Financing Sustainable Palm Oil in Indonesia

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GIVE to NATURE

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Contents

EXECUTIVE SUMMARY

Indonesia solidified its position as the global leader in palm oil, producing approximately 47 million tons in 2023—nearly 60% of global output. While export revenues remain massive, the industry is undergoing a structural shift toward domestic consumption driven by the Biodiesel Mandate, which has escalated to B35 in 2023 and aims for B50 by 2026. Production is concentrated in Kalimantan and Sumatra (96%), yet the sector is bifurcated: a few dominant corporate groups control refining and exports, while plantations are fragmented with significant, often untraceable, smallholder ownership. This expansion has come at a high environmental cost, accounting for one-third of Indonesia's old-growth forest loss over the last two decades and emitting vast amounts of carbon, primarily through peatland conversion and fires.

Governance involves multiple agencies, notably the Ministry of Agriculture (technical oversight/ISPO), the Ministry of Environment and Forestry (safeguards), and the OJK. The financial backbone is the Palm Oil Plantation Fund Management Agency (BPDPKS), which collects export levies to fund the Biodiesel Mandate and the Smallholder Replanting Program (PSR). A critical legislative development is Law No. 4 of 2023 (UU P2SK), which mandates the financial sector's contribution to sustainable growth. This law underpins the Indonesian Sustainable Taxonomy (TKBI) Version 2, which introduces "Green" and "Transition" classifications for palm oil activities, enabling financing for companies improving practices even if they are not yet fully certified.

Commercial financing involves significant credit and investment from domestic and regional banks, though ESG policy scores among top creditors remain low. Historically, the World Bank and IFC funded Nucleus Estate schemes, but they withdrew from direct investment following environmental non-compliance. Currently, state-owned banks channel government-subsidized credits (KUR) to smallholders, often integrated with PSR grants. However, no specific commercial "smallholder loan" products exist outside these government programs, and uptake is hindered by land legality issues. While large corporates access global capital, smallholders face a financing gap estimated at USD 3,500 per hectare for replanting.

The sector faces intensified risks from the European Union Deforestation-Free Regulation (EUDR). The regulation mandates strict geolocation and traceability; non-compliance risks market exclusion and asset devaluation, directly increasing credit risk for financiers holding non-compliant portfolios. While 83% of refining capacity is covered by No Deforestation, No Peat, No Exploitation (NDPE) policies, systemic breaches and leakage into domestic markets persist. Financiers face the dual challenge of excluding high-risk borrowers while avoiding the marginalization of smallholders who lack the capacity for compliance.

The effectiveness of EUDR and TKBI Version 2 creates opportunities for Sustainability-Linked Loans (SLLs) and transition financing for companies improving ESG performance. The optimal path forward involves a "Blended Finance" model combining BPDPKS public grants, commercial loans, and private impact capital to de-risk smallholder replanting. This approach targets the aging tree profiles in Sumatra and Kalimantan. To succeed, financial institutions must move beyond voluntary measures to mandatory ESG integration, enforcing zero-tolerance policies on deforestation and peatland development while actively funding smallholder capacity building and certification.

Key word:

palm oil financing, Indonesia, smallholder replanting (PSR), BPDPKS, EUDR, TKBI, taxonomy, blended finance, ESG risk, biodiesel mandate, NDPE policy, sustainable finance, deforestation-free.

Trucks transporting oil palm fresh fruit bunches (FFB) in Riau, Indonesia. Photo: © Yudi Nofiandi/Auriga Nusantara

1. Industry Outlook

Over the last decade, the palm oil industry has cemented its position as a cornerstone of the Indonesian economy, but it has also navigated an increasingly complex landscape of global market fluctuations, intense environmental scrutiny, and evolving domestic policies. This period has been characterized by massive export revenues, significant domestic market expansion, and critical regulatory shifts aimed at balancing economic growth with sustainability.

Indonesia's palm oil production has experienced remarkable growth, increasing from approximately 32 million tons in 2015 to approximately 47 million tons in 2023. This surge represents a 400% increase over two decades, with the country now producing nearly 60 percent of global palm oil. The industry has consistently maintained its position as the world's largest producer and exporter, accounting for approximately 58% of global production and 59% of total global exports.

The geographical concentration of production remains focused on Kalimantan and Sumatra, which account for 96 percent of Indonesia's palm oil production. Palm oil plantation area expanded from 3.0 million hectares in 2000 to 13.5 million hectares in 2022, though the rate of expansion has slowed significantly since the implementation of environmental policies in 2018.

Indonesian palm oil is increasingly used within Indonesia, due among other things to the ***Biodiesel Mandate.*** The government has systematically increased the palm oil content in biodiesel from B20 to B30 in 2020, B35 in 2023, and B40 in early 2025. This progression aims to implement B50 by 2026. The impact has been dramatic: CPO consumption for biodiesel increased from 5.83 million tons in 2019 to 7.23 million tons in 2020, and further

jumped to 2.88 million tons in the first four months of 2022 alone, representing a 29.73% increase. The B40 program requires at least 16.08 million kilolitres of CPO annually, while the planned B50 program will need 19.7 million kilolitres per year. The domestic use of palm oil for either local consumption or downstream manufacturing increased from 32% of production in 2018 to 44% in 2022.

In its briefing, Trase stated that only about *one-third* of plantations holding final HGU (Right to Cultivate) status are traceable. Furthermore, ownership for roughly *one-third* of processing mill capacity is unknown, partly due to inaccessible information or the use of 'shadow companies' by some corporate groups to obscure ownership. **Corporate dominance** is highly concentrated in the downstream stages. While plantations (187 groups) and processing mills (178 groups) are owned by a relatively large number of entities, the top 10 groups control only a modest share of mill capacity (around one-quarter). Conversely, the refining (25 groups) and export (55 groups) stages are dominated by a few players. Just three companies—Wilmar, Sinar Mas, and Musim Mas—control over half of Indonesia's refining capacity and exports. The top 10 groups control more than three-quarters of both refining capacity and export trade.

Table 1. Capacity and Ownership at Different Stages of Indonesian Palm Oil Supply Chains

PLANTATION	MILLS	REFINERIES	EXPORTS
16,822,834 HA	84,594,237 CPO-EQ T/YR	45,817,162 CPO T/YR	CPO: 10,584,046 T RPO: 20,290,036 T
38,086 CONCESSIONS	1093 MILLS	85 REFINERIES	61 PORTS
1739 COMPANIES	874 COMPANIES	57 COMPANIES	352 EXPORTERS
187 GROUPS	178 GROUPS	25 GROUPS	55 GROUPS

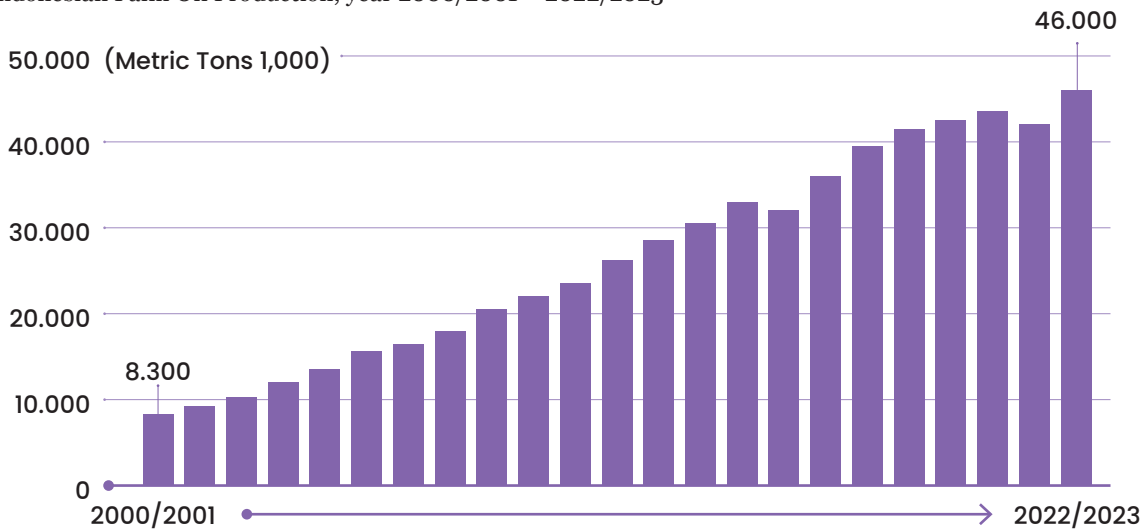
Source: Infobrief 9 – Trase, January 2020

There is a ***clear separation between processing mill and refinery ownership***, implying limited vertical integration. Upstream assets (mills/plantations) are rarely owned by the same corporate body as downstream assets (refineries/exports). Most primary groups possess a far greater share of refining capacity than processing capacity, meaning refineries generally must source Crude Palm Oil (CPO) from external suppliers. This complexity and lack of transparency in sourcing relationships hinder efforts to map the palm oil supply chain.

1.1. National Production, Export, and Employment

The palm oil industry has become a cornerstone of Indonesia's economy, contributing significantly to national wealth and development. According to the Ministry of Agriculture in its "Palm Oil Outlook 2024", in 2022, Indonesia's crude palm oil (CPO) production reached 46.82 million tons; and in 2023, CPO production is estimated at 46.99 million tons. Trase reported that in 2023, the sector accounts for *4.5% of Indonesia's GDP*, with the total production of 47 million of crude palm oil (CPO); whilst for 2024, production will reach 47.69 million tons. Indonesian CPO production is projected to continue increasing over the next five years, reaching 51.45 million tons in 2027. The average production growth is projected at 1.91% per year from 2013 to 2027.

Figure 1. Indonesian Palm Oil Production, year 2000/2001 – 2022/2023



Source: Commodity Intelligence Report – USDA, November 9, 2023

Indonesia is the world's largest CPO exporter, accounting for more than 55% of the world's total palm oil exports. Export volume continues to grow and will reach 26.13 million tons in 2023. This export value is equivalent to US$22.69 billion. Indonesia's average CPO and palm kernel oil export volume from 2019 to 2023 was 26.19 million tons, with CPO accounting for the largest proportion (94.35%). Overall, palm oil exports are projected to increase by 0.11% annually from 2023 to 2027, with CPO export volume is projected to reach 25.05 million tons in 2027. Indonesia's palm oil trade balance has consistently maintained a surplus. In 2023, the trade surplus reached US$22.68 billion.

The Indonesian Ministry of Manpower claimed, palm oil sector employed 16.5 million people by 2024. Of this number, 9.7 million are direct workers; with 5.2 million in smallholder plantations and 4.5 million in state-owned and private plantation companies. Still there are indirect workers of around 8 million, such as those in transportation, fertilizer and equipment suppliers, and other supporting services.

1.2. Palm Oil for Biofuel

Auriga has done a dedicated report on "Biodiesel from Indonesian Palm Oil"; this section represents that report findings in gist. The development of the Indonesian biodiesel industry began in 2006 with the publication of **Presidential Regulation (Perpres) No. 5/2006.** This policy was issued in response to Indonesia's growing reliance on oil imports due to a decline in domestic crude oil production starting in the 2000s. Globally, biofuel use as an alternative to fossil fuels started in the late 1990s, with mass production accelerating in the early 2000s, supported by comprehensive policies in the United States and the European Union.

Through Perpres 5/2006, the Indonesian government targeted the use of **Biofuel (BBN)** to reach 5% of national energy consumption by 2025, and a national biodiesel mandate was enacted by the Ministry of Energy and Mineral Resources (ESDM) in 2008. Although Indonesia possesses about 60 types of plants suitable for BBN, palm oil became the main choice because Indonesia is the largest palm oil producer globally. It also yields more oil compared to other potential feedstocks. Crude Palm Oil (CPO) is converted into *fatty acid methyl ester* (FAME) to produce biodiesel, aligning with energy security goals.

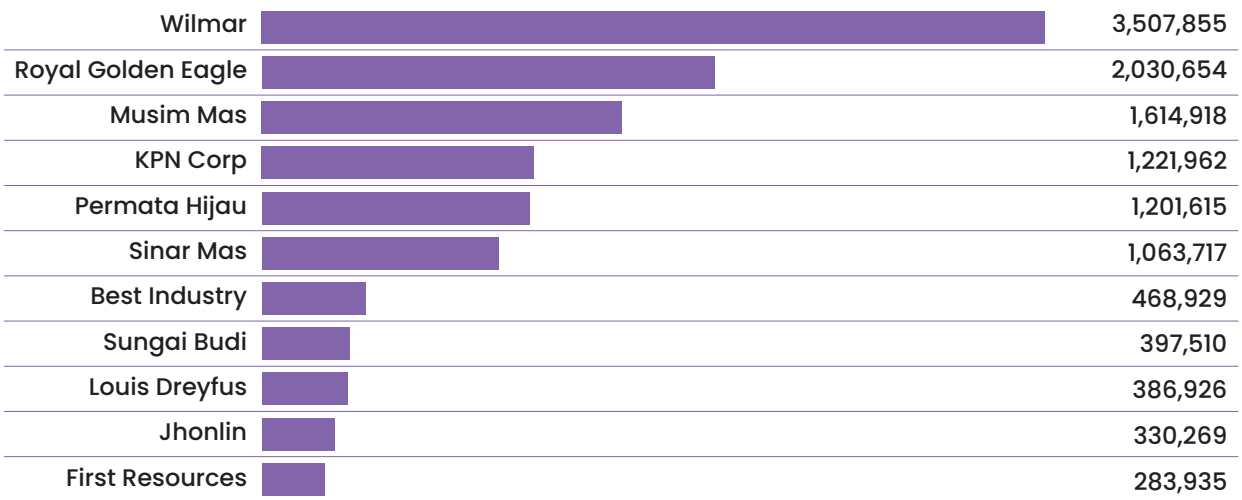
Oil palm fresh fruit bunches (FFB) ready for mill processing in West Java. Photo: © Yudi Nofiandi/Auriga Nusantara

Currently, the implementation of biofuel heavily relies on palm oil, as formalized in the Enhanced Nationally Determined Contribution (ENDC) document projecting its use until 2030. In 2023, Indonesia achieved the **B35** blend level, requiring 13.1 million KL of biodiesel, produced by *21 companies across 23 refineries in 11 provinces*. The allocation of this production is highly concentrated in *Riau, East Java, and East Kalimantan*, which account for 63.3% of the total.

The biodiesel subsidy scheme was implemented to address the low demand for biodiesel domestically, as its price was significantly higher than conventional solar diesel. Although production rose substantially starting in 2011 (1.8 million KL), much was exported until 2013, when exports declined following the European Union's anti-dumping policies. To ensure fulfilment of domestic usage targets, the government established a mechanism to compensate for this price difference through subsidies (or "incentives"). The funding source is unique: it does not come from the State Budget (APBN), but from the **Palm Oil Plantation Fund (Dana Perkebunan Kelapa Sawit)**. This fund is collected via export taxes and levies imposed on palm oil, as mandated by Presidential Regulation No. 61 of 2015.

The fund is managed and distributed by the **Badan Pengelola Dana Perkebunan Sawit (BPDPKS)**, established in 2015. The subsidy compensates for the shortfall between the Market Index Price (HIP) of biodiesel and the HIP of solar, paid only if the HIP biodiesel is higher. The Ministry of ESDM (Energy and Mineral Resources) appoints the companies that receive the allocation and subsidy. From 2015 to 2023, BPDPKS disbursed **IDR 169 trillion** in subsidies, supporting 47.7 million KL of biodiesel. During this period, 31 companies received subsidies, with *PT Wilmar Bioenergi Indonesia* being a consistent recipient.

Figure 2. Allocation of Palm Oil Group's Biodiesel



Source: "Biodiesel from Indonesian Palm Oil" Report – Auriga Nusantara, October 18, 2023

Traceability of Indonesian biodiesel is critical because 100% of the *fatty acid methyl esters* (FAME) used is derived from Crude Palm Oil (CPO). The supply chain involves the movement of Fresh Fruit Bunches (tandan buah segar/TBS) from various sources—including subsidiaries and third parties—to mills that produce CPO, which is then sent to refineries. Analysis based on published traceability reports from 16 biodiesel producers revealed that 902 mills across 25 provinces supply the CPO. Geographically, the CPO supply is highly concentrated: Sumatra contributes 63% of the source material, while Kalimantan supplies approximately 34%.

Geographic Concentration of Raw Materials. Indonesia has 16.8 million hectares of oil palm plantations spread across 26 provinces. Sumatra and Kalimantan remain the main centres, holding 88% of the national oil palm land across the top 10 provinces. However, the number of CPO processing mills does not always correlate with plantation size; for example, South Sumatra has a vast plantation area but relatively few mills compared to West Sumatra.

Producer vs. Supplier Provinces. While the total biodiesel allocation is fulfilled by 11 producer provinces, many high-volume refinery locations are not the largest plantation owners. Notably, East Java and North Sulawesi, which contribute to the 2023 biodiesel supply, do not have significant oil palm plantations. This indicates that the downstream processing (refining) is centralized in industrial areas, regardless of local CPO availability.

