

B50 and the Land-Use Test

Making Indonesia's palm biodiesel mandate climate-credible

Key Messages

- B50 is in force and is a strong energy security policy. It is not yet a proven climate policy. Its climate case depends entirely on where the extra palm oil comes from.
- The government's headline saving of 44-46 million tonnes CO₂e per year is a combustion and displacement figure. It excludes land use change and peat. Once those are counted, estimates range from roughly halving the saving to reversing it, depending on the marginal origin of the feedstock.
- The energy security benefit, lower diesel imports, is solid. The net foreign exchange, food, and climate benefits are contested and conditional, and they must not be quoted as settled facts.
- About 3.32 million hectares of palm sit inside the forest estate, and no published B50 mill list, polygon traceability, or B50 specific lifecycle assessment was found. Without those, the climate claim cannot be tested.
- Recommendations are phased: fix counting and traceability first, then make volume conditional on verified safeguards, and only then consider any move beyond B50.



Aerial view of an oil palm plantation beside remaining forest. Photo: Eco-Business.

Indonesia now requires diesel to contain 50 percent palm based biodiesel. The policy promises energy security and lower emissions. Whether it is a climate solution depends on where the extra palm oil comes from, and what land it replaces.

1 Legal basis and timeline

B50 took legal effect on 1 July 2026 under Ministerial Regulation ESDM 4/2025 and Ministerial Decree ESDM 257.K/EK.01/MEM.E/2026. It was formally launched on 9 July 2026 in Karawang, and full coverage was targeted for 1 October 2026 after a three month transition during which B40 stocks could still be sold. The rollout was not a straight line. In early 2026 the programme slowed, then revived in March 2026, a revival plausibly linked to the narrowing price gap between palm oil and gasoil and, in June, to the closure of the Strait of Hormuz. That explanation is plausible but single sourced, and it is not presented here as the official reason. Reported coverage in 2026 is also inconsistent: about 75-80 percent in a September briefing, against about 57 percent in an October briefing. Both figures are reported here with their dates, not reconciled.

2 What the numbers do and do not prove

Two emission figures circulate and must be kept apart. The widely cited government claim of 44-46 million tonnes CO₂e per year is measured against conventional diesel. The incremental saving against B40 is up to 4.8 million tonnes, measured on a combustion only basis that excludes land use change. The incremental figure is the honest measure of what B50 adds over the status quo. The combustion only basis is its key limit, because it does not count emissions from land conversion or peat drainage. Government projections reported for B50 include roughly 16.7-18 million kilolitres of biodiesel and 15.2-16.3 million tonnes of crude palm oil, supporting around 2.1 million workers. Volume, emission, and foreign exchange figures vary across official releases, so this brief reports them as reported and flags the conflict rather than choosing one silently.

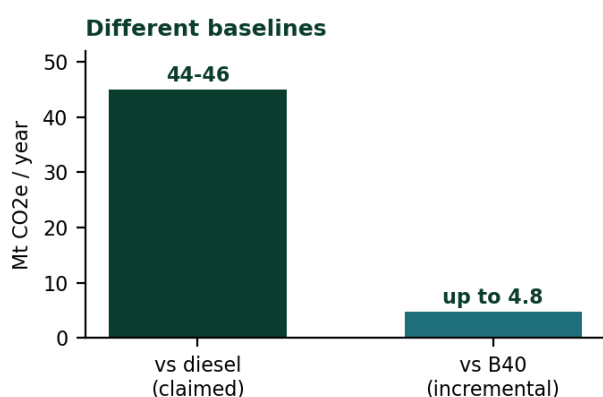


Chart 1: Two different baselines. The 44-46 Mt figure and the 4.8 Mt figure answer different questions. Sources: East Asia Forum, 7 October 2026; Trase briefing coverage, 14 October 2026.

3 Lifecycle carbon: land use changes the answer

The fossil diesel comparator is 94 grams CO₂e per megajoule. Published palm biodiesel lifecycle values without land use change sit around 32 grams with methane capture and 54 grams without it. Adding California's indirect land use change value for palm, 71.4 grams per megajoule, takes the total to roughly 103-125 grams, above the fossil comparator. This is a comparator, not a B50 specific assessment, because no B50 specific lifecycle assessment was found. It shows why the origin of the marginal tonne matters more than the blend percentage. Drained peat is the extreme case: the IPCC emission factor is about 40.37 tonnes CO₂ per hectare per year, so even a small area of new peat planting can erase the savings from a large volume of biodiesel.

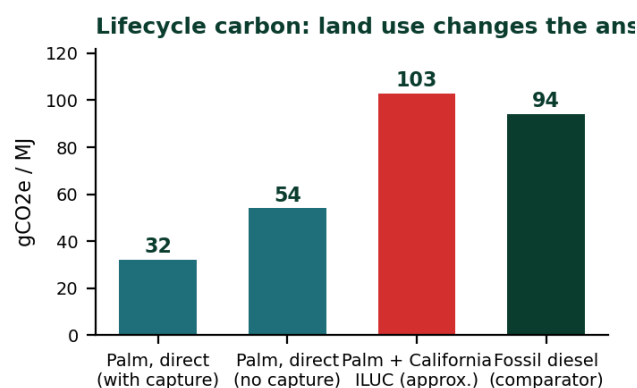


Chart 2: Lifecycle carbon. Direct values are published palm biodiesel values; the California indirect land use change value is shown as a comparator, not as a measured B50 figure.

4 Land, peat, and traceability

Palm deforestation in Indonesia rebounded from about 18,000 hectares in 2021 to about 32,000 hectares in 2024-2025, according to Trase. About 3.32 million hectares of palm sit inside the forest estate, where legality is contested. ISPO certification covers about 35-40 percent of planted area, but smallholder certification is only about 0.19-1 percent, and the exact current smallholder figure could not be confirmed. No published B50 mill list, polygon traceability system, or B50 specific lifecycle assessment was found. A blend mandate does not by itself prove that any given litre came from deforestation free, peat free supply. Without batch level traceability to plantation, sustainable remains a label, not a verifiable property. Feedstock grown on illegally cleared forest or drained peat cannot be counted as a climate solution, whatever the blend percentage.

5 Food, smallholders, energy, and fiscal risk

Food risk follows the 2022 template: palm diverted to fuel tightened cooking oil supply and pushed up prices, and the Minyakita subsidised cooking oil programme remains the pressure gauge. The smallholder replanting programme is the bottleneck for raising yield without new land, but its pace and financing were not resolved in the sources reviewed. On energy security, the benefit is real: under B40, diesel imports fell from 8.3 million kilolitres to about 5 million kilolitres, with reported foreign exchange savings of Rp130.21 trillion. For B50, total foreign exchange claims of about Rp170 trillion per year are gross figures that do not net out palm export revenue forgone, methanol imports of about Rp20 trillion per year, and subsidy costs. The levy fund that subsidises the price gap is circular: it depends on palm export levies, so a fall in palm prices or exports weakens the very fund that makes B50 affordable.

6 What other countries do

The European Union caps food and feed crop biofuels and phases down palm oil with high indirect land use change risk. Malaysia runs a lower blend with a mandatory certification system. Brazil and Colombia run high blends from sugarcane and palm respectively, with very different land and yield profiles. The United States and Canada use lifecycle based credit systems, and CORSIA for aviation applies lifecycle and sustainability criteria. The lesson for Indonesia is not to copy a blend number, but to copy the discipline: lifecycle counting, certification with independent audit, and a published evidence base.

7 Recommendations, in phases

Phase 0, publish and verify (0-6 months). Publish a full lifecycle account for B50, combustion, land use change, and peat together, with assumptions open to scrutiny. Publish the B50 mill list, the polygon traceability data, and the quarterly volume, import, price, and levy fund dashboard. Quote incremental (against B40) and total (against diesel) figures separately, every time.

Phase 1, make volume conditional (6-18 months). Only biodiesel traceable to deforestation free, peat free, legally grown feedstock should count toward the mandate. Exclude feedstock from illegally cleared forest and any new planting on peat. Protect food supply and smallholders: publish food against fuel palm balances quarterly, hold Minyakita supply as a trigger, and accelerate smallholder replanting with published targets.

Phase 2, hold the line on expansion (18-36 months). No move to B100 until lifecycle, traceability, legality, and food safeguards are demonstrably in place. Pre announced triggers should pause or slow volume growth if they are breached: palm deforestation above 50,000 hectares per year, Minyakita above its ceiling price plus 5 percent for four weeks, levy fund cover below three months, or any new B50 feedstock planting on peat.

To buyers, financiers, and auditors: apply no deforestation, no peat, no exploitation criteria to B50 finance and offtake, and require independent verification rather than self declaration.

Evidence gaps that must be closed

No primary decree text was retrieved for this brief. No B50 specific lifecycle assessment, mill list, or polygon traceability system was found. Rollout percentages, volumes, and foreign exchange figures conflict across official releases. The exact current smallholder ISPO percentage is unconfirmed. These gaps are listed openly here so that a ministerial reader can see what still needs primary verification before this brief is quoted as a settled government position.

About the publisher

The Institute for Climate Law & Sustainable Policy works on climate law and sustainable policy in Indonesia and beyond, through research, its journal, and public analysis. This brief is based on the Institute's article, Indonesia's B50 Biodiesel Mandate: Energy Security, Climate Claims, and the Land-Use Test, published on iclsp.org on 28 October 2026, and updated with the deep research of the same date.

References

- East Asia Forum, 7 October 2026: B50 timeline, projections, incremental saving of up to 4.8 Mt against B40, plus Rp36.7 trillion foreign exchange saving against B40, methanol import estimate of about Rp20 trillion per year.
- Trase briefing coverage, 14 October 2026: government claims of 44-46 Mt CO₂e per year against conventional diesel and about Rp170 trillion per year total foreign exchange savings; palm deforestation rebound from about 18,000 ha (2021) to about 32,000 ha (2024-2025).
- USDA Foreign Agricultural Service update, as summarised in market coverage: domestic palm consumption up 11 percent to 25.3 Mt; industrial use up 16 percent to 17.4 Mt; production forecast 47.2 Mt; exports 23.1 Mt.
- California Low Carbon Fuel Standard: palm indirect land use change value of 71.4 gCO₂e per megajoule; fossil diesel comparator of 94 gCO₂e per megajoule.
- IPCC: drained peat emission factor of about 40.37 tonnes CO₂ per hectare per year.
- B40 official figures as reported: diesel imports from 8.3 million kilolitres to about 5 million kilolitres; foreign exchange savings of Rp130.21 trillion.
- Photo: Eco-Business, aerial photograph of an oil palm plantation beside remaining forest. Credit is shown in this PDF; licensing should be confirmed before wider redistribution if the Institute requires fully cleared stock imagery.

Note: Figures are as reported by the sources above. Estimates, claims, and single sourced explanations are labelled as such and are not presented as independently verified measurements by the Institute. Research date: 28 October 2026, via web index only, not live browser verified. Verify primary decree texts and conflicting official figures before ministerial use.