The Supply and Demand Dynamics for Palm Oil in Indonesia: A Path Towards Self-Sufficient Energy with B40

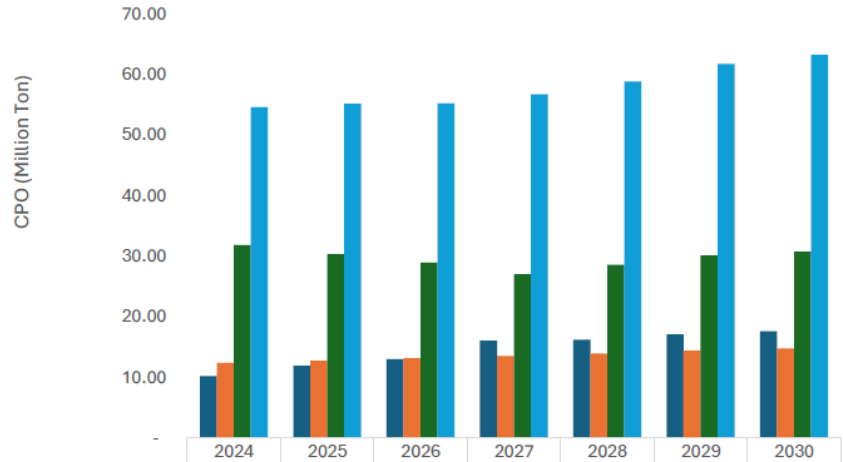
Analyst: Martin Pandiangan

PEFINDO is of the view that the prospect of demand for palm oil in Indonesia, particularly considering the B40 biodiesel program, is stable with significant potential for growth, even though challenges may arise from 2025 onwards, particularly regarding supply. The B40 initiative, mandating a 40% blend of palm oil-based biodiesel with conventional diesel, is set to significantly boost domestic demand for palm oil, stabilize prices, and provide a reliable market for local producers. However, achieving these goals will require substantial improvements in productivity and sustainability practices and adjustments to the export policy since we view Indonesia's need to reduce its Crude Palm Oil (CPO) export to meet the domestic demand of the B40 program. The Indonesian government's commitment to the B40 program, coupled with strategic policies and technological advancements, positions Indonesia to achieve energy self-sufficiency. The country can secure a sustainable and prosperous future for its palm oil supply by investing in productivity improvements and supporting smallholder farmers.

Government policy on biofuel mandatory program may boost palm oil demand

PEFINDO is of the view that the palm oil demand is stable and has the potential to develop further since the Indonesian government's mandatory biofuel program, highlighted at the Indonesian Palm Oil Conference (IPOC) 2024, is poised to significantly boost palm oil demand. The program, which includes the implementation of the B40 initiative in 2025 (mandating a 40% biodiesel blend), is set to increase domestic palm oil consumption, as palm oil serves as the primary feedstock for biodiesel production. According to the Ministry of Energy and Mineral Resources, the B40 program will increase biofuel production to around 15.6 million kilo liters (kl), projected at 81% of national biodiesel factory capacity, or around 16% increase from the 2024 production of the B35 program.

Chart 1. CPO consumption 2024 to 2030



	2024	2025	2026	2027	2028	2029	2030
Biodiesel	10.30	12.00	13.06	16.12	16.25	17.15	17.67
Domestic	12.44	12.81	13.20	13.59	14.00	14.42	14.85
Export	31.90	30.40	28.99	27.06	28.65	30.18	30.80
Total Consumption	54.63	55.21	55.25	56.77	58.90	61.75	63.32

Source: PT Riset Perkebunan Nusantara on Indonesian Palm Oil Conference (IPOC) 2024

Spearheaded by the Ministry of Energy and Mineral Resources, this initiative aims to reduce greenhouse gas emissions and create jobs, particularly in rural areas, due to biofuel creating more stable demand for oil crops, which increases farmers' income and job opportunities and reduces reliance on imported fossil fuels. The development of biofuels supports renewable energy initiatives,

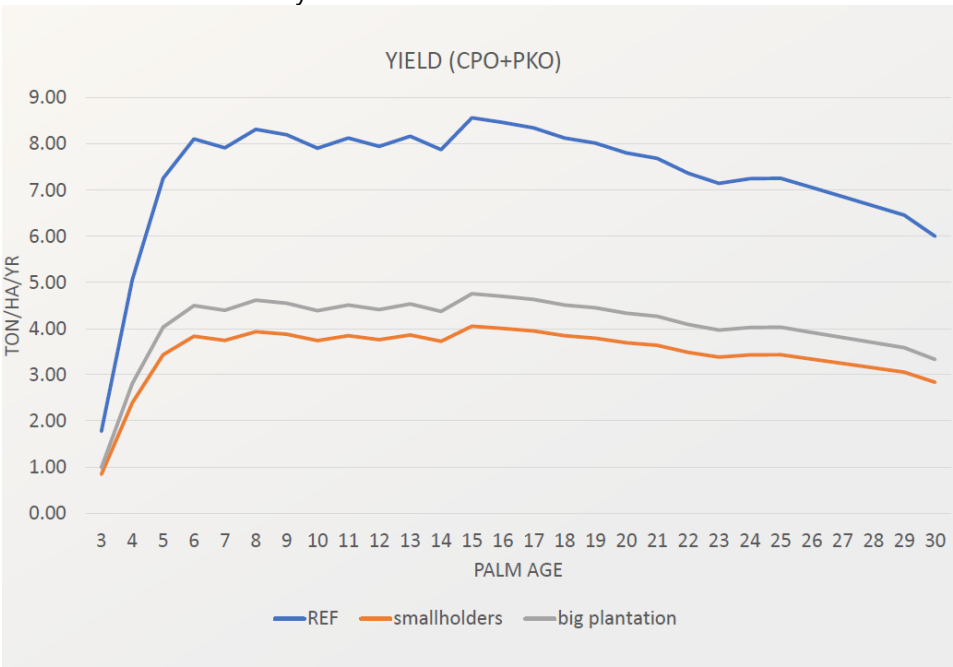
fostering a greener transport sector and aligning with Indonesia's net-zero emissions target by 2060. This policy could elevate domestic palm oil demand, positioning Indonesia as a leader in sustainable energy practices while contributing to global renewable energy trends.

However, the B40 program has several challenges in its implementation. The increased demand for palm oil could lead to higher prices, which may affect the affordability of biodiesel. To mitigate this, the government should ensure that the supply of palm oil is sufficient to meet both domestic and international demand, which requires a concerted effort to improve productivity through better agricultural practices, technological innovation, and sustainable land management. The government also needs to address concerns about the environmental impact of expanding palm oil plantations, particularly in terms of deforestation and biodiversity loss. Sustainable solutions will be crucial to balancing the program's goals with long-term environmental preservation.

Improving Indonesia's palm oil competitiveness to increase productivity

PEFINDO is of the view that maintaining Indonesia's palm oil competitiveness is essential to stabilizing the supply needed to meet the demand of the B40 biodiesel program. Ensuring the industry remains productive and sustainable is key to achieving this goal. By staying competitive, Indonesia can attract investments, adopt advanced technologies, and improve agricultural practices, all of which contribute to higher yields and more efficient production. This, in turn, helps secure a steady supply of palm oil, meeting the increased domestic demand driven by the B40 initiative. Additionally, competitiveness encourages adherence to international sustainability standards, enhancing market access and supporting long-term industry growth. One of the key aspects of palm oil competitiveness is the yield of palm oil plantations.

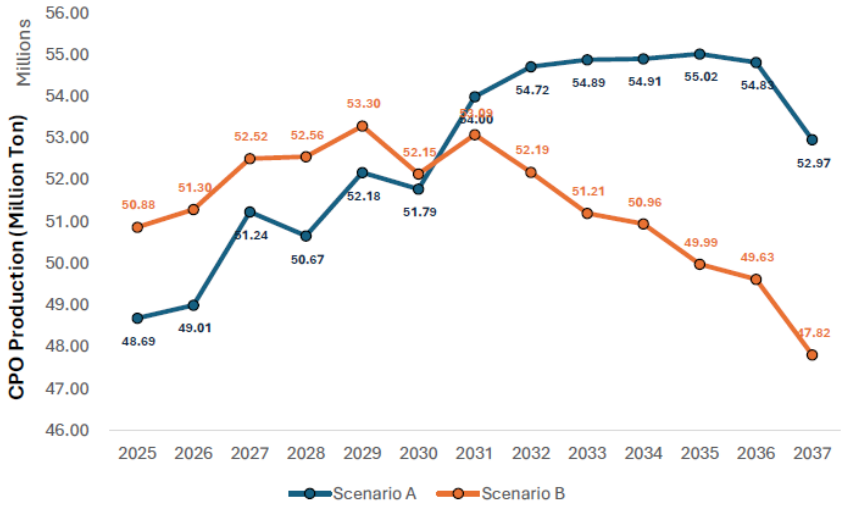
Chart 2. Indonesian CPO yield



Source: GAPKI (2023) on Indonesian Palm Oil Conference (IPOC) 2024

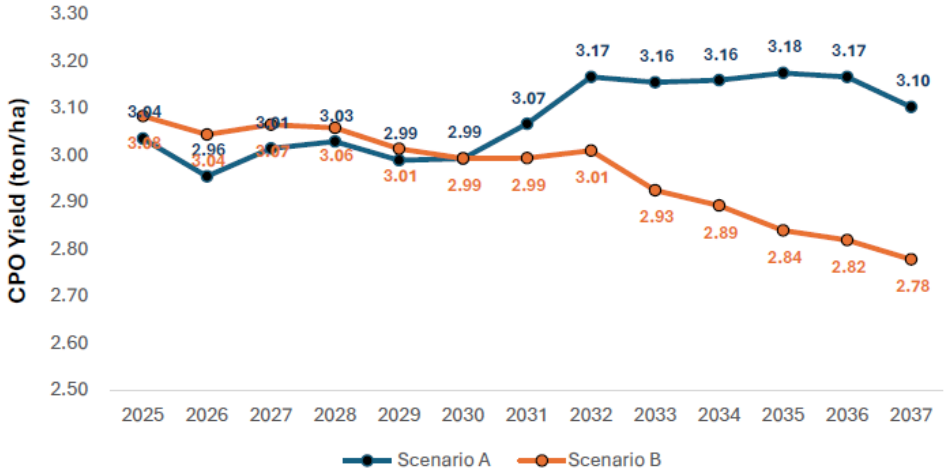
Based on the production standard of the Indonesian Oil Palm Research Institute (IOPRI) class 3, Indonesia's palm oil productivity is far below standard for smallholders and big plantations. Smallholders only reached an average of 47% yield from the standard. On the other hand, big plantations, with only a slight difference from smallholders, reached only an average of 55% yield from the standard.

Chart 3. CPO production with replanting program



Source: Indonesian Palm Oil Conference (IPOC) 2024

Chart 4. CPO yield with replanting program



Source: Indonesian Palm Oil Conference (IPOC) 2024

The charts above illustrate the impact of the replanting program on oil palm yield and production. Scenario A represents normal replanting, which takes place for plants above 25 years old. Meanwhile, Scenario B depicts late replanting, adjusted to replanting program achievement until 2024, based on the average replanting realization of 2018-2024, amounting to around 54,832 hectares per year. At the national level, late replanting results in a reduction in both yield and total production, while normal replanting leads to an increase in both. Furthermore, smallholder farmers can significantly boost their productivity and income by adopting modern agricultural techniques and using high-quality seedlings.

To address this challenge, the Government of Indonesia is actively working on the replanting program for smallholders' plantations, targeting over 350,000 hectares in total, of which 260,000 hectares have been replanted and more than 74,000 hectares in the land clearing phase. The oil palm replanting program, launched in 2017, is a key element of Indonesia's strategy to ensure a stable supply of palm oil by rejuvenating aging plantations, which constitute a significant portion of the country's palm oil acreage. Replanting involves replacing old, less productive trees with high-yielding varieties, leading to increasing overall productivity and ensuring a sustainable supply of palm oil. The replanting program has several benefits, including improved yields, enhanced disease resistance, and better environmental management.

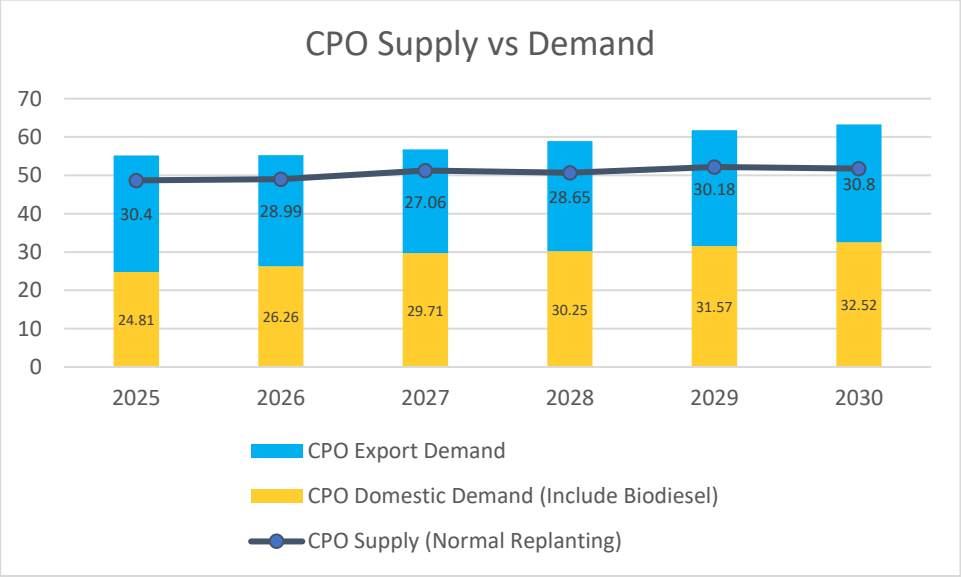
In terms of funds, Badan Pengelola Dana Perkebunan Kelapa Sawit (BPDPKS) has secured IDR60 million per hectare to support farmers starting the replanting process. These funds are directly transferred to farmers' accounts through cooperation, specifically for project financing purposes.

This includes replanting oil palms with superior varieties that are more resistant to pests and diseases and adopting precision agriculture techniques to optimize resource use. Moreover, the government should support smallholder farmers, who make up a significant portion of the industry, amounting to around 40% of Indonesia's total CPO production, by providing access to training, financing, and market information. By implementing the replanting program, BPDPKS projects that the productivity may reach 1,4 million metric tons in the short term (1-3 years), 2 million metric tons in the mid-term (3-5 years), and 8 million metric tons per year in the long-term (over 5 years), hence, CPO from smallholders' production is ready to support government strategic programs.

Navigating supply challenges to meet CPO Demand

PEFINDO is of the view that the CPO supply is very tight in meeting the domestic and export demand, particularly when the B40 program started. We view that Indonesia needs to reduce its export level by at least around 25% of the projected figures even though there is a global soybean surplus that is also driving the decline of international palm oil demand since it reached an all-time high of 2024 to 2025 period stocks, accounted to 31.5 million tons, which can be a vegetable oil substitute other than palm oil.

Chart 5. CPO supply vs demand



Source: IPOC 2024, processed by PEFINDO

The figure above shows that CPO supply will not be sufficient to meet its demand if Indonesia does not decrease its exports. Therefore, we anticipate another export ban, as happened in 2022, due to skyrocketed cooking oil prices.

We anticipate there will be another distress regarding BPDPKS funding since the export levy will be decreased alongside a decrease in export volume. Therefore, to address the funding deficit, the Indonesian government increased its export levy to 10% of the total export sales value in 2025 onwards from 7.5%. The funds from the export levy are projected to be sufficient but tight in our view, totaling around IDR47 trillion to finance the B40 program with a beginning balance of 2025 around IDR32 trillion and 2025 projected revenue of IDR21.5 trillion, around 10% below the 2024 target at IDR24 trillion.