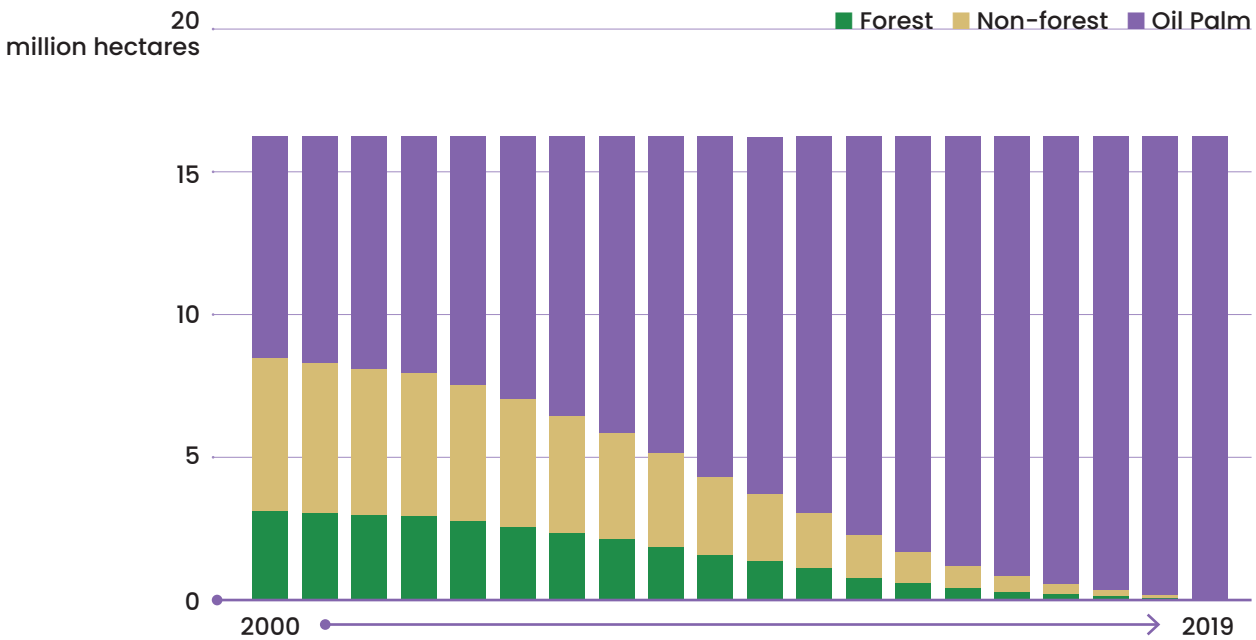
The provinces with the largest CPO supply flow to biodiesel refineries (based on the number of supplying mills) are: Riau (190 mills supplying CPO), North Sumatera (154 mills) and Central Kalimantan (91 mills). At the district level, the top suppliers are Rokan Hulu (Riau, 39 mills), Kutai Timur (East Kalimantan, 38 mills), and Kotawaringin Timur (Central Kalimantan, 36 mills).

1.3. Palm Oil Cover and Independent Smallholder Dynamics

Indonesia currently has the largest area of oil palm plantations in the world. The Indonesian oil palm sector covered 16.5 million hectares in 2020 across 26 provinces, with the top 10

provinces accounting for 88% of this area. Mapbiomas Indonesia data shows that by 2024, Indonesia's oil palm area will reach 17.7 million hectares.[1] The area of oil palm plantations in Indonesia tends to increase year after year. The same data shows that Indonesia's oil palm area in 1990, from 1.2 million hectares in 1990, increased to 16.5 million hectares by 2024. This demonstrates the trend of massive growth in the palm oil commodity over the past three decades. Despite the massive coverage and government claims of millions of smallholder households, the industry remains fundamentally dominated by a few corporations.

Figure 3. 2000 – 2019 Oil Palm Land Cover Dynamics



Source: Oil Palm and Deforestation in Indonesia – Auriga Nusantara, March 2022

Auriga further identified indicative independent oil palm smallholder cover totalling approximately 2.3 million hectares in 2020. The analysis assumed these smallholders operate in relatively small areas, lack heavy investment, and show irregularities identifiable through satellite imagery. Key interpretation characteristics for identifying these areas included an operational size of less than or equal to 25 hectares per non-legal entity and a non-uniform landscape mosaic lacking structured roads, large canals, or large-scale clearing blocks.

The distribution of these smallholders is highly concentrated: Sumatra Island holds 89% of the total indicative smallholder area (2,042,093 ha). Nine out of the top 10 provinces for smallholder coverage are located in Sumatra. Riau (812,011 ha) and North Sumatra (515,942 ha) top the list of provinces for smallholder cover.

Limited data and information concerning smallholder plantations indicate that smallholder development has not been prioritized in the national governance of the palm oil industry. This lack of spatial data increases the risk that policy instruments, such as revitalization programs, seed aid, or fertilizer aid, may not be effectively targeted.

[1] MapBiomas Indonesia's Collection of 4 time maps of land use and land cover was accessed on October 7, 2025. These maps are available via landy.mapbiomas.id.

Smallholder palm oil cover in Indragiri Hulu, Riau/ *Photo: © Yudi Nofiandi/Auriga Nusantara*

Overall, agricultural land use purposes are responsible for the majority of deforestation in Indonesia. Between 2000 and 2019, 19% of the new oil palm area was developed on land that was natural forest in 2000. Direct deforestation for oil palm (conversion of natural forest within three years) resulted in the loss of 2,935,906 hectares, primarily in Kalimantan (1,487,911 ha) and Sumatra (1,195,846 ha). Looking forward, 8.8 million hectares of natural forest cover remain inside existing concessions.

Recommendations for the sector include protecting all remaining natural forest cover and promoting the intensification of production on existing plantation land. Furthermore, the indicative smallholder maps can support the industrialization of village-based smallholder palm oil governance and improve productivity through programs like rejuvenation.

1.4. Key Challenges: Deforestation, Peat Conversion and Fire

Trase pointed out that the expansion of oil palm plantations has historically been a major cause of environmental impact in Indonesia. Palm oil plantation expansion accounted for one-third (3 million hectares) of Indonesia's loss of old-growth forest over the past 20 years. This deforestation, along with associated peatland drying and fires, contributes significantly to global climate change, biodiversity loss, and poor local air quality. While deforestation rates for industrial palm oil fell dramatically over the past decade, reaching a low intensity of 32,406 hectares per year in 2018–2022 (only 18% of the peak experienced in 2008–2012), there was a slight reversal in 2022 due to an 18% increase in industrial palm oil-driven deforestation. Meeting continued growth in demand for palm oil products while preventing a surge in deforestation remains a fundamental challenge for the coming decade.

Industrial palm oil production in Indonesia emitted an annual average of 220 million tonnes of carbon dioxide equivalent between 2015 and 2022. This volume amounts to almost a fifth of Indonesia's total annual emissions of 1.23 gigatonnes in 2022. The vast

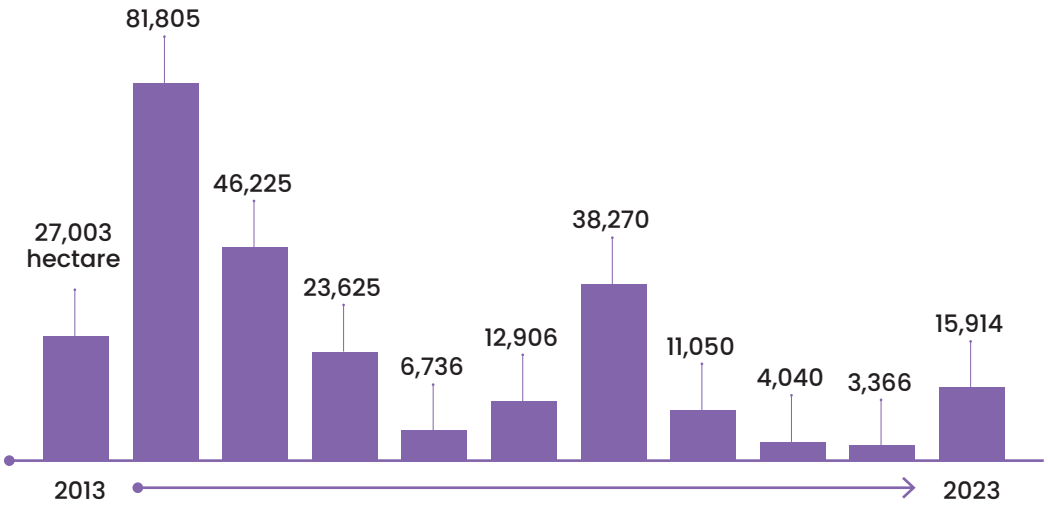
Deforestation in palm oil consession in Central Kalimantan, 2018. Image courtesy of Auriga Nusantara.

majority of these emissions (nearly 92% of the sector's average annual GHG emissions between 2015–2022) come from peatland subsidence and fires on drained peatlands. This occurs despite only 14% of palm oil plantations (2.2 million hectares) in Indonesia being located on carbon-rich peatlands.

Recent studies further found that deforestation linked to Indonesian palm oil production increased for the second year in a row in 2023, reaching 30,000 hectares, reversing a decade-long downward trend. Critically, 10,787 hectares, or a third of the 2023 deforestation, occurred on carbon-rich peatlands, heightening the risk of massive greenhouse gas emissions upon clearance and drainage Auriga in their Mapbiomas Indonesia Collection 4, further observed that between 1990 and 2024, 8.65 million hectares of Indonesian palm oil came from deforestation. In addition to deforestation, Indonesian palm oil also faces overlapping land use issues. Currently, approximately 3.2 million hectares of oil palm plantations are located within forest areas, which are considered illegal. Of Indonesia's total 17.7 million hectares of oil palm plantations, 3.9 million hectares, or approximately 21%, are located within peatlands.

In addition to deforestation, the Indonesian palm oil industry is also vulnerable to land fires. These fires are typically caused by land clearing for oil palm plantations, either for new land clearing or replanting. Auriga recorded that between 2013 and 2023, the area burned within oil palm concessions reached 270,940 hectares. And during the same period, the total area experiencing repeated fires was 28.8 thousand hectares.

Figure 4. Burned Area within Oil Palm Concession 2013-2023



Source: Mapbiomas Indonesia

2. Indonesia Regulatory Frameworks of *Financing* for Palm Oil and its Sustainability

2.1. Respective Government Agencies

The governance of palm oil in Indonesia involves a multi-ministerial approach with key roles

held by the ***Ministry of Agriculture*** as the *primary sectoral regulator* and *implementer* on the ground. It is responsible for the operational aspects of the palm oil sector, including the development and oversight of the Indonesian Sustainable Palm Oil (ISPO) certification system. The ministry drafts the technical guidelines for sustainable cultivation, oversees plantation management, and is directly involved in implementing support programs for farmers, ensuring that policies from the finance sector are executed effectively in the fields. Simultaneously, the ***Ministry of Environment and Forestry (KLHK)*** enforces critical environmental safeguards, including blocking projects that threaten primary forests and seizing plantations operating without proper permits in protected areas.

The Ministry of *Finance*, primarily through its Palm Oil Plantation Fund Management Agency (BPDPKS), holds the central role in *palm oil financing*. This agency manages the public funds collected from palm oil export levies. Its key function is to allocate and disburse these funds to support national palm oil objectives, most notably by providing direct financial grants for the Smallholder Replanting Program (PSR), which aims to rejuvenate aging smallholder plantations with sustainable and high-yield crops. **The OJK** *creates the regulatory environment for sustainable finance and supports this ecosystem* by fostering financial sector stability and enabling access to credit, including subsidized KUR for farmers. The Monetary Authority/Central Bank, ***Bank Indonesia*** manages macroprudential policy and can influence bank lending through various instruments, though its direct role is less than OJK's in this specific area.

The above policy structure supposedly directs financial resources towards enhancing the productivity and sustainability of the Indonesian palm oil industry, with a strong focus on supporting smallholder farmers. As effective palm oil governance requires coordination across all levels, in this case, the ***Coordinating Ministry for Economic Affairs*** often plays a role in leading multi-stakeholder initiatives and strategic partnerships to accelerate national programs. The sub-national Governments (Pemda) are crucial actors, as they hold the authority to issue local business permits, making their adherence to national moratoriums and sustainability standards essential for coherent policy enforcement. Their roles can be summarised below:

Table 2. Government Agencies and Their Respective Roles in Palm Oil Financing

No	Agency / Institution	Primary Role in Palm Oil Financing
1.	Ministry of Agriculture/ Kementerian Pertanian (Kementan)	The primary technical ministry responsible for plantation development, productivity, and agricultural extension services. Responsible for the **ISPO certification** scheme; a mandatory sustainability standard for all palm oil plantations.
2.	Ministry of Finance/ Kementerian Keuangan (Kemenkeu)	The Fiscal Policy Agency (BKF) designs **fiscal incentives**, including potential tax facilities for sustainable investment in sustainable or downstream palm oil projects. The Directorate General of Budgeting allocates funds for national programs relevant to the palm oil sector.
3.	Ministry of Forest and Environment/Kementerian Lingkungan Hidup dan Kehutanan (KLHK)	Regulates environmental compliance. Manages forest and peatland areas, issues environmental permits, and enforces laws against deforestation and burning. Its policies directly impact land availability and compliance costs for palm oil companies. Its moratoriums and rules on peatlands and forests directly determine which areas are "no-go" zones for financing, making it a key stakeholder for **financial risk assessment.**
4.	Indonesia Financial Authority/ Otoritas Jasa Keuangan (OJK)	The most critical regulator for financing. It sets the rules for banks and financial institutions, mandating them to integrate Environmental, Social, and Governance (**ESG**) risks into their lending decisions
5.	Indonesia's Monetary Authority/Bank Indonesia (BI)	Manages **macroprudential policy** and can influence bank lending through various instruments, though its direct role is less than OJK's in this specific area. It monitors and factors the performance of key commodity exports, including palm oil into its economic growth projections and policy planning
6.	Sub-national level governments/Pemerintah Daerah (provinces& districts)	Issue the fundamental business and location permits (**IUP**, Izin Lokasi). The legality of a plantation starts here, forming the basis for any bank's due diligence.

2.2. National Policies and Programs on Palm Oil Financing

The Indonesian government has implemented policies with particular focus on *palm oil smallholders*, hence the discussion on this chapter is then particularly on smallholder financing, as well as an integral part of those policies. Indonesia's palm oil financing landscape has evolved over five decades, transitioning from state-led integration of smallholders into plantation development to a complex, multi-tiered system involving national funds, private sector initiatives, and sustainability-driven financing.

In the 1970s–1980s, early programs like PIR and PIR-Trans laid the foundation by

connecting smallholders to nucleus estates, offering land access, inputs, and credit through government-led transmigration and cooperative schemes. The 1990s introduced *Kredit Koperasi Primer Anggota* (KKPA), further institutionalising smallholder credit via cooperatives and bank partnerships.

A major turning point came in 2015 with the creation of *Badan Pengelola Dana Kelapa Sawit*/BPDPKS, an agency managing fund for palm oil related projects, funded by palm oil export levies. It became the financial backbone for national initiatives including replanting, biodiesel subsidies, and research. The *Peremajaan Sawit Rakyat* (PSR) program, launched in 2017, targeted the replanting of aging and unproductive smallholder plantations, offering grants (initially Rp 25–30 million/ha, later increased to Rp 60 million/ha) alongside subsidised credit schemes like KUR.

From 2020 onward, biodiesel blending mandates (B30, B35, B40) supported CPO demand and aligned with national energy goals. Meanwhile, funding expanded into research, education, and local SME development. By 2023–2025, PSR reached over 230,000 hectares, though uptake faced hurdles due to legal, environmental, and administrative barriers. Private-sector-led schemes (e.g. Musim Mas) and international partnerships (e.g. ISPO/RSPO capacity-building) complemented public programs, with a growing emphasis on sustainability, traceability, and certification.

Table 3. Palm Oil Smallholder Program in Indonesia

Year (Period)	Policy/Program	Key Features
1970s - 1980s	PIR/PIR-Trans (Perkebunan Inti Rakyat & Transmigrasi/ nucleus estate smallholder scheme)	A **core company** manages a central «nucleus» estate and processing mill. It provides credit, seeds, and technical guidance to surrounding smallholders («plasma»). **PIR-Trans** specifically integrates **transmigrants** from densely populated islands as the smallholders, providing them with land and housing. The smallholders› fresh fruit bunches are supplied to the nucleus estate mill, creating an integrated and supervised partnership model for regional development and poverty alleviation.
Late 1980s - 1990s	KKPA (Kredit Koperasi Primer untuk Anggota)	A block-line credit facility. A bank extends a loan to a cooperative, with a core plantation company acting as the technical manager and guarantor. The cooperative's members—smallholders—receive financing to develop their plasma plantations, which are integrated with the company's nucleus estate for management and crop off-take.
2015	Presidential Regulation No. 61/2015 on ***Collection and Use of Palm Oil Plantation Funds,*** amended by Presidential Regulation No. 66/2018	It establishes Palm Oil Plantation Funds Agency (BPDPKS), mandates collection of export/export levies on palm oil and uses of those funds for programs including biodiesel incentives, smallholder replanting, R&D, infrastructure etc.
2015 - today	"Biodiesel Mandate" through BPDPKS	Over this period, BPDPKS has disbursed large amounts to subsidize the price for biodiesel, to maintain blending mandates and support domestic demand, partly using palm oil export levies.
2017 – today	*Peremajaan Sawit Rakyat* (PSR) — Smallholder Palm Oil Replanting Program	To replace old, low-yielding oil palm trees with certified, high-yielding seeds to increase plantation productivity and sustainability. Funded by the national palm oil export levy managed by the BPDP-KS, providing in-kind assistance (not cash) directly to beneficiaries. Managed by the DG of Estate Crops, with local governments verifying data and facilitating the distribution of inputs and technical guidance.

There are two programs and a legislation deserving more elaboration in this report, due to their most current significance in financing; namely the Biodiesel Mandate, Smallholders Replanting Program and the Indonesian Law No. 4 of 2023 concerning the Development and Strengthening of the Financial Sector ("**UU P2SK"**).

