

Deforestation: Playing With Fire

An analysis of Indonesia's
FOLU Net Sink 2030 policy

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This document is translated from the Indonesian original:
Greenpeace Indonesia. Main Api dengan Deforestasi:
Analisis risiko kehilangan hutan Indonesia akibat
kebijakan FOLU Net Sink 2030

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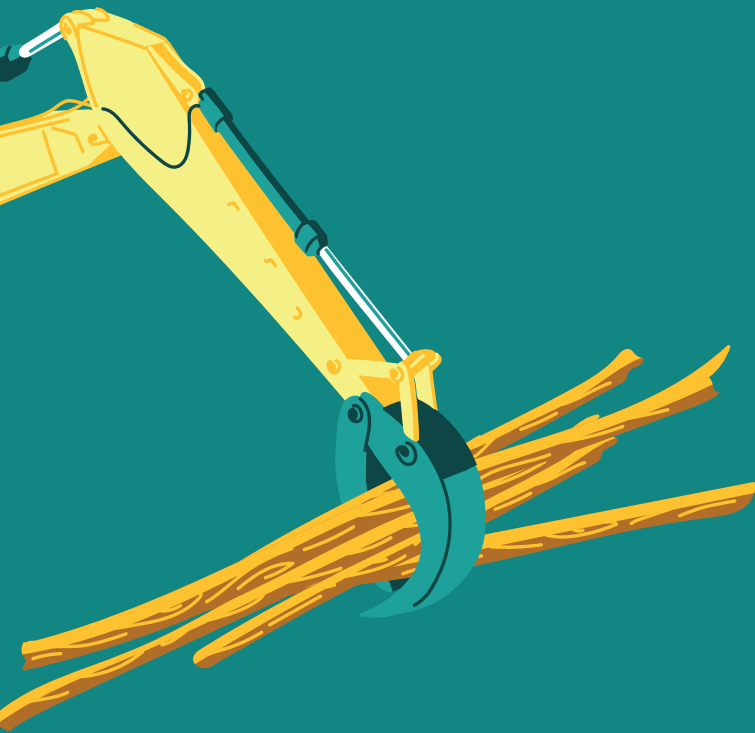
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“FOLU net carbon sink 2030 should not be interpreted as zero deforestation. This needs to be understood by all parties, in the national interest... ongoing large-scale development under President Jokowi must not stop in the name of carbon emissions or in the name of deforestation.”



Minister of Environment and Forestry,
Siti Nurbaya, speaking at the University of
Glasgow, during the 2021 United Nations
Climate Change Conference, 3 November 2021.

Introduction



The government of Indonesia's Forest and Land Use (FOLU) Net Sink 2030 policy¹ is central to the nation's efforts to combat the climate crisis in line with the Paris Agreement. It forms a part of Indonesia's official emissions target lodged with the United Nations, known as the 2022 Enhanced Nationally Determined Contribution and is also a part of Indonesia's Long Term Strategy-Low Carbon Climate Resilience 2050 (LTS-LCCR)².

In the FOLU Net Sink 2030 policy, the government envisions that Indonesian forest management will no longer contribute to the release of greenhouse gas emissions. By the end of the next decade, under the government's vision, the government claims the forestry sector will be able to absorb more carbon than it releases, ie. act as a carbon sink, playing an active role in mitigating the climate crisis.

However, Greenpeace Indonesia's analysis of the FOLU Net Sink 2030 policy document and other Indonesian climate-related documents found that this policy could backfire on the effort to ensure the survival of the nation's forests. Instead of absorbing emissions, the FOLU Net Sink 2030 strategy risks perpetuating deforestation and the destruction of natural forests.

1 Ministry of Environment and Forestry Republic of Indonesia (2022) 'Rencana Operasional Indonesia's FOLU Net Sink 2030'. 24 Februari 2022. (Indonesia's FOLU Net Sink 2023 Operation Plan).

2 'Long-Term Strategy for Low Carbon and Climate Resilience 2050' Republic of Indonesia (2021).

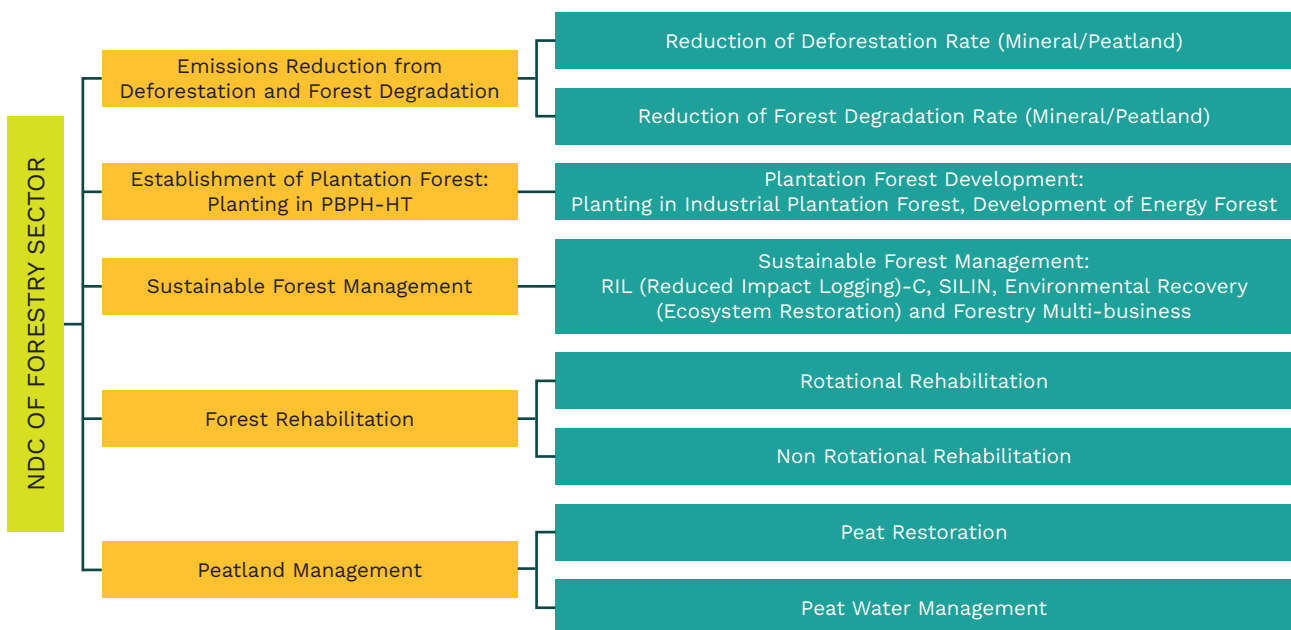
Key Findings

- The government of Indonesia is determined to continue with a policy of planned deforestation. This is despite having now exceeded the deforestation 'quota' for 2013-2030 that it established when the FOLU Net Sink 2030 policy was first formulated;³
- Greenpeace analysis of forest remaining in areas already allocated for industrial uses reveals that tens of millions of hectares of natural forest are at risk because the FOLU Net Sink 2030 policy is not backed up with strict forest and peat protection regulations;
- A central premise of the FOLU Net Sink 2030 policy is flawed – carbon emissions from natural forest loss cannot simply be offset through short-term carbon sequestration by industrial monoculture timber plantations;
- The FOLU Net Sink 2030 strategy of developