewable gasoline using a cracking process utilizing a zeolite-based catalyst produced by the Bandung Institute of Technology (ITB).

**VI. Notes on Statistical Data***Biodiesel*

The biodiesel consumption figure is sourced from a biofuel association ([Aprobi](#)) using a “distribution number” figure. Biodiesel production is based on Post estimates. The “residual” is based on other supply/demand elements (based on Pertamina’s fuel stock average of 19 days), trade, and consumption. Nameplate capacity figures are gathered from ESDM/Aprobi.

*Feedstock Conversion Rates*

Crude Palm Oil: 1 MT of CPO = 1,087 liters of biodiesel

Used Cooking Oil: 1 MT of UCO = 1,043 liters of biodiesel

Palm Oil Mill Effluent: 1 MT of POME = 1,043 liters of biodiesel

*Ethanol*

Historical ethanol production and consumption are based on Post calculations. Nameplate capacity: association of ethanol producers’ data and ESDM.

*Feedstock Conversion Rates*

Molasses: 1 MT of molasses = 250 liters of ethanol

*Gasoline and Diesel*

Gasoline and diesel sales figures through 2023 are drawn from the ESDM's 2025 publication, the [Handbook of Energy & Economic Statistics of Indonesia](#) (HEESI); historical figures from earlier publications have been revised to reflect the latest data. Since the 2026 HEESI data is not yet publicly available as of June 2026, Post uses IEA Fuels Demand (May 2026) data for the Diesel and Gasoline Pool Total, covering 2024 to 2026.

Post estimates the on-road diesel pool by subtracting off-road diesel use from the total diesel pool. Off-road diesel consumption comprises diesel used in power generation (sourced from [PLN statistics](#)), along with estimated diesel use in mining, agriculture, and marine and fisheries activities.

### *Trade*

All trade data is sourced from Statistics Indonesia via Trade Data Monitor, LLC with the following HS codes: 3826 and 271020 (Biodiesel/FAME), 220720 (fuel ethanol), 220710 (non-fuel ethanol), 1518 (UCO), 230690 (POME) and 382319 (PFAD).

All products under HS 3826 are assumed to be pure B100 biodiesel. All products under HS 271020 as petroleum oil, containing up to 30 percent, are assumed to contain on average 5 percent biodiesel by volume, converted and reported as B100 equivalent.

### **Attachments:**

No Attachments