2.2.1. Biodiesel Mandate (B30/B40 Program)

This is the most significant program driving demand and providing price support for crude palm oil (CPO). Managed by BPDPKS, the program uses export levy funds to subsidize the price difference between biodiesel and fossil diesel, creating a stable domestic market. This indirectly improves the creditworthiness of palm oil companies by ensuring demand.

The primary financing program is not a traditional loan or grant but a price stabilization and subsidy mechanism. It ensures that the price of biodiesel at the refinery gate is competitive with regular diesel fuel, making it economically viable for producers to supply it to the market. The program is financially self-sustaining, funded by the palm oil industry itself. The source of funds for the program is export levy, whereby the government imposes a levy on every ton of Crude Palm Oil (CPO) and its derivative products exported from Indonesia. The rate of this levy fluctuates based on international CPO prices. When global prices are high, the levy is higher, and when they are low, the levy is reduced or even set to zero. This money is collected directly into the *biodiesel fund* managed by BPDP-KS.

The collected levies are used to bridge the price gap between biodiesel and fossil diesel. Biodiesel is typically more expensive to produce than regular diesel. This difference in cost is known as the "price gap." The BPDP-KS uses the Biodiesel Fund to pay this "price gap" directly to the biodiesel producers (called *Penyelenggara Bahan Bakar Nabati* or PBN). This ensures that the producers receive a price that makes their business sustainable. Pertamina and PT AKR Corporindo, the state-owned and assigned private fuel distributors, are legally obligated to blend and distribute the biodiesel nationwide.

2.2.2. Smallholder Replanting Program (Peremajaan Sawit Rakyat – PSR)

Administered by BPDPKS, this program provides funding (in the form of grants and/or low-interest loans facilitated through banks) to smallholders to replant old and unproductive plantations with higher-yielding, certified seeds. Financing for the smallholder replanting program in Indonesia is largely provided via government funds (BPDPKS), supplemented by private sector, banks, and partnering corporations. To access the funds, smallholders must meet criteria around plantation age, productivity, land legality, being part of recognized institutions, using certified seeds, and sustainable management.

The integration of KUR with PSR was formally established to address a critical shortfall in the national PSR program. While the government's in-kind assistance through BPDP-KS covers essential inputs like seeds and fertilizers, it does not cover the significant operational and living costs smallholders incur during the 3-4 year period before new palms become productive. The KUR for PSR scheme was launched to provide the necessary working capital for this period, ensuring smallholders can sustain their livelihoods and properly maintain their new plantations. This partnership is guided by regulations from the Coordinating Ministry for Economic Affairs concerning KUR implementation.

The KUR loan for PSR is structured with a maximum tenure of 4 years. This period is specifically aligned with the average immature phase of oil palm seedlings, allowing for a grace period on principal repayment until the plants begin to produce fruit and generate income for the farmers.

Smallholder harvesting palm oil in Indragiri Hulu, Riau. Photo: © Yudi Nofiandi/Auriga

The financing model is a revolving credit loan specifically categorized under KUR-Kemitraan (Partnership KUR). In this model, the borrowers are eligible smallholders who are participants of the official PSR program. The facilitators are smallholders' cooperatives and, in many cases, a partnering nucleus plantation company act as facilitators. The company often provides technical guidance and can act as a technical guarantor for the loan. The credit is explicitly intended to cover operational costs not provided by the in-kind PSR grant. This includes land clearing, weeding, fertilization beyond the provided amount, pest control, and most importantly, the smallholder's living expenses during the non-productive period.

The loan is channelled through banks that are official participants in the national KUR program. The primary disbursing banks are state-owned enterprises (SOEs), which have the extensive network required to reach rural smallholders, such as: Bank Rakyat Indonesia (BRI), Bank Mandiri, Bank Negara Indonesia (BNI) and Bank Tabungan Negara (BTN).

The government provides substantial support to make this financing accessible and affordable for smallholders, in the forms *interest rate subsidy*, whereby the government subsidizes the interest rate, capping the effective lending rate for debtors at a low, single-digit percentage per year. This makes the credit significantly cheaper than commercial loans. The other is *credit guarantee, whereby t*he government provides a credit guarantee through Asuransi Kredit Indonesia (ASKRI); which covers a portion of the loan's risk. This mitigates risk for the lending banks and encourages them to extend credit to smallholders who may lack conventional collateral.

Figure 5. Smallholder Replanting Program/*Peremajaan Sawit Rakyat* (PSR) Scheme – BPDPKS

2.2.3. Law No. 4 of 2023 (UU P2SK) and Indonesian Sustainable Taxonomy (TKBI)

The most recent relevant legislation under the discussion of palm oil financing is The Indonesian Law No. 4 of 2023 concerning the Development and Strengthening of the Financial Sector ("**UU P2SK**"). It is an omnibus law created to comprehensively harmonize

various regulations within the financial sector. The core purpose of UU P2SK is to ensure that the financial sector contributes to inclusive, sustainable, and equitable economic growth. It specifically aims to optimize financial intermediation to productive sectors and increase funding toward national development goals, including supporting Micro, Small, and Medium Enterprises ("**UMKM**").

The scope of the law is broad, covering the entire financial ecosystem, including Banking, Capital Markets, Insurance, Pension Funds, and Financial Sector Technology Innovation (ITSK). It is founded upon key principles such as legal certainty, accountability, justice, and Consumer Protection. Institutionally, UU P2SK strengthens the roles of the financial authorities. It provides the legal foundation for implementing Sustainable Finance, including regulating sustainable taxonomy, or Taksonomi Keuangan Berkelanjutan Indonesia ("**TKBI**"). Crucially, the law fortifies financial system stability, defining procedures for handling troubled banks. It also establishes severe penal provisions and administrative sanctions for violations, aiming to protect the sector and consumers from criminal and non-compliant behaviour.

TKBI explicitly and substantially UU P2SK as its primary legal foundation. UU P2SK is listed as a core legal foundation for the TKBI, alongside the 1945 Constitution and the Paris Agreement. It contains a dedicated chapter (Chapter XVII) specifically discussing the Implementation of Sustainable Finance by formalizing the definition of Sustainable Finance as *an ecosystem supporting policies, regulations, and standards that align economic, environmental, and social interests in financing sustainable activities*. Crucially, UU P2SK also formally incorporates the concept of transition financing, defining it as *financing for projects that are undergoing a shift or transformation from high-carbon emission activities toward more environmentally friendly ones*. This legal inclusion directly supports the TKBI's use of the "Transition" classification. It explicitly regulates the existence of a sustainable taxonomy. Furthermore, the future implementation of the TKBI framework will be directed towards a regulatory structure consistent with the mandate of the UU P2SK.

TKBI is fundamentally defined as a classification of economic activities. The main goal of TKBI is to act as a guide to increase the allocation of capital and sustainable financing. This process aims to support two major national objectives: achieving Indonesia's Sustainable Development Goals (TPB/SDGs) and supporting the target of Indonesia's Net Zero Emission (NZE). The framework is designed to be inclusive, balancing economic, environmental and social aspects. It considers international and regional taxonomies, such as the ASEAN Taxonomy for Sustainable Finance (ATSF), to ensure interoperability and credibility.

Activities assessed under the TKBI framework must meet four Environmental Objectives (EOs) and three Essential Criteria (ECs). The final assessment results in one of three classifications: *green, transition and "does not meet classification.*

The shift from TKBI Version 1 (TKBI 1, published around February 2024) to TKBI Version 2 (TKBI 2, published in February 2025) primarily involved a significant expansion of the sectoral coverage and the inclusion of new tools and specific activity criteria, driven partly by national priorities and developments in regional taxonomies, particularly the ASEAN Taxonomy for Sustainable Finance (ATSF). The most substantial change between TKBI 1 and TKBI 2 is the scope of the economic activities covered, which expanded beyond the initial focus on the Energy sector.

Table 4. The Progress with Indonesian Taxonomy/TKBI

Feature	TKBI Version 1 (Published Feb 2024)	TKBI Version 2 (Published Feb 2025)	TKBI Version 3 (Published Jan 2026)
Primary Focus Sector	Focused primarily on the Energy sector.	Expanded to cover three (3) additional focus sectors, in addition to Energy.	Further expanded beyond NDC sectors to include additional priority sectors (Manufacturing and WSSWMR) and two enabling sectors (Information and Communication, and Professional, Scientific and Technical Activities).
New Sectors Added	Contained the conceptual framework for all five NDC sectors (Energy, Waste, IPPU, Agriculture, FOLU) but only provided TSC for Energy.	Developed and included Technical Screening Criteria (TSC) for: Construction and Real Estate (C&RE), Transportation and Storage (T&S), and a portion of Agriculture, Forestry and Other Land Uses (AFOLU)	Developed and included TSC for the full Agriculture, Forestry, and Fishing (AFF) sector (completing prior coverage); Manufacturing (Manufaktur); Water Supply, Sewerage, Waste Management, and Remediation (WSSWMR); and two enabling sectors: Information and Communication (IC) and Professional, Scientific and Technical Activities (PST). Also introduced sunsetting, grandfathering, and entity/portfolio-level TKBI assessment.
Energy Sector Scope	Covered Electricity Procurement, Gas, Steam/Hot Water and Cold Air (including accelerating the termination of Coal PLTU operations); and Mining/Excavation of critical minerals.	Maintained coverage for the Energy sector, utilizing existing principles for TSC determination, based largely on ATSF v2 and national policy.	Maintained coverage for the Energy sector, with TSC updated to align with the RUPTL 2025-2034 and the Second Nationally Determined Contribution (SNDC).
AFOLU Specifics	Not yet developed, only conceptualized as one of the five NDC sectors.	Specifically includes the forestry sub-sector (sustainable forest management, plantation forestry, non-timber forest products, conservation/ restoration, and supply chain) and *palm oil plantations*.	Expanded to full Agriculture, Forestry, and Fishing (AFF) scope, including fisheries (capture fishing and aquaculture). Also introduced Social Forestry (Perhutanan Sosial) criteria covering agroforestry and carbon ecosystem services (carbon storage and sequestration).

The inclusion of the Oil Palm Plantation sector in TKBI Version 2 significantly enhances Guidance on Credit for Sustainable Palm Oil, by providing an official national classification framework for sustainable finance. The original Credit Guidance, issued by the OJK, aims to increase bank understanding of the palm oil business process to mitigate risk and promote sustainable credit/financing. The guidance emphasizes:

1. *Risk Reduction and Management.* Banks need to minimize risks by supporting legal and responsible Crude Palm Oil (CPO) supply chains, verifying traceability, and identifying and mitigating Environmental, Social, and Governance (LST) issues.
2. *Sustainability Criteria.* Banks are encouraged to support customers in meeting standards like ISPO (Indonesian Sustainable Palm Oil) and RSPO (Roundtable on Sustainable Palm Oil), ensuring adherence to environmental commitments such as

avoiding primary/secondary forest clearing, peatland planting, and moratorium areas.

3. *Sustainable Finance Principles*. The guidance aims to support Sustainable Development Goals (SDGs) and promote consistent financial flows for low-emission, climate-resilient development.

With the introduction of TKBI Version 2, financing activities related to palm oil plantations now have a mechanism to be classified as "Hijau" (Green) or "Transisi" (Transition). Banks can use the TKBI framework, which requires assessment against four Environmental Objectives (EOs) and three Essential Criteria (ECs). The AFOLU sector in V2 currently focuses on EO1 (Climate Change Mitigation) but anticipates eventual expansion to cover EO2, EO3, and EO4. This formal taxonomy supports the existing mandate in the Credit Guidance by providing a standardized tool for classifying portfolio assets, setting requirements for sustainable financial products, and conducting robust due diligence to avoid negative practices (such as illegal factory construction or human rights violations). While the Credit Guidance is currently voluntary (voluntary and "a living document"), the adoption of TKBI provides a clear framework for defining what constitutes a sustainable business activity, especially concerning the sustainable management of biological natural resources and land use (Category 4 OJK Regulation on Sustainable Finance).

Under the **TKBI Version 3**, here are some implications for palm oil financing:

The TSC framework is carried forward, with clarifications. Palm oil plantations (Perkebunan Kelapa Sawit) are retained in v3, now reclassified under the broader "Annual and Perennial Crops" activity category. The document explicitly notes this is a structural/grouping change, not a substantive one — the TSC criteria themselves remain the same.

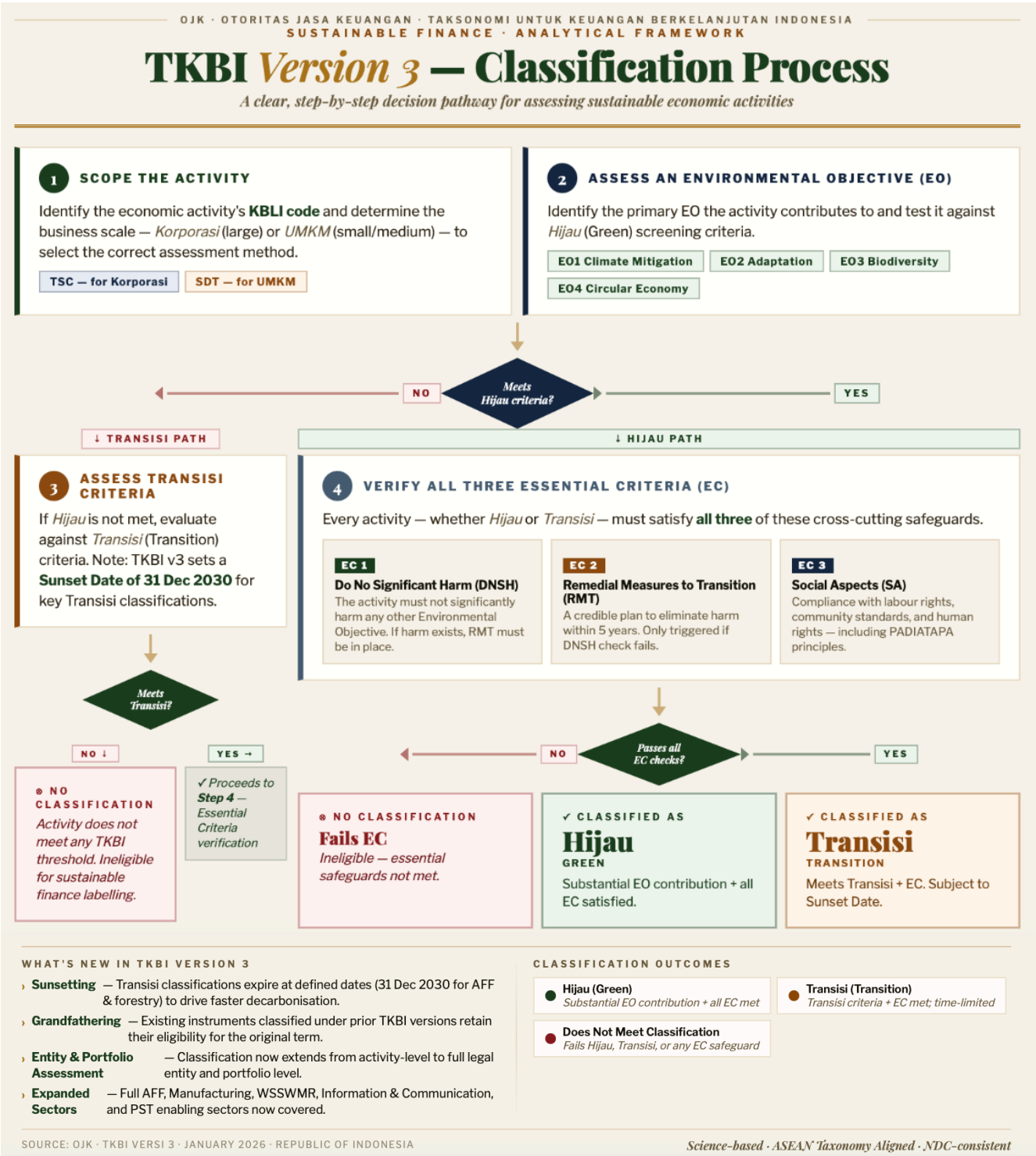
Two tiers of classification, with a hard deadline. To qualify as Green (Hijau), a plantation must hold a recognized sustainable palm oil certification — ISPO, RSPO, ISCC, MSPO, POIG, or RSB — where the certification must encompass High Conservation Value Area

Palm oil mill in Langkat, North Sumatera. Photo ©Yudi Nofiandi/Auriga Nusantara

(ABKT) assessment, a GHG inventory, and a peatland management plan. Critically, plantations must *not* be located within forest areas.

To qualify as Transition (Transisi), the bar is lower: the plantation must have GHG mitigation SOPs, maintain protected and high-conservation-value zones, and demonstrate

Figure 6. Taxonomy Classification Process based on TKBI Version 3



no new clearing of natural forest or peatland, plus either publish a sustainability report with explicit climate commitments or have a documented plan to achieve full certification.

The significant new element in v3 is the sunset date: the Transition classification expires on 31 December 2030, tied directly to Indonesia's FOLU Net Sink 2030 target. After that date, a plantation that hasn't graduated to Green will be reclassified as non-compliant. This creates a firm, time-bound pressure on borrowers to achieve certification.

Only EO1 (Climate Change Mitigation) applies. The taxonomy explicitly marks EO2 (Climate Adaptation) and EO3 (Ecosystem/Biodiversity Protection) as N/A for palm oil. This is a pragmatic choice — it narrows the compliance scope but also means palm oil cannot earn taxonomy alignment through biodiversity or adaptation arguments alone.

In short, TKBI v3 doesn't dramatically change the criteria from v2 for palm oil, *but the introduction of sunsetting gives the framework real teeth*. Lenders with significant palm oil exposure now have a clear timeline for portfolio transition planning, and borrowers that cannot demonstrate a credible path to certification by 2030 will increasingly find sustainable finance doors closing.

3. Current Financing Instruments for Palm Oil Sector in Indonesia

The discussion in this chapter will cover financing for palm oil sectors from commercial banks and investors, public banks and then the lens will focus on financing for palm oil smallholders.

3.1. Commercial Banks Financing

Data provided by forestsandfinance.org – in short "FF" provides comprehensive information regarding financing for palm oil in Indonesia. The financing facilities outlined in this section consist of *credit and investment*. In terms of credit, there are four types of facilities: corporate loans, revolving credit facilities, share issuances, and bond issuances. In terms of investment, there are two types of facilities: bondholding and shareholding.

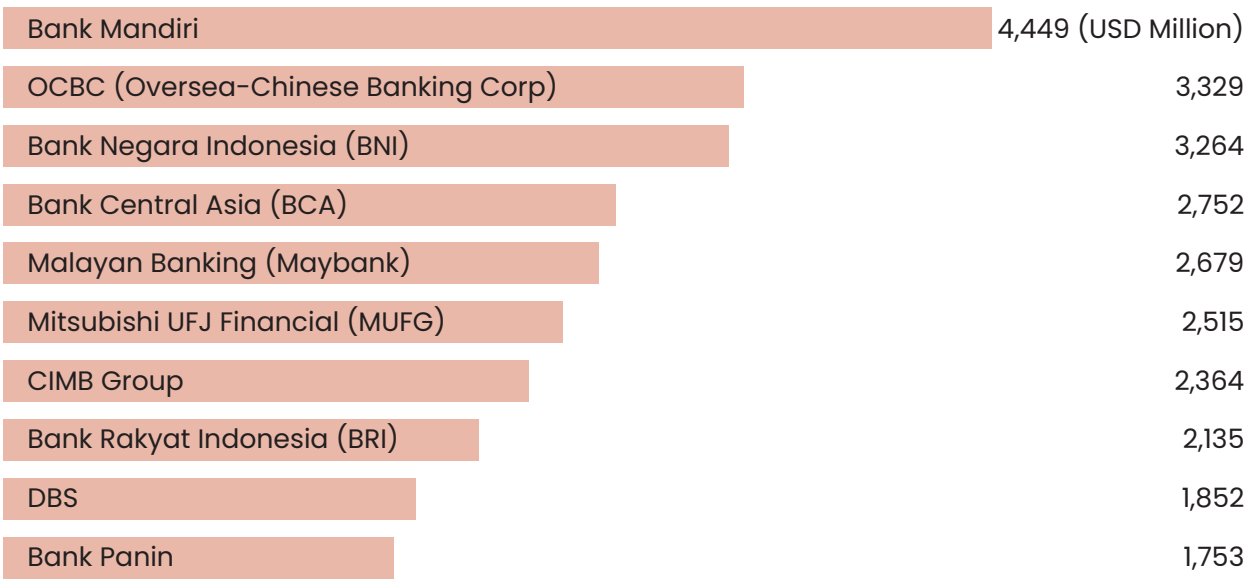
FF also provides policy scores for both creditors and investors. They are elaborated through three (3) main categories, namely: environment (12 criteria), social (11 criteria) and governance (); which are divided into two (2) sub-sections: for the funder (8 criteria) and for the company that is the debtor (7 criteria); so it is very comprehensive. The assessment criteria included in the F&F Policy Assessment Methodology are based on international agreements, and conventions (mostly from bodies linked to the United Nations, such as the ILO and UNEP) and best practices in the global business community and the financial sector with respect to forest-risk commodities. For each criteria a scoring table is set up whereby 10 points are granted if the financial institution commits unequivocally to the criteria and applies it to the company and its suppliers, and 8.5 points are granted if the financial institution commits only partially to the criteria, often because the criteria is not applied to the suppliers of the company. The scores for all criteria are added up and then normalized on a scale from 0 to 10.

Corporate loans are the most readily available credit instrument for companies to obtain financing from banks. Generally, loans can be short-term or long-term. Short-term loans have maturities of less than one year and do not require substantial collateral from the company, such as trade credit, current accounts, or leasing agreements (Harja et al., 2022, p. 86).

A revolving credit facility is a facility provided by banks that allows borrowers (creditors) the flexibility to withdraw and repay loans repeatedly without exceeding an agreed-upon nominal limit. This facility is primarily used to support operational purposes, particularly for businesses experiencing sharp fluctuations in cash flow and large, unexpected expenses. In other words, it is necessary for companies that sometimes have low cash balances to support their net working capital needs. Therefore, it is often considered a form of short-term financing that is usually repaid quickly.

From 2015-2024, forestsfinance.org recorded some 9,349 transactions the Indonesian palm oil sector booked in forms of credit facilities amounting to more than USD50,47Billions. These were corporate loans, revolving credit facilities, share issuances, and bond issuances from banks; with the top 10 being depicted in Figure 7 above. Still according to the same source, the policy scores of these 10 banks do not seem really impressive, with the highest achievement of score 4.9 in the scale of 1 to 10, held by CIMB Group.

Figure 7. Top 10 *Creditors* for Indonesian Palm Oil 2015-2024



Source: forestsandfinance.org, accessed on Oct 15, 2025 at 21:18pm

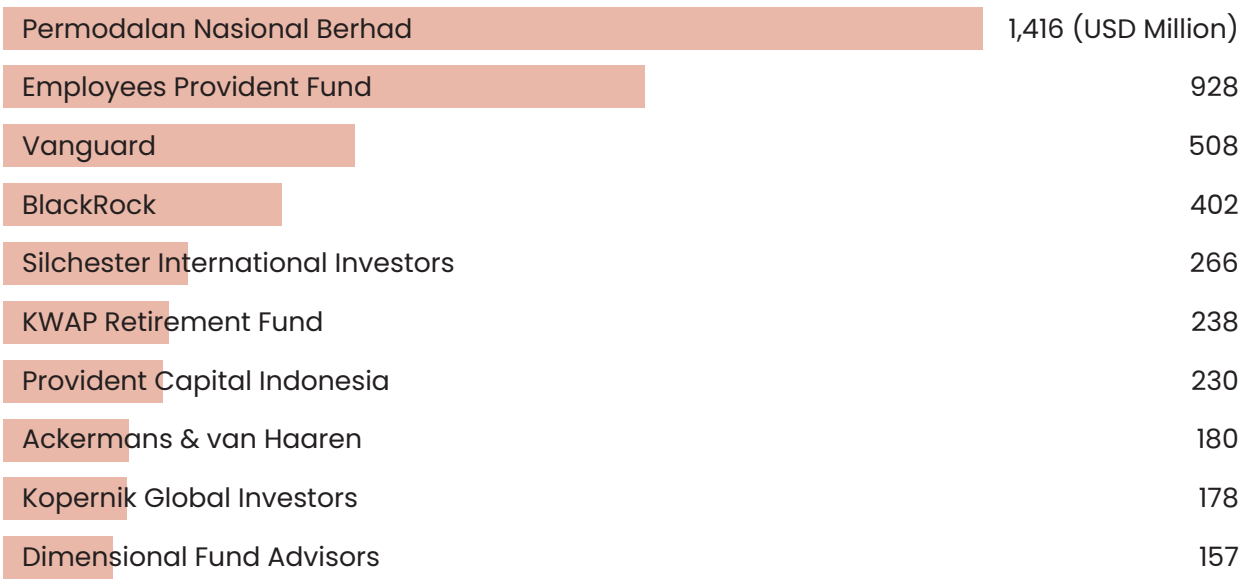
Table 5. ESG Policy Score of Top 10 Creditors for Indonesian Palm Oil, 2014-2024

No	Name	Credit (USD Million)	Headquarter	ESG Score
1	Bank Mandiri	4,449	Indonesia	2.7
2	Oversea Chinese Banking Corporation	3,329	Singapore	2.6
3	Bank Negara Indonesia	3,264	Indonesia	3.2
4	Bank Central Asia	2,752	Indonesia	3.0
5	Malayan Bank	2,679	Malaysia	4.4
6	Mitsubishi UFJ Financial	2,515	Japan	2.7
7	CIMB Group	2,364	Malaysia	4.9
8	Bank Rakyat Indonesia	2,135	Indonesia	2.3
9	DBS	1,852	Singapore	4.5
10	Bank Panin	1,753	Indonesia	2.3

Source: forestsandfinance.org, accessed on Oct 15, 2025 at 21:24pm

A company can decide to go public when it has reached a significant size, has a proven business model, and needs a large amount of capital for major expansion. Banks act as intermediaries, advisors, and distributors in the share issuance process. Furthermore, companies use bond issuance facilities when they need financing but without the need to transfer ownership rights to the company as is the case with stock issuance. In bond issuance, the bank acts as an intermediary between the entity seeking funding and the investor with the capital (Harja et al., 2022, p. 86). If the investment bank is unable to sell the bonds issued, the bank retains ownership of the bonds.

Figure 8. Top 10 *Investors* of Indonesian Palm Oil, 2015 – 2024



Source: forestsandfinance.org, accessed on Oct 15, 2025 at 22: 39pm

From 2015-2024, forestsfinance.org also recorded some 16,043 transactions the Indonesian palm oil sector booked, in forms of investment amounting to more than USD 8,658Billion. These were shareholding and bondholding, with the top 10 being depicted in Figure 8 above.

Table 6. ESG Score of Top 10 Palm Oil *Investors* in Indonesia

No	Name	Investment (USD Million)	Headquarter	ESG Score
1	Permodalan Nasional Berhad	1,416	Malaysia	1.7
2	Employees Provident Fund	928	Malaysia	4.5
3	Vanguard	622	USA	0.2
4	Blackrock	532	USA	1.3
5	Silchester International Investors	309	UK	0.2
6	KWAP Retirement Fund	238	Malaysia	0.4
7	Provident Capital Indonesia	230	Indonesia	n.a.
8	Ackermans & van Haaren	209	Belgium	n.a.
9	Kopernik Global Investors	185	USA	n.a.
10	Dimensional Fund Investors	178	USA	0.8

Source: forestsandfinance.org, accessed on Oct 15, 2025 at 22:58pm

The policy scores of these top 10 investors do not seem really impressive either; with the highest achievement of score 4.5 – the scale of 1 to 10, held by Employees Provident Fund. It is important to note that Forests & Finance data does not capture all private sector financing of forest-risk activities, so the actual financing for palm oil should be much larger than the figures presented.

3.2. Public Banks Financing

3.2.1. World Bank and IFC

It is important to distinguish the sectors receiving financing from World Bank and the International Finance Corporation (IFC), whereby the Word Bank lends to governments, and IFC invests in the private sector. The World Bank has a long standing footprint in the Indonesian palm oil sector. It was one of the largest and most influential financiers for Nucleus Estate and Smallholder (NES) scheme, known in Indonesia as *Perkebunan Inti Rakyat* (PIR). The estimated total cost for the full series of seven NES projects was US$1.3 billion, with the Bank commitment totalling US$655 million. Individual projects also represented significant investments. For example, the NES V project was appraised at US$322.0 million, though actual costs reached US$181.9 million. Earlier efforts, like the First North Sumatra Estates Project (Credit 155-IND), were estimated at US$32 million. Overall, total costs were often below appraisal estimates due to scaling down and large cancellations.

These projects span from the late 1960s into the early 1990s. The First Agricultural Estates Project spanned roughly 1969 to 1977, while the NES series loans were approved between November 1977 and January 1983. Projects were typically planned for a ten-year implementation period, with Bank loans financing the initial five or six years. However, implementation often suffered delays, necessitating loan extensions and resulting in substantial unused loan amounts.

The funds were primarily allocated to the development of major tree crops (rubber, oil

Palm oil seedlings. Image courtesy of Auriga Nusantara.

palm, and coconuts), often involving the settlement of landless families. Key components included establishing large tracts of smallholder development (e.g., planting, housing, and rural infrastructure), and nucleus estate development. Major investments were directed towards processing facilities such as palm oil mills and crumb rubber factories, as well as technical assistance and the provision of agrochemicals and equipment.

Table 7. World Bank Financed Projects Related to Oil Palm in Indonesia

Project Name & Scheme Type	World Bank Project ID	Approval Fiscal Year	Total (USD Mio)	Channel/ Mechanism	Key Components
Transmigration I, NES/Transmigration	P008244	1976	30	IBRD Loan to Government of Indonesia	Infrastructure for settlements and nucleus estates for 15,000 families.
Transmigration II, NES/Transmigration	P008645	1979	157	IBRD Loan to Government of Indonesia	Resettlement of app. 30,000 families, with stronger focus on perennial crops like oil palm.
Transmigration III, NES/Transmigration	P009178	1981	102.6	IBRD Loan to Government of Indonesia	Further expansion and consolidation for 65,000 families.
Transmigration IV, NES/Transmigration	P009678	1984	86.1	IBRD Loan to Government of Indonesia	Continued support for settlement and estate development.
Transmigration V, NES/Transmigration	P010135	1986	160	IBRD Loan to Government of Indonesia	Base mapping, 300,000 families settlement planning, tree crop planting; "edible oil"
Smallholder Tree Crops Project I, NES (PIR)	P009677	1984	47	IBRD Loan to Government of Indonesia	Specifically for oil palm and rubber smallholder development outside Java.
Smallholder Tree Crops Project II, NES (PIR)	P010136	1986	55	IBRD Loan to Government of Indonesia	Continuation and expansion of smallholder tree crop development.
Tree Crops Processing Project	Loan 300-IND	1988	118.2		Processing capacity resulting from the maturity of **oil palms** and rubber planted under the national NES/PIR program
Smallholder Development Project I, NES (PIR)	P011190	1989	75.2	IBRD Loan to Government of Indonesia	Support for smallholders in oil palm, rubber, and cocoa.
Tree Crops Development Project (TCDP I), NES (PIR)	P008234	1989	55	IBRD Loan via BRI & Bank Dagang Negara to Nucleus Estates	Develop 57,500 ha of smallholder oil palm, rubber, and cocoa
Smallholder Development Project II, NES (PIR)	P011191	1990	78.5	IBRD Loan to Government of Indonesia	Further funding for smallholder schemes.

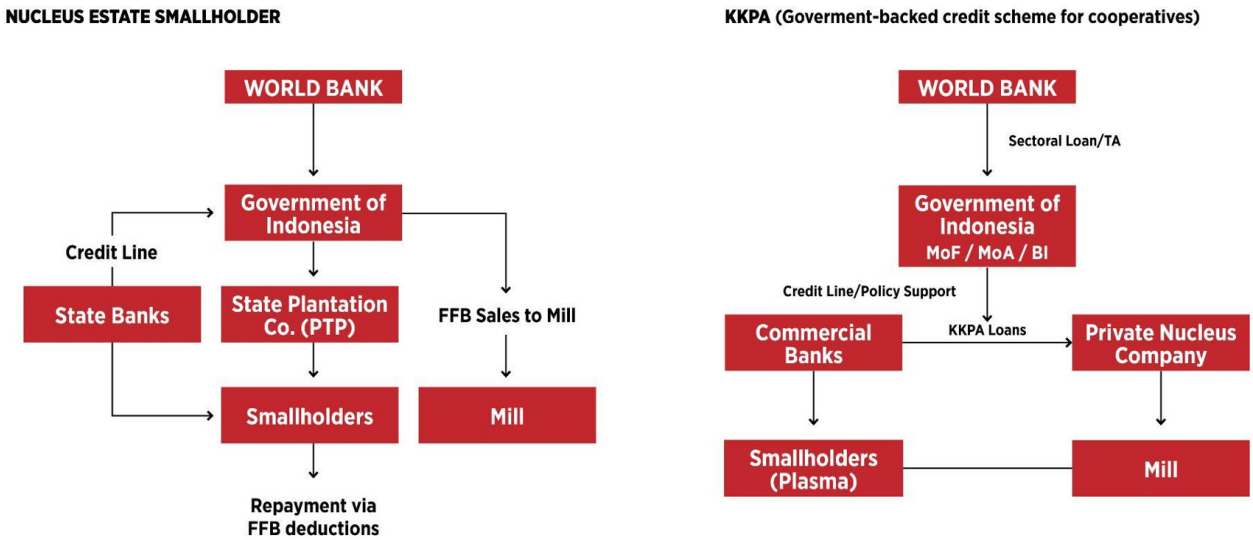
Project Name & Scheme Type	World Bank Project ID	Approval Fiscal Year	Total (USD Mio)	Channel/ Mechanism	Key Components
Tree Crops Development Project (TCDP II), KKPA Model	P009525	1995	64.5	A credit line through Bank Indonesia to participating private banks, then on-lent to smallholder cooperatives	Develop 67,500 ha of smallholder oil palm and cocoa

IFC's direct investments in palm oil companies in Indonesia includes investments made directly to companies primarily engaged in palm oil cultivation and processing, with four groups that received a total of over $230.5 million. The Wilmar Group received a cumulative total of $145.5 million across four projects. The earliest was a $33 million guarantee to Wilmar Trading in November 2005, allocated as pre-shipment finance to scale up CPO offtake for export from Indonesian plantations. Delta-Wilmar CIS received $17.5 million in October 2006 for a greenfield refinery in Ukraine that processed CPO imported from Indonesia and Malaysia. In March 2007, Wilmar WCap secured a $50 million guarantee for a partial working capital facility to purchase CPO from Indonesian plantations. The final project noted was a $45 million A Loan in January 2010 for the expansion of the Ukraine refinery.

Kalimantan Sanggar Pusaka received $50 million in June 1997, which consisted of a $20 million A Loan, a $15 million B Loan, and $15 million in Equity. This financing was allocated for the expansion of oil palm and rubber estates, and to increase Crude Palm Oil (CPO) production facilities in West Kalimantan, Indonesia. The Wings Group was funded with $21 million in December 2002, consisting of a $10 million A loan and an $11 million Syndicated B loan. The allocation was designated for the acquisition, rehabilitation, and management of palm oil plantations and associated CPO mills in Indonesia. Lastly, Verdaine Investment Limited received a loan of $14 million in November 2000. The sources do not provide the primary focus or purpose for this specific allocation.

An audit by the Compliance Advisor Ombudsman (CAO), the IFC's independent accountability mechanism, found serious procedural failures. The CAO concluded that IFC staff incorrectly categorized the trade finance projects as Category C (Minimal Impact). This move allowed commercial interests to prevail and, crucially, enabled IFC to avoid required environmental and social due diligence on the palm oil supply chain and affiliated Indonesian plantations, despite being aware of high-risk social and environmental issues. The CAO's findings of IFC non-compliance led the World Bank Group to impose a global moratorium on all new palm oil investments in 2009.

Figure 9. World Bank Group Model of Oil Palm Project Financing in Indonesia



3.2.2. Asian Development Bank

Identifying all specific credit lines from the Asian Development Bank (ADB) for the Indonesian palm oil industry requires referencing both historical sovereign loans (government-backed) and recent private sector operations, which are often structured under broader themes like tree crops or sustainable value chains. The primary credit identifications linked to the Indonesian palm oil sector are:

Sovereign Loans (Early Development)

These loans were granted to the Government of Indonesia for major agricultural sector programs that included oil palm development, particularly supporting the Nucleus Estate and Smallholder (NES) model.

ADB Identification	Project Name / Sector	Focus Area
TA 0023-INO	Sawit-Sebarang Oil Palm Estate Project	Early technical assistance and development loan, directly tied to oil palm estate creation.
Loan No. 1109-INO	Tree Crop Smallholder Sector Project	Aimed at improving production for smallholders in commodities including oil palm (and rubber/tea).

Private Sector Loans (Modern Sustainability Focus)

ADB's contemporary financing for the palm oil industry is handled through its Private Sector Operations Department (PSOD) and is typically sustainability-linked, focusing on climate resilience and ESG compliance. These are identified by the project or facility name, as a generic "Loan No." is often not publicly emphasized for private deals.

ADB Identification	Borrower / Facility Type	Purpose / Sector Focus
DSNG Climate-Resilient Community-Based Agroforestry Value Chain Project	PT Dharma Satya Nusantara Tbk (DSNG)	This $15 million sustainability-linked loan facility (signed Jan 2023) is used for climate-resilient agroforestry and sustainable wood processing, but is provided to one of Indonesia's largest palm oil players to strengthen the entire value chain's sustainability, including that of its smallholder partners.

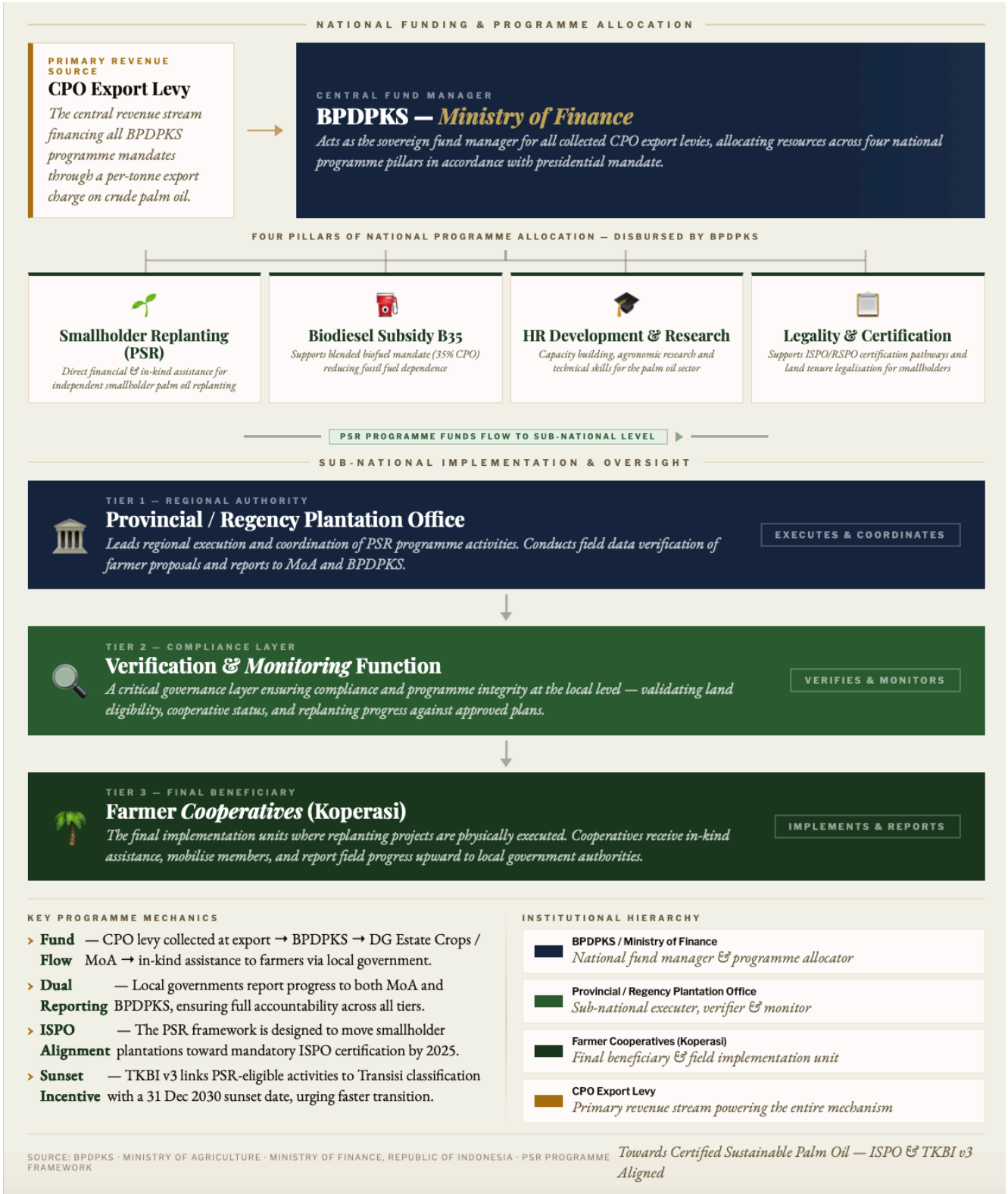
3.3. Oil Palm Smallholders Financing with Subsidy

As section 2.2 discussed, the Indonesian government came up with BPDPKS which was partially funded by CPO levy an in the implementation, with policy such as the Biodiesel Mandate serves to support the intakes of supply and provides the subsidy. To date, BPDPKS has financed the PSR program to the tune of at least Rp 9.03 trillion in actual disbursements by the end of 2023, with an additional Rp 7.5 trillion allocated for 2024 to be fully disbursed against the year-end target. Bank Indonesia's 2022 Economic Report on Riau stated the total amount channelled since inception – for Riau province alone – the cumulative realization of KUR for the PSR program had reached IDR 1.03 trillion by the end of 2022.

Despite targets, actual replanting lags behind: for example, the target for 2024 smallholder replanting was ~70,000 hectares, but only **38,247 hectares** was funded / executed under PSR due to land legality issues and high palm oil prices. The cumulative approved area (by end-2023) was ~326,308 hectares, versus the ambitious target of 2.5 million hectares by 2025.

The increased rate of subsidy (Rp 60 million/ha) helps narrow financing gap, but smallholders often need additional financing or bearing costs themselves (for e.g. land preparation, maintenance during immature phase). Sustainability outcomes depend heavily on effective verification, legal land status, seed quality, and continuity in support. While a significant portion of financing is designed to promote sustainability (environmental, social, and market dimensions), there are still gaps in both amount and inclusivity that limit full sustainability, especially for smallholders lacking strong legal proof or institutional organization. The figure below pictures the mechanism of this model and the allocations of the fund.

Figure 10. Smallholder Replanting Project Mechanism



3.4. Specific Oil Palm Smallholders Financing Provided by State Owned Banks

In this chapter we examine three (3) state owned banks, namely: Bank Mandiri, BNI and BRI. We carefully study their annual reports year 2015 – 2024 with the focus on whether they explicitly mentioned any credit dedicated to oil palm smallholders. Below are our findings:

3.4.1. Bank Mandiri

Based on Bank Mandiri's annual reports from 2015 – 2024, there is no specific loan product explicitly labelled as "credit for oil palm smallholders." An examination of the relevant mentions concerning smallholders, farmers, and the palm oil sector across the annual reports can be found in below descriptions:

Micro and Small Enterprise Financing (KUR/KUM). The bank consistently provides Micro Business Loans (KUM) and People's Business Loans (KUR), which are designed for small-scale entrepreneurs and productive businesses, and explicitly target farmers.

- KUM and KUR are described as investment and/or working capital financing provided to owners of micro and household businesses, which include individuals such as traders, farmers, breeders, and fishermen.
- In 2023, the bank disbursed Government Subsidy Microloans (KUR) amounting to Rp62.3 Trillion to more than 2.88 million borrowers. KUM and KUR combined reached Rp167.88 trillion in total loans in the micro segment.
- In 2024, Bank Mandiri disbursed Rp63.9 trillion in KUR and Rp26.9 trillion in KUM to more than 2.9 million micro customers.
- In 2021, KUR disbursement was mainly directed toward productive sectors such as agriculture & fisheries(Rp10.67 trillion).
- The SME segment also targets the Agriculture, Hunting and Agricultural Facilities sector.

Specific Mention of Oil Palm Smallholders/Farmers in Programs. While a dedicated loan product is not detailed for oil palm smallholders, the annual reports mention them in the context of broader inclusion efforts or legacy projects:

- Financial Inclusion/Digital Services (2015 & 2018): In 2015, the Company disseminated information on Digital Financial Services (Layanan Keuangan Tanpa Kantor dalam rangka Keuangan Inklusif or LKD) with the Mandiri e-cash product to oil palm smallholders under the Koto Besar Padang Bungur and Bonjol Oil Palm Cooperative (Koskopabo), West Sumatra. This activity was also referenced in the 2018 report.
- Community Plantation Development (2018): Channelling loans related to former PIR Plantations to farmers for community plantation development, including the Nucleus Estate Smallholder (NES) ADB project, were managed by Bank Mandiri as the administrator for the repayment of receivables.
- Social Forestry (2017): The Muara Gembong Social Forestry Project addressed state land occupied by smallholders (about 12 million hectares) in a CSR context focused on mangrove planting and pond revitalization.

Distinction from Large-Scale Palm Oil Financing. The annual reports frequently detail the substantial financing provided to the broader Palm Oil/Plantation industry, usually referring to large corporate and commercial debtors, which are subject to high ESG standards:

- *Policy Requirements.* For the Agricultural sector, especially Palm Oil & CPO

plantations, Bank Mandiri requires debtors to demonstrate ISPO and/or RSPO compliance or at least proof of registration. These stringent environmental requirements often apply to large-scale operations and involve policies concerning No Deforestation, No Peat, No Exploitation (NDPE), land clearing, and preservation of High Conservation Value (HCV) areas.

- *Segment Allocation*. The bank has provided Sustainability-Linked Loans (SLL) to borrowers operating in high carbon-intensive sectors such as the palm oil industry.
- In 2019, the total loan distribution to the Corporate, Commercial, and Retail-SME plantation industry reached IDR139,927 billion, significantly exceeding the total for the Retail-Micro plantation industry loans (IDR7,271 billion limit).
- The Commercial Banking segment lists the Palm Oil Plantation & CPO industry among the largest financing categories for group customers (Rp56.79 trillion in 2024) and achieved large financing productivity from the plantation/agribusiness industry (Rp59 trillion individually in 2023).

In summary, while Bank Mandiri provides microloans (KUR/KUM) that are generally accessible to farmers and micro-scale operators, which theoretically could include smallholders, annual reports do not identify a specific, dedicated credit product named for or detailing the volume of financing provided solely to oil palm smallholders themselves. The specific mentions of oil palm smallholders relate primarily to financial inclusion efforts.

3.4.2. BNI

Based on BNI's annual reports year 2015 – 2024, there is indeed a specific mentioning of credit for oil palm smallholders. However, the reports do not provide a specific, isolated monetary value exclusively for oil palm smallholders. Instead, these figures are generally aggregated within broader categories such as the "Small Segment," "Agriculture Sector," or "Sustainable Business Activities." Below are the specific details regarding the programs and its contexts:

Specific Credit Programs for Oil Palm Smallholders. The reports identify three main credit schemes used to fund oil palm smallholders:

- *Rejuvenation of People's Palm Oil (Smallholders):*
  - Program: The 2018 Annual Report explicitly lists the "Rejuvenation of People's Palm Oil" as a program involving funding palm oil farmers in collaboration with the Palm Oil Plantation Fund Management Agency (BPDP KS) to improve their welfare.
  - Purpose: The 2019 Annual Report states the purpose is to "refinance the people's oil palm plantations so as to provide capital assistance to develop and improve the yield of their plantations".
  - Implementation: In 2017, BNI became the "First Bank to Refurbish Palm Oil Plantation," with initial financing starting in Musi Banyuasin. In November 2017, BNI extended the KUR (People's Business Credit) Palm Replanting program to North Sumatra.

- *Plasma Core Partnership Pattern:*
  - Product: The 2021 Annual Report lists "Plasma Core Partnership Pattern Investment Loans" as a specific lending product under its business banking division.
  - Risk Management: In the 2023 and 2024 reports, BNI mentions the "Core Plasma Investment Credit Facility" specifically regarding the strengthening of risk analysis and mitigation for financing palm oil plantations.

- *Plantation Revitalization:*
  - Earlier reports (2015, 2016, 2017, 2018) list "Loan Plantation Revitalization – Partnership Program" as a distinct lending product. These are categorized as Government Program Loans aimed at plantation development.

Financing Amounts (Aggregated Data). While a specific total for "oil palm smallholders" is not isolated, the reports provide data for the sectors where these loans are grouped:

- Sustainable Business Activities (Green Financing):
  - In 2020, financing for the "Management of Biological Resources and Sustainable Land Use" (which includes palm oil) reached Rp20.9 trillion.
  - In 2019, this category was Rp20.5 trillion.
  - In 2021, this category was Rp14.0 trillion.

- Agricultural Sector (Small Segment):
  - Loans to the agricultural sector within the Small Segment (which includes smallholder plantations) reached **Rp12.6 billion** in 2020 (growing 39.1% YoY) and **Rp6.5 billion** in 2018.

BNI explicitly links this financing to sustainability efforts. The bank encourages corporate debtors in the palm oil industry to implement environmentally friendly practices (RSPO/ ISPO certification) and supports this by providing loans for the rejuvenation of plantations following sustainable palm oil concepts. In 2019, BNI conducted studies on business segments related to the environment to mitigate risks associated with financing oil palm plantations, including mapping areas to avoid overlapping with conservation areas.

3.4.3. Bank Rakyat Indonesia (BRI)

Based on BRI's the annual reports, there is no specific, quantifiable mentioning of credit or loan disbursement figures dedicated explicitly to "oil palm smallholders" as a standalone category. However, the reports indicate that credit is provided to the broader palm oil and plantation sectors, with structural mechanisms and policies that involve smallholders:

General Financing and Sector Focus. BRI's corporate and non-SOE corporate business segments actively provide financing to the agribusiness sector, which includes extensive financing for oil palm plantations (upstream to downstream industries).

- A strategy for the Program Business segment (focused on government programs and MSMEs) includes utilizing the potential in financing leading commodities such as palm oil by offering special credit schemes and engaging in business cooperation with SOEs and other private companies.
- In 2017, the company mentioned aiming for the expansion of KUR (People's Business Loans) for small business segment smallholders.

Financing Structure: Core-Plasma Model. The annual reports indicate that the corporate business segment extends credit to smallholders using the core-plasma plan. The "plasma" component of this model refers to smallholder farmers linked to a larger core plantation company, suggesting a mechanism for smallholder financing within the broader oil palm/agribusiness corporate portfolio.

Specific Policy Mentions (ESG/CPO Policy). **T**he annual reports consistently mention the existence and enforcement of specific policies governing credit to the Crude Palm Oil (CPO) or Palm Oil sub-sector, acknowledging its significant environmental impact:

- The issuance of credit policies in the CPO (Crude Palm Oil) sector is noted as an

initiative in the 2021 Annual Report.
- The company issued a specific policy, the Environment, Social and Governance (ESG) Risk Management for Palm Oil Sub-Sector (Circular Letter No. S.27-DIR/DMR/04/2017).
- This policy sets out ESG implementation indicators and document requirements for the sector.
- The established green financing policy for the Palm Oil sector considers environmental and social performance to avoid overlap with indigenous and conservation lands.
- For corporate debtors in the palm oil sector, there is a requirement to have obtained ISPO (Indonesian Sustainable Palm Oil) or RSPO (Roundtable on Sustainable Palm Oil) certification.

Partnership Program Disbursement. Financing targeted toward small enterprises includes the "Plantation" sector, which would encompass oil palm smallholders, though it is not exclusively named:
- The Partnership Program (PUMK/PK) provides soft loans and grants to productive business actors.
- The distribution of Partnership Program funds to the **Plantation** sector reached:
  - **Rp0.41 billion** (0.89% of total realization) in 2015, included SOE Synergy with PT RNI.
  - **Rp4.085 billion** (1.95% of total realization) in 2017.
  - **Rp18.852 billion** (5.48% of total realization) in 2018.
  - **Rp20.221 billion** (7.19% of total realization) in 2019.
  - **Rp20.305 billion** (13.61% of total realization) in 2020.

4. Challenges and Opportunities to Incentivise Sustainable Palm Oil Financing

4.1. Regulatory Requirements: EUDR

Especially for the export market, the biggest hurdle under regulatory framework so far is the European Union Deforestation-Free Regulation (EUDR), as it represents a significant shift in global commodity trade requirements. Its background is rooted in the global climate change agenda, specifically the goal of mitigating climate change by ensuring that commodities placed on the EU market do not contribute to the destruction or degradation of forests. The core mandate of the regulation is to emphasize new market requirements for natural commodities: *they must be deforestation-free and degradation-free.*

Unloading port import export business Image courtesy of Freepik.

The issue of deforestation and degradation has become a mainstream concern in developed countries, including the EU. This global trend has led to the integration of deforestation-free requirements into regulations covering the entire value chain, including financing. The official implementation date for the regulation is December 30, 2024. At its core, Article 3 of the EUDR sets a prohibition on relevant commodities and derived products. These products are not allowed to be placed on or supplied to the EU market, or exported from the EU, unless three key conditions are simultaneously met:

1. The product is deforestation-free.
2. The product was produced in accordance with the relevant legislation of the country of production.
3. The products are covered by a due diligence statement.

The regulation defines the exact moment for compliance through a cut-off date: a commodity is considered deforestation-free if it was produced on land that has not been subjected to deforestation or forest degradation after December 31, 2020. This cut-off is critical as a legal reference point, meaning deforestation or degradation that occurred prior to January 1, 2021, is not covered by the regulation. Indonesia, as a major global supplier, views the EUDR critically, having diplomatically rejected it and garnered support from seventeen Like Minded Countries (LMCs) for potential consideration by the World Trade Organization (WTO).

Scope and Specifics

EUDR's requirements initially cover seven commodities: wood, palm oil, soybeans, cattle, cocoa, coffee, and rubber. The scope also extends to products derived from these commodities. Within one year after the regulation takes effect, a review will be conducted to assess the necessity and feasibility of expanding the scope to include other commodities and entire ecosystems.

The regulation assigns responsibility to two primary actors in the supply chain:

- Operators: Any company conducting commercial activity that places the relevant product on the EU market or exports it.
- Traders: Any person in the supply chain, other than an operator, who supplies the relevant product on the EU market.

The due diligence requirements primarily apply to EU operators and non-SME (Small and Medium Enterprise) traders. The definition of deforestation under the EUDR is considered stricter than existing Indonesian regulations. For instance, the EUDR includes the conversion of peatlands and secondary forests occurring after 2020 as deforestation, aspects not comprehensively covered by current Indonesian regulations.

Border between oil palm concessions PT Tunas Sawaerma with forest in Papua. Image courtesy of Auriga Nusantara.

The EUDR categorizes countries based on risk into low risk, standard risk, and high risk. Until December 2024, all supplier countries are temporarily placed in the standard risk category. The EU utilizes the European Union Forest Observatory (EUFO), a reference platform launched in December 2023, which provides the baseline global forest cover map as of the cut-off date (December 31, 2020), based on the EUDR's forest definition. This map, which is non-mandatory, non-exclusive, and non-legally binding, can be used by operators/ traders to assess the potential risk of forest loss in commodity production areas.

Due Diligence

The due diligence statement is a mandatory document that must protect the commodity and its derived products before they are marketed in EU countries. The due diligence process consists of three sequential steps:

1. *Information Collection*. Operators must gather comprehensive information about the relevant products. This includes:
   - Description of the product.
   - Quantity and volume.
   - The country of production.
   - Geolocation data for all land plots where the commodity was produced, along with the date or time range of production.

2. *Risk Assessment.* After collecting information, operators must conduct a risk assessment to ensure that the products are not derived from deforested land and have been produced legally. This step involves assessing the risk level associated with non-compliance. The fact that commodities are currently categorized under "standard risk" is only temporary, pending the outcome of country benchmarking planned for late 2024.

3. *Risk Mitigation.* If the risk assessment determines that the risk is not negligible (i.e., not very low), the operator must implement mitigation procedures to reduce the identified risks. These procedures should ensure compliance with the regulation.

Geolocation Requirement Specifics The core mechanism for achieving strict traceability is the provision of geolocation data:
- Small plots (less than 4 hectares): Must use latitude and longitude coordinates corresponding to at least one point on the land plot.
- Large plots (more than 4 hectares): Must use polygons, meaning sufficient latitude and longitude points to delineate the entire perimeter of each land plot.

Challenges and Opportunities for the Financiers

The effectiveness of the European Union Deforestation-Free Regulation (EUDR) in restricting non-compliant palm oil will have several decisive consequences for palm oil financiers in Indonesia, primarily by amplifying existing financial and operational risks and driving portfolio selection.

1. Amplified Stranded Asset and Credit Risk

If the EUDR is effective in blocking non-compliant palm oil from the EU market and other global buyers adopt similar standards, the financial risks for Indonesian lenders will sharpen considerably.
- *Devaluation of Non-Compliant Land.* Land assets developed after the December

2020 cut-off date, particularly those involved in illegal deforestation or grown without proper land titles, will face immediate devaluation as they lose access to high-value international markets. Consequence for Financiers: This directly increases the risk of default (credit risk) on loans secured by these assets, leading to potential write-downs of debt and a rise in non-performing loans (NPLs) for financiers exposed to non-compliant producers (Source: European Banking Federation Guidance, Financial Sector Analysts, OJK Reports).

- *Wider Market Exclusion*. The EUDR's effectiveness could prompt other major importing regions (e.g., the UK, parts of Asia) to impose similar due diligence requirements. This means non-compliant companies will be restricted to a shrinking, lower-priced "leakage market" (primarily domestic or unscrutinized regional markets), further depressing their profitability and loan repayment capacity.

2. Mandatory Portfolio Re-alignment and Divestment

An effective EUDR will force financiers to rapidly re-assess and restructure their palm oil portfolios to manage regulatory exposure.

- *Formal exclusion and due diligence*. Financiers will move beyond voluntary ESG policies and adopt the EUDR's deforestation cut-off and geolocation requirements as mandatory credit criteria. This will formalize the exclusion of high-risk borrowers who cannot provide the required TTP (Traceability to the Plantation) and deforestation-free evidence (Source: Financial Sector Authority (OJK) Statements, Legal Analysis).
- *Increased divestment pressure*. If enforcement is robust, financiers will face pressure from investors and regulators to divest from clients who fail to transition to compliance within set grace periods. This pressure extends beyond direct lending to cover bonds, equity holdings, and trade finance linked to the sector (Source: Investor Coalition Statements, Global Financial Institutions ESG Reports).
- *Focus on compliant clients*. Capital will be strategically redirected to large, integrated companies that have demonstrably strong NDPE and traceability systems (the "Green Lane"), leading to increased competition among financiers for the safest, most compliant borrowers (Source: Banking Sector Risk Assessments).

3. Heightened Need for Smallholder Financing Solutions

The effectiveness of the EUDR highlights the urgent need for financial mechanisms that support the large portion of the Indonesian palm oil sector controlled by smallholders.

- *Demand for capacity-building finance*. Financiers will be compelled to move from traditional project loans to offering sustainable financing solutions specifically designed to bridge the compliance gap. This includes:
- Sustainability-Linked Loans (SLLs): Offering favourable terms conditioned on achieving EUDR-related targets (e.g., obtaining land legality/STDB, completing geolocation mapping).
- Technical Assistance Funding: Providing capital for smallholder replanting programs and certification readiness (e.g., RSPO/ISPO), addressing the financial barrier to compliance (Source: World Bank/IFC Analysis, OJK Circulars on Green Finance).
- *Shift to jurisdictional risk assessment*. Financiers will increasingly favour projects and clients operating within jurisdictional or landscape initiatives where the government and multiple stakeholders share the burden of compliance and data collection, thereby lowering the due diligence cost and risk for the bank.

Figure 11. EUDR Impacts on Palm Oil Finance: Navigating Challenges and Opportunities

4.2. Regulatory Requirements: P2SK Law, OJK's Regulations and Guidance on Sustainable Finance and the Taxonomies

Indonesia possesses a comprehensive regulatory ecosystem for Sustainable Finance, anchored by Law No. 4 of 2023 (UU P2SK). This omnibus law mandates the implementation of sustainable finance to align economic, social, and environmental interests, explicitly incorporating "transition financing" and regulating carbon trading. Operational requirements are detailed in P.OJK No. 51/POJK.03/2017, which obligates Financial Services Institutions to implement sustainable practices, submit annual Sustainability Reports, and develop Action Plans (RAKB).

To standardize technical classifications, the OJK developed the "Taxonomy"/Taksonomi untuk Keuangan Berkelanjutan Indonesia (TKBI). While **Version 1** focused on Energy, TKBI **Version 2** expands to include the AFOLU (Agriculture, Forestry, and Other Land Use) sector, which covers palm oil plantations. It classifies activities as «Green» or «Transition» based on rigorous Environmental Objectives (EO) and Essential Criteria (EC) like «Do No Significant Harm» and social safeguards. OJK Guidance on Sustainable Palm Oil Credit provides specific directives for banks, detailing risk management (e.g., land legality, deforestation risks), certification standards (ISPO/RSPO), and innovative financing schemes for both corporations and smallholders to ensure capital flows support sustainable practices. **Version 3** (January 2026), developed in alignment with the ASEAN Taxonomy for Sustainable Finance (ATSF) Version 4, completes the NDC-related sector coverage by adding the remaining AFF sub-sectors (farming, livestock, fisheries, social forestry, and forest conservation), as well as Manufacturing and Water Supply, Sewerage, Waste Management & Remediation (WSSWMR), plus two enabling sectors — Information & Communication (IC) and Professional, Scientific & Technical Activities (PST). Critically, Version 3 also introduces the concepts of *Sunsetting* for TSC criteria and *Grandfathering* for financial instruments, and extends TKBI assessment to the entity and portfolio level, making it a more operationally complete framework for the financial sector.

Challenges and Opportunities to Incentivize Sustainable Financing of Palm Oil

The integration of the new TKBI Version 2 with the Guidance on Sustainable Palm Oil Credit and UU P2SK creates a specific landscape of challenges and opportunities for incentivizing capital flow into this sector. For any financial institution wanting to label palm oil exposure as "sustainable" or "green" under the latest taxonomy, TKBI version 3; there is now a clear, formal screening gate: certification status. Uncertified plantations can only be "Transition" at best, and that window closes in 2030. This has several downstream effects:

- **Green bonds and sustainable loans** extended to uncertified plantations will not qualify as TKBI-aligned, limiting product structuring options
- **Portfolio-level assessments** (newly introduced in v3) mean lenders will need to track the certification status of their entire palm oil book, not just individual loans
- **ISPO's mandatory status** under Presidential Regulation No. 44/2020 (updated to No. 16/2025) means the baseline is already legally required — TKBI effectively layers a financing incentive on top of an existing legal obligation, tightening the gap between regulatory compliance and sustainable finance eligibility
- **The 2030 cliff** will likely accelerate pressure from lenders on borrowers to obtain certification during loan renewals and covenant negotiations well before that date

Challenges

Strict "Green" vs. "Transition" Criteria (TKBI V2). Under TKBI Version 2, for a palm oil activity to be classified as "Hijau" (Green), it must possess credible certification (ISPO/RSPO) and ensure no deforestation. To be classified as "Transisi" (Transition), companies must have verified emission reduction plans and remediation measures for past environmental harm. This creates a high barrier to entry for financing incentives, as many borrowers may fall into "Does Not Meet Classification" if they lack certification or have legacy deforestation issues.

Smallholder "Unbankability" and Legality. A major structural challenge is financing independent smallholders (*petani swadaya*), who manage 42% of plantations but suffer from low productivity. Many lack land titles (SHM) or Cultivation Registration Certificates (STDB), or operate within "Forest Areas" (Kawasan Hutan) where palm oil cultivation is illegal. This legal uncertainty makes them ineligible for formal financing incentives under prudent banking regulations.

The Replanting, "Valley of Death". Incentivizing replanting (*peremajaan*) is difficult because smallholders face a 3–5 year period of zero income while waiting for trees to mature. Commercial loans often lack the grace periods required to bridge this gap, increasing the risk of default.

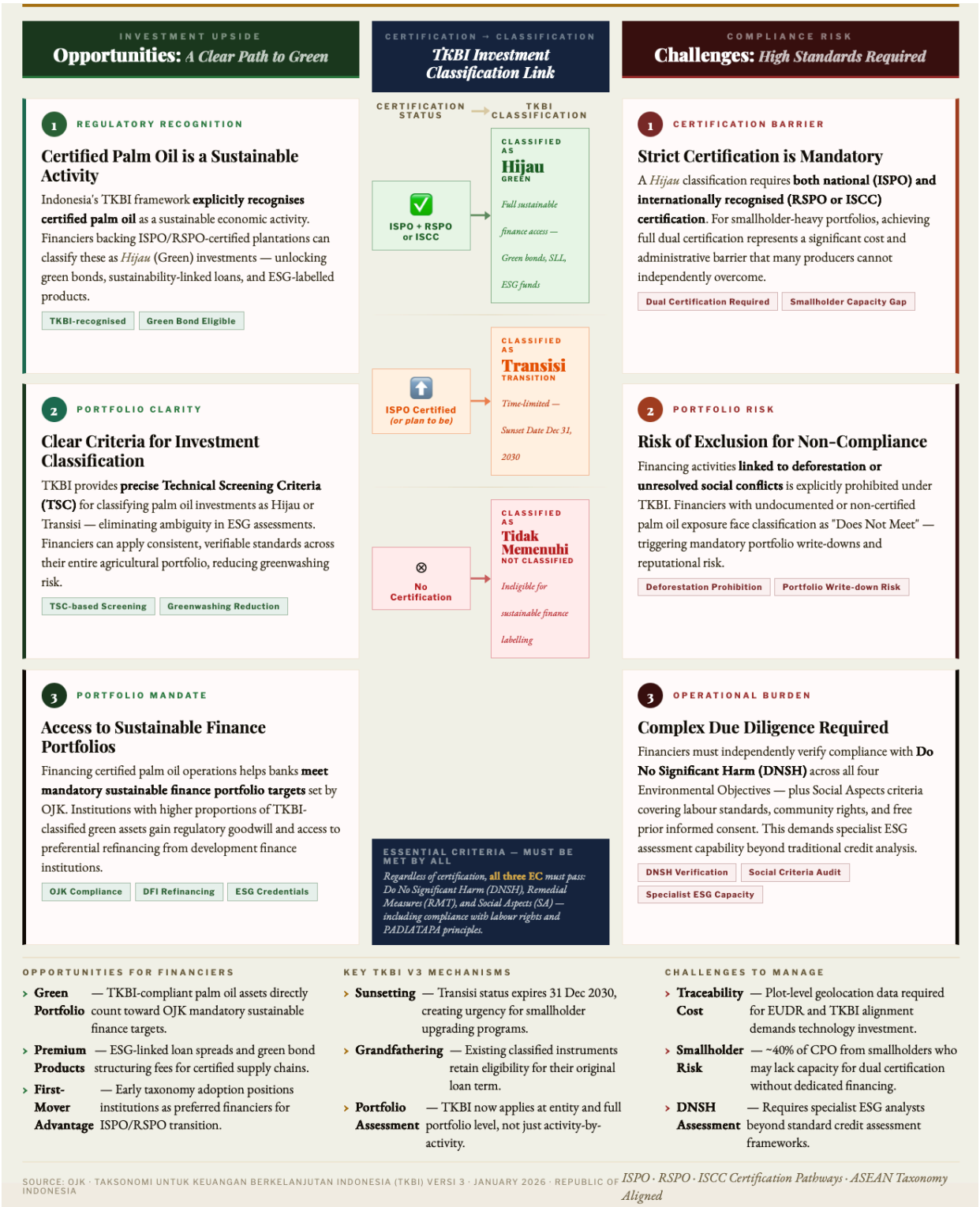
Supply Chain Traceability. Banks face significant reputational and credit risk regarding the traceability of Fresh Fruit Bunches (TBS). Mills (PKS) often source from third parties, creating a risk of "illegal TBS" from protected areas entering the supply chain, which violates the "Do No Significant Harm" criteria of the taxonomy.

Opportunities for Incentives

- *Utilization of the "Transition" Classification.* TKBI Version 2 explicitly includes a **"Transition"** category. This is a massive opportunity to incentivize financing for companies that are not yet «Green» but are committed to improvement. Banks can now finance clients who are in the process of obtaining ISPO certification or implementing GHG mitigation SOPs without being penalized for holding «brown» assets, provided the client has a clear roadmap.
- *Innovative Financing Schemes (Blended Finance).* The regulations and guidance highlight specific schemes to incentivize smallholder financing. The **Blended Finance** model combines government funds (BPDP-KS) or CSR grants for the pre-harvest phase with commercial loans for the productive phase. Additionally, **Sustainability-Linked Loans** allow banks to offer discounted interest rates to borrowers who meet specific ESG key performance indicators (KPIs).
- Downstream Diversification (Bioenergy & Sustainable Aviation Fuel [SAF]). There is a significant opportunity to finance downstream palm oil activities linked to the energy transition, such as **Bioenergy** and **Sustainable Aviation Fuel (SAF)**. TKBI Version 2 categorizes SAF production using palm waste (like POME or agricultural residues) as eligible activities. This aligns palm oil financing with Indonesia's Net Zero Emission targets, opening access to green bonds and global climate funds.
- *Legal Protection and Carbon Trading***. UU P2SK** provides a robust legal basis for carbon trading. Palm oil companies that successfully manage conservation areas within their concessions or utilize methane capture technology can generate carbon credits. This creates a new revenue stream that banks can factor into their credit analysis, effectively incentivizing sustainable land management.
- *Corporate-Smallholder Partnerships (Plasma).* Banks can incentivize sustainability by financing "Nucleus-Plasma" schemes where large corporations (Off-takers) act as

guarantors (*avalis*) for smallholders. This structure mitigates the bank's risk while ensuring smallholders receive technical assistance to meet ISPO standards, as the Off-taker is incentivized to secure a sustainable supply chain.

Figure 12. OJK's sustainable finance framework creates a structured pathway, presenting both clear opportunities for certified producers and significant challenges for others.



4.3. Market Requirements: The NDPE Commitments

The commitment of 'No Deforestation, No Peat, and No Exploitation' (NDPE) policies first emerged in 2011, in the palm oil industry, when Golden Agri Resources (GAR) adopted a Forest Conservation Policy. This policy implemented an ambitious definition of High Carbon Stock (HCS) forests, but its scope was limited to GAR's own landbanks. Two years later, Wilmar launched its NDPE policy, setting requirements for the group's entire supply chain, not just Wilmar's operations. In the following years, several other major traders/refiners followed suit. Most international palm oil traders/refiners now have NDPE procurement policies, including the four major UK refiners. Today, 99% of palm oil entering Europe can be traced back to the mill. Over 84% of palm oil imports are covered by corporate procurement policies focused on 'No Deforestation, No Peat, and No Exploitation'.

This commitment is in line with what was voiced in the 2014 New York Declaration on Forests; in which Governments, large companies, financial institutions, civil society organizations and indigenous peoples made a major commitment to achieve zero deforestation by 2020. For the first time, world leaders endorsed a global deadline to halve natural forest loss by 2020 and work towards ending it by 2030. The Indonesian government, the provincial governments of Aceh, Central Kalimantan, and West Kalimantan, as well as Apical, Asia Pulp and Paper, Asian Agri, Musim Mas, Rimba Makmur Utama, the Indigenous Peoples Alliance of the Archipelago (AMAN), and Kemitraan were Indonesian endorsers and directly endorsed and signed the Declaration on September 23, 2014.

Forest boundaries have been opened and which will be opened for planting oil palm concession area in Papua. Image courtesy of Auriga Nusantara.

We witnessed that this the goal to halve the rate of natural forest loss by 2020 was not met. In fact, assessments show that the global rate of tropical primary forest loss increased in the years following the NYDF compared to the pre-2014 baseline. The failure to meet the 2020 goal on halving forest loss led to a renewed push in 2021 with the **Glasgow Leaders' Declaration on Forests and Land Use**, which essentially reaffirmed the NYDF's 2030 goal to halt and reverse forest loss.

Commitments related to zero deforestation and its key implications, such as no new business development on peatlands and an end to exploitation, have been widely discussed and translated into various indicators, including those for monitoring these commitments. One commitment that has somewhat escaped public attention and discussion is to "strengthen and expand the commitments of banks and other financial institutions, and continue to develop the work of their Banking Environment Initiatives." This includes launching financial instruments to support sustainable commodity production and trade, as well as deforestation-free banking operations and standards. The lack of discussion regarding the role of financial services institutions, particularly banks, in participating in this Declaration is reflected in the lack of banking circles as its endorsers, only Deutsche Bank (Germany) and Lloyds Banking Groups (England); there is not a single bank from developed countries such as the United States or Japan, let alone from Indonesia.

While global tropical forest loss remains stubbornly high, Indonesia and Malaysia have successfully reduced their rates of primary forest loss to near record-lows since the New York Declaration on Forests (NYDF).

Key Achievements in Indonesia and Malaysia

Country	Reduction in Primary Forest Loss (approx. 2015-2017 to 2020-2022)	Deforestation Driver
Indonesia	**64% Drop** (Steepest drop of any tropical country)	Palm Oil, Pulp, and Paper
Malaysia	**57% Drop**	Palm Oil

Indonesia has seen its primary forest loss rate decline for several consecutive years, making it the only major tropical region currently on track to halt deforestation by 2030. The decline is generally attributed to a combination of strong government policy, corporate action, and weather conditions.

Public Push	**Private Push**	**Climate Conditions**
Permanent Moratorium on Peatlands and Primary Forests. Following devastating fires in 2015, the Indonesian government put in place a permanent moratorium on the conversion of new primary forests and peatlands into plantations.	**NDPE Pledges:** The vast majority of the palm oil refining capacity in Indonesia and Malaysia is now covered by **No Deforestation, No Peat, No Exploitation (NDPE)** commitments. These commitments, often driven by pressure from global brands and NGOs, require companies to exclude deforestation-linked commodities from their supply chains.	**La Niña.** In several recent years, increased rainfall associated with the La Niña climate pattern has helped reduce the incidence and severity of forest and peat fires, contributing to the lower loss rates. This factor, however, is considered temporary and fragile.
Tougher Fire Management: Increased accountability for forest fire prevention, better monitoring, and rapid response systems dramatically reduced the huge losses historically caused by uncontrolled fires	**Supply Chain Transparency:** Initiatives like Trase have revealed that deforestation has declined most significantly in the supply chains of exporters who uphold these zero-deforestation commitments.	

Public Push	Private Push	Climate Conditions
License Reviews: The government initiated a review of existing palm oil and timber plantation licenses, which created legal uncertainty and slowed the expansion of new projects		

While the numbers are positive, experts warn that the gains are fragile and not yet irreversible:

- **Commodity Prices:** A major spike in commodity prices (like palm oil) could increase the financial incentive for conversion, potentially leading to a reversal of the deforestation trend.
- **Domestic vs. Export Demand:** Corporate NDPE pledges often apply to export markets (like the EU and US). As domestic demand or demand from countries with fewer regulations grows, there›s a risk that deforestation could simply be pushed to supply less-regulated markets.
- **Mining:** The drive for minerals, chronically relevant for Indonesia, as it is reach with minerals related to global energy transition need – is becoming an increasing driver of forest loss.

As of April 2020, NDPE policies covered 83% of palm oil refining capacity in Indonesia and Malaysia. In November 2017, the figure was 74%. This increase was driven by six corporate groups with significant refining capacity adopting NDPE policies. However, due to weak implementation, effective NDPE coverage has dropped to 78%. Eight (8) of the 25 largest refineries in Indonesia and Malaysia remain part of the leakage market[2].

Globally, according to Tropical Forest Alliance report[3], as of May 2024, sixty-five percent (65%) of the combined palm oil volume traded by the roadmap signatories currently falls within the Palm Oil Collaboration Group's (POCG) No Deforestation and No Peat Implementation Reporting Framework (D&P IRF) shipment category. According to a profile published in 2023, the ten signatories to the roadmap traded 52,328,027 metric tons of palm oil in various forms (crude palm oil (CPO), PKO, and derivatives) in 2022, equivalent to more than 67% of the total volume of palm oil traded in that year. This means that 44% of the volume of palm oil traded globally in 2022 (34,237,363 MT) is considered to be part of the No Deforestation and No Peat Expansion commitments, according to data reported using the IRF D&P.

Violation of the Commitments

Violations of No Deforestation, No Peat, and No Exploitation (NDPE) commitments by palm oil companies in Indonesia over the last decade (2015-2025) reveals a pattern of persistent breaches, often linked to supply chain opaqueness and the exploitation of governance gaps. It primarily falling into three categories, as documented by authoritative sources like Greenpeace, Trase, Eyes on the Forest and the RSPO Complaints Panel.

No Deforestation (ND) Breaches. Violations frequently involve the clearing of rainforests and protected areas. Companies, including those linked to major traders like the Gama Group (formerly linked to Wilmar) and subsidiaries of large conglomerates like Astra Agro Lestari (AAL), have been implicated in destroying thousands of hectares of

[2] https://chainreactionresearch.com/report/ndpe-policies-cover-83-of-palm-oil-refineries-implementation-at-75/

[3] https://www.tropicalforestalliance.org/assets/Palm-NDPE-IRF-report-May-2024-FINAL.pdf

forest and operating illegally inside protected zones (e.g., Tesso Nilo National Park). This demonstrates a systemic issue with tracing ultimate beneficial ownership and controlling shadow companies.

No Peat (NP) Breaches. These violations involve the conversion of carbon-rich peatlands and poor water management, leading to significant fire liability. Companies such as Tunas Baru Lampung (TBLA) have been repeatedly linked to large-scale peat conversion and recurring fires in Sumatra. Additionally, "orphan cases," where non-compliant palm oil linked to peat destruction enters the market through untraceable sellers, pose an ongoing risk.

No Exploitation (NE) Breaches. The social pillar violations centre on human rights abuses and land conflicts. Frequent complaints filed with the RSPO involve major groups like GAR and AAL concerning:

- Failure to obtain **Free, Prior, and Informed Consent (FPIC)** from local communities.
- **Violent land grabbing** and failure to resolve compensation issues.
- **Labor abuses** (e.g., wage disputes) and the criminalization of local farmers and human rights defenders.

Challenges and Opportunities for the Financiers

The effectiveness of the European Union Deforestation-Free Regulation (EUDR) creates both significant challenges and critical opportunities for palm oil financiers in Indonesia, fundamentally transforming their operating environment and portfolio allocation.

Challenges of an Effective EUDR

An effective EUDR amplifies risks and increases the operational burden on financial institutions:

1. **Increased Stranded Asset and Credit Risk**
   - Asset Devaluation. The primary consequence is the devaluation of land and plantation assets that cannot prove they are deforestation-free post-December 30, 2020. If non-compliant palm oil is effectively barred from high-value markets (EU and potentially others), the revenue streams and profitability of non-compliant borrowers will plummet. Consequence: This sharply raises credit risk, increasing the probability of loan defaults and potential write-downs of debt for financiers exposed to non-compliant assets (Source: European Banking Federation Guidance, OJK Reports, Financial Sector Analysts).
   - Higher due diligence costs. The mandate for precise geolocation data and verifiable traceability down to the plot level forces financiers to embed expensive, continuous geospatial monitoring and auditing into their credit analysis. Consequence: This significantly increases the operational costs of processing palm oil loans, particularly for borrowers with complex, fragmented smallholder supply chains (Source: Global Financial Institutions ESG Reports, SEI/Trase Analysis).

2. **Market and Regulatory Compliance Pressure**
   - Formal exclusion of high-risk borrowers. The EUDR acts as a regulatory minimum, compelling financiers to formally exclude borrowers who fail to meet the mandatory traceability and deforestation cut-off criteria. This necessitates the creation of strict exclusion policies that go beyond voluntary NDPE commitments (Source: Financial Sector Authority (OJK) Statements, Legal Analysis).

- Smallholder exclusion dilemma. Effective enforcement risks alienating smallholders, who lack the required STDBs (land legality certificates) and technical capacity for compliance. If financiers exclude them to mitigate EUDR risk, they undermine financial inclusion and may face reputational backlash related to social consequences (Source: World Bank/IFC Analysis, GAPKI Reports).

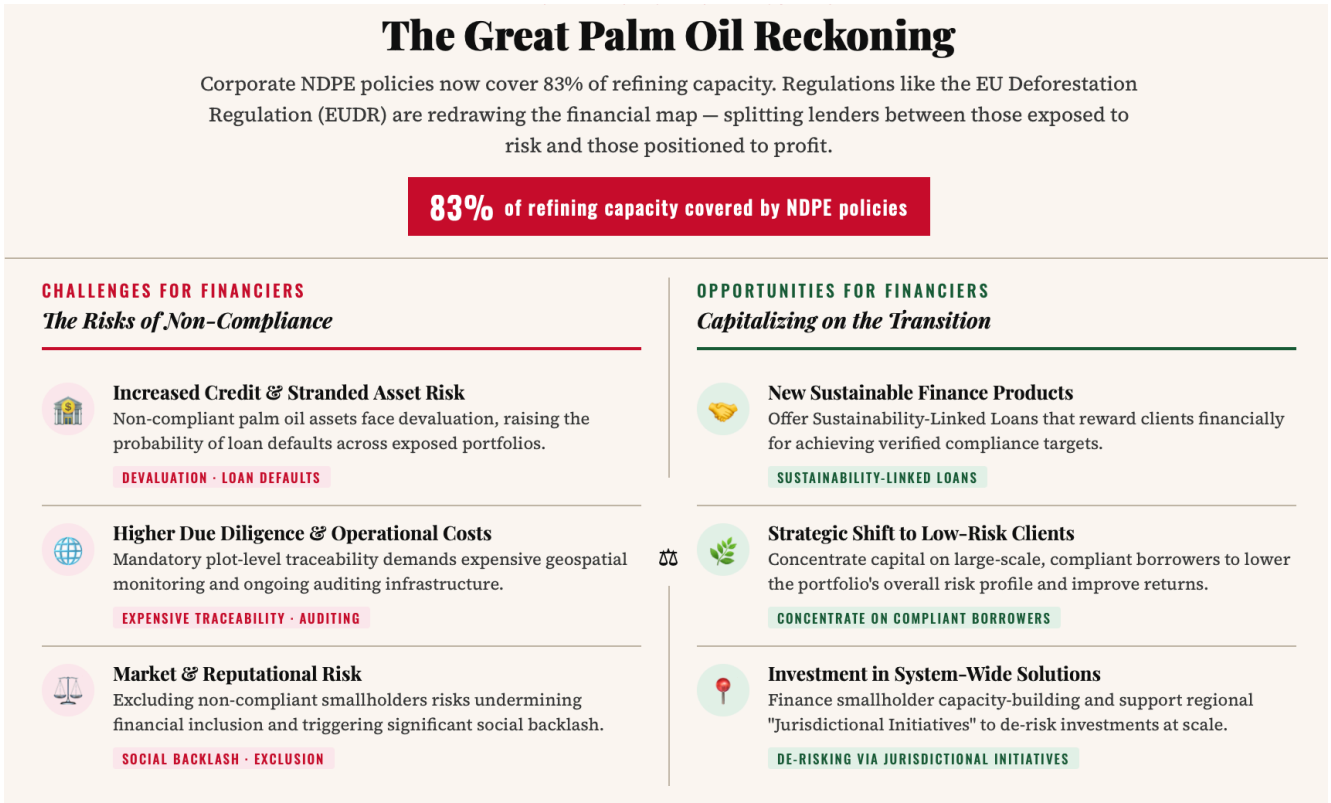
Opportunities Created by an Effective EUDR

The regulatory pressure from the EUDR creates new demand for specific financial services and allows financiers to de-risk their portfolios strategically:

1. **Redirection of Capital to Sustainable Finance**
   - Demand for sustainable financial products. The EUDR drives urgent demand for sustainable financing solutions tailored to compliance needs. Financiers can proactively offer Sustainability-Linked Loans (SLLs) that tie interest rates to the achievement of EUDR-specific targets, such as:
     - Completing geolocation mapping and TTP (Traceability to the Plantation).
     - Obtaining STDBs for smallholder supply bases.
     - Consequence: This allows banks to capitalize on the transition by providing financial incentives for compliance, shifting their portfolio to low-risk, high-quality assets (Source: OJK Circulars on Green Finance, Banking Sector Risk Assessments).
   - Focus on compliant clients. The effective bifurcation of the market allows financiers to strategically concentrate capital on integrated, large-scale borrowers who have demonstrably robust NDPE policies and traceability systems in place.
     - Consequence: This lowers the overall risk profile of the palm oil portfolio and provides a competitive advantage in securing reliable, high-performing clients (Source: Financial Sector Analysts, Industry Consultation Papers).

2. **Supporting Systemic Change**
   - Financing smallholder capacity building. The EUDR crisis compels financiers to actively fund capacity-building programs for smallholders, often in partnership with government bodies or development organizations. This new avenue of financing addresses the systemic risk of exclusion while supporting the overall sustainability of the sector, aligning the bank with global ESG goals (Source: World Bank/IFC Analysis, OJK Reports on Smallholder Finance).
   - Investment in jurisdictional approaches. Financiers have an opportunity to support and fund Jurisdictional or Landscape Initiatives where compliance is managed at a regional level. By backing these initiatives, financiers lower their individual due diligence costs, leverage shared governance, and gain confidence in the long-term sustainability and legality of the sourced palm oil.

Figure 13. NDPE Commitment Impacts on Palm Oil Finance



5. Best Financing Scenario Going Forward

A best financing model for the Indonesian palm oil sector that adheres to the best international Environmental, Social, and Governance (ESG) standards and sustainability must leverage the critical role of financial institutions (FIs) to set prudent lending requirements that exceed existing national mandates. This model is built upon three pillars: Regulatory Mandate, Comprehensive Client Due Diligence, and Active Monitoring and Engagement.

Table 8. Best Financing Scenario Pillars

The Best-Case Scenario: *How Banks Can Drive* Real Change in Palm Oil

Three non-negotiable pillars for financial institutions ready to move beyond voluntary commitments — and set a new standard for high-risk sector lending.

I. REGULATORY FRAMEWORK & POLICY

Mandatory ESG Integration. OJK must move beyond voluntary guidance and establish mandatory requirements for financial institutions — placing stringent ESG criteria in lending policies for high-risk sectors like palm oil alongside, not below, financial returns.

POLICY SCOPE & DISCLOSURE
Institutions must identify palm oil as a key sector and ensure policies apply to all banking operations and financial products. Full policy documents must be publicly disclosed to enhance transparency and accountability.

> *The highest standards require strong regulatory backing to move beyond voluntary measures.*

TKBI v3's 2030 sunset date on Transition-class palm oil lending creates a hard regulatory deadline — transforming what was soft guidance into a binding timeline for portfolio change.

II. CLIENT DUE DILIGENCE & REQUIREMENTS

ZERO-TOLERANCE POLICIES
Clients must implement a public **No Deforestation, No Peat, No Exploitation (NDPE)** policy — including mandatory zero burning and no planting on peat of any depth.

INTERNATIONAL CERTIFICATION
FIs should require RSPO certification. Its requirements are more comprehensive than ISPO — particularly on transparency, biodiversity, and community relations.

HCV RISK ASSESSMENT
During underwriting, FIs must assess the client's High Conservation Value exposure by evaluating the geographic location and proximity of concessions to HCV areas.

TRACEABILITY
Clients must commit to full traceability down to the plantation level — the bedrock of credible supply chain accountability.

HUMAN RIGHTS & FPIC
Fundamental ILO conventions must be upheld. Free, Prior, and Informed Consent (FPIC) from indigenous and local communities is required before any activity commences.

CONTRACTUAL ENFORCEMENT
Loan contracts should specify that non-adherence to Indonesian regulations or heightened sustainability requirements can result in **contract cancellation**.

III. ACTIVE MONITORING, ENGAGEMENT & CAPACITY

OUTCOME-BASED MONITORING
FIs should prioritize monitoring real-world sustainability outcomes — using independent tools like **ZSL SPOTT** and satellite monitoring (e.g., Satelligence) to track and verify land conversion and ESG performance.

INTERNAL EXPERTISE
Banks must expand ESG risk training to all credit officers — including those at branch level — to improve due diligence processes across the lending chain.

SMALLHOLDER INCLUSION
FIs should initiate programs to educate smallholder clients on environmental conservation, and support business strategies that favour sustainable yield improvements over plantation expansion.

SECTOR COLLABORATION
FIs should engage in collaborative initiatives such as the **PRI Investor Working Group on Sustainable Palm Oil** to promote consistent standards and drive a race to the top among financial actors across Asia.

> *Certified plantations emit 35% fewer GHGs than uncertified ones — the business case for rigorous due diligence is now empirical, not aspirational.*

A *Pilot Model* Blended-Finance Investment for Smallholder Replanting and Intensification Project

Market Context and Rationale

Indonesia's 2.6 million oil palm smallholders manage around 40% of the national plantation area but face declining productivity due to aging trees and limited access to finance. Replanting costs average IDR 85–100 million per hectare (USD 5,200–6,200), while BPDPKS provides grants of up to IDR 30 million per hectare, leaving a financing gap of about USD 3,500 per hectare. This blended finance pilot leverages impact investment and public incentives to de-risk commercial lending, accelerate sustainable replanting, and improve livelihoods.

Table 9. Blended Finance: The Four-Tranche Model Financing the Smallholder Transition

TABLE 9 · BLENDED FINANCE

The *Four-Tranche* Model: Financing the Smallholder Transition

A blended structure combining public grants, state bank credit, impact capital, and technical assistance — with ESG-linked returns.

STRUCTURE

COMPONENT	SOURCE	ROLE
Public Grant	*BPDPKS*	Up to **IDR 30M/ha** for replanting support
Commercial Loan	*BRI, BNI or Mandiri*	**10–12 year** at 6–8% under OJK's sustainable finance portfolio
Private Impact Capital	*Impact Investor*	Catalytic debt or **mezzanine tranche** to de-risk bank loans
Technical Assistance	*Local Partner/s*	Smallholder training, **ISPO/RSPO certification**, and ESG compliance

RISK & MITIGATION

RISK	MITIGATION MECHANISM
Land legality gaps	Land verification and **group certification** by Local Partner
Credit default	**Off-taker purchase contracts** as repayment collateral
Cash-flow gap pre-harvest	Grace period and **BPDPKS grant** as partial subsidy
ESG non-compliance	Continuous training and **performance-linked incentives**

IMPACT & ESG STRATEGY

ENVIRONME — Promotes replanting on **degraded land**, supports zero-burning land preparation, and improves soil management.

SOCIAL — Enhances smallholder income by **20–30%**, strengthens financial inclusion and gender participation.

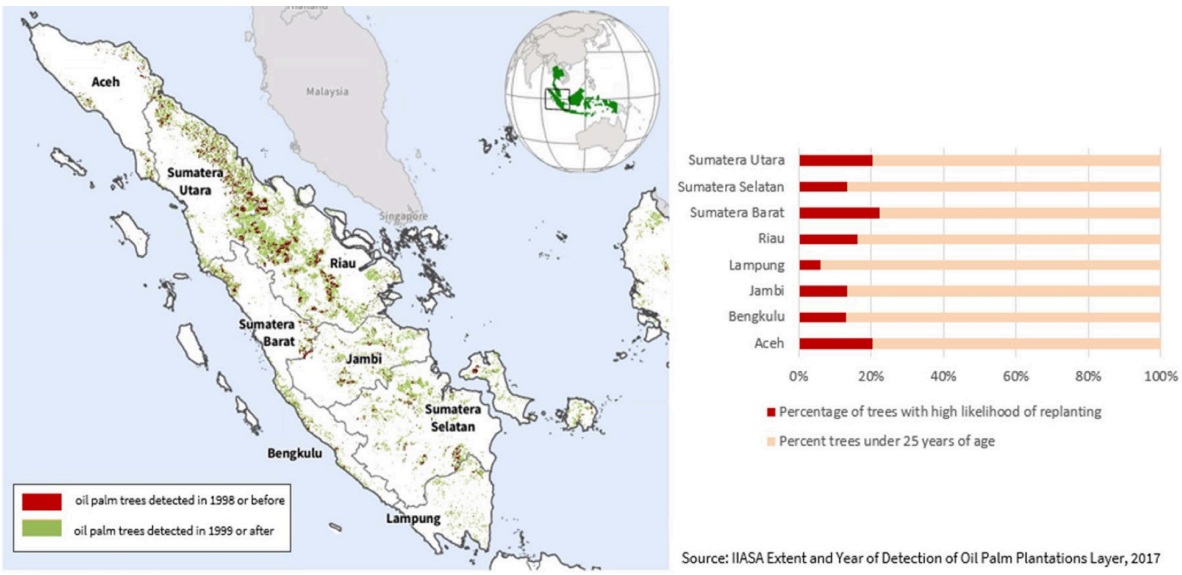
GOVERNANC — Requires **ISPO certification** and NDPE compliance within 5 years.

ESG-Linked Incentive: *Interest-rate reduction or premium sharing for cooperatives achieving certified sustainable status.*

Potential Areas to Replant

Considering the historical existence of oil palm plantation in Indonesia, there are two (2) major islands having the biggest opportunities as replanting sites: Sumatera and Kalimantan. Figure 14 shows Sumatera palm oil area and year of detection. Additionally, this data highlights areas most likely to be replanted due to the palm oil tree age profile.

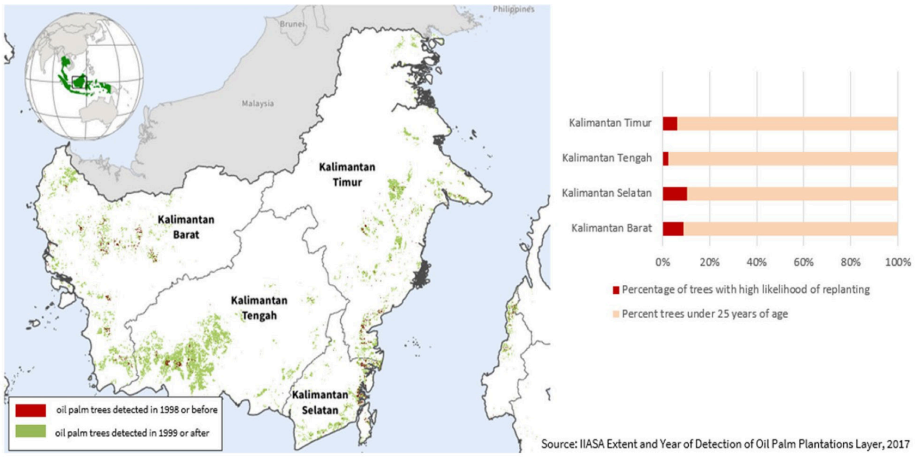
Figure 14. Palm Oil Extent and Potential Areas of Replant, Sumatera



Source: USDA Commodity Intelligence Report, November 29, 2023

Figure 15 shows Kalimantan palm oil area and year of detection. This data also highlights areas most likely to be replanted due to the palm oil tree age profile.

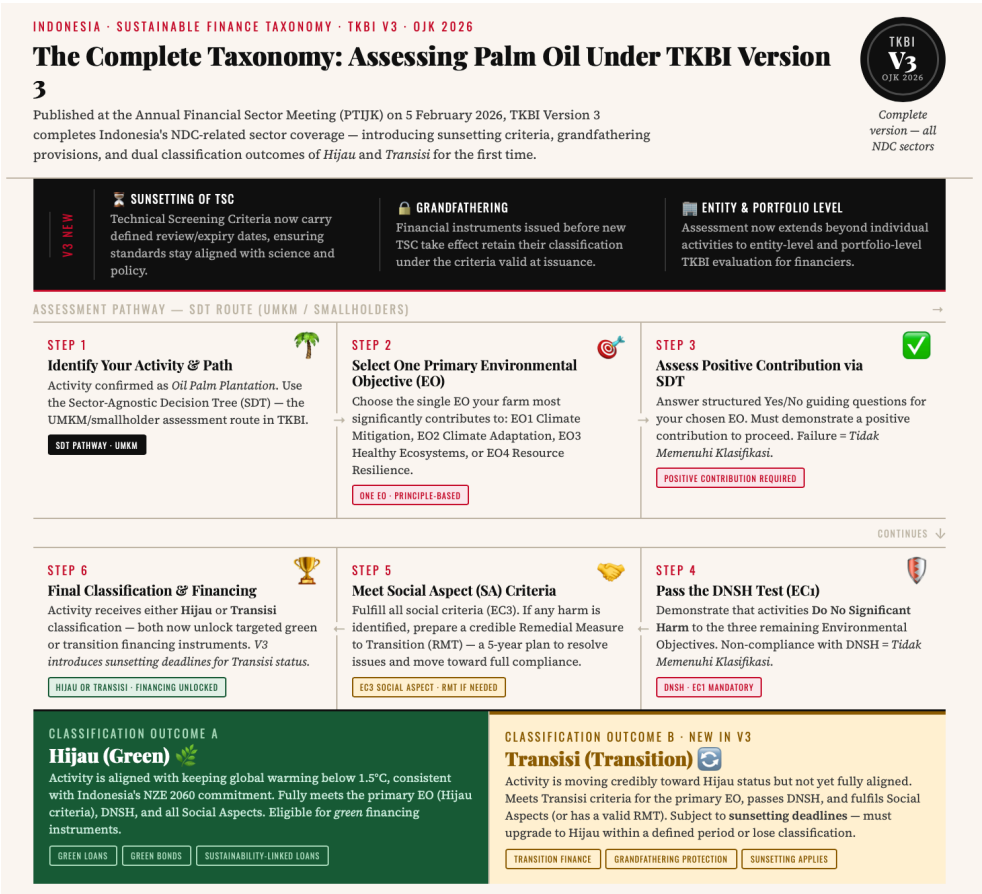
Figure 15. Palm Oil Extent and Potential Areas of Replant, Sumatera



Source: USDA Commodity Intelligence Report, November 29, 2023

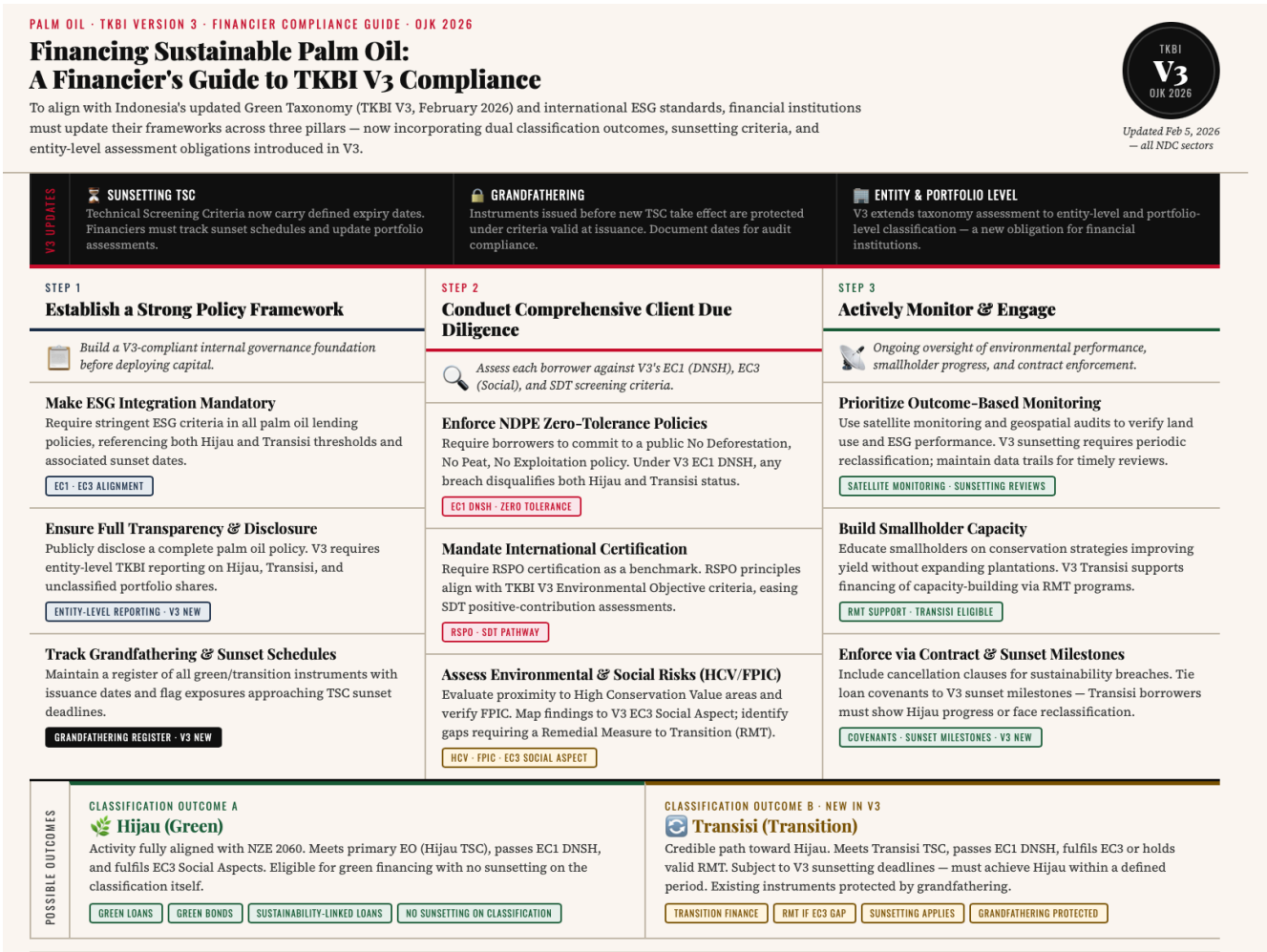
Taking into consideration the latest Taxonomy, and the model of financing using blended finance mechanism, the following is a step by step guide for ***oil palm smallholder*** seeking to meet the desired green in the taxonomy.

Figure 16. Oil Palm Smallholders Process for Sustainable Financing under TKBI version 3



On the other side, the procedures for financiers intending to meet the taxonomy criteria based on TKBI version 3 looks like Figure 17 describes.

Figure 17. Financiers Guide to TKBI version 2 Compliance



References, *in chronological order:*

Presidential Regulation of the Republic of Indonesia Number 61 of 2015 on the Collection and Use of Palm Oil Plantation Funds

Agriculture Minister Regulation No. 18 Of 2016 on the Replanting Program for Smallholders' Plantations

OJK Regulation No. 51/POJK.03/2017 on Financial Sustainability for Financial Services Institutions, Issuers, and Public Companies all of its three (3) attachments, the OJK – 2017

Technical Guidelines for the Implementation of Sustainable Finance for Financial Services Institutions, Issuers and Public Companies, 2018, the OJK – 2018

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Taxonomy For Sustainable Finance in Indonesia/Taksonomi Keuangan Berkelanjutan Indonesia – TKBI, the OJK – 2024

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As an environmental organization, Auriga Nusantara combines data-driven advocacy, strong law enforcement, and public awareness in forest and species conservation, sustainable agriculture, responsible mining and energy, a better climate and quality of life. Auriga has been actively engaging with the market countries to have better management practices of natural resources in Indonesia.

G2N specializes in multi-stakeholder collaboration. By harnessing deep cultural fluency and policy intelligence, we design tailored solutions and unlock innovative financing to drive lasting community transformation.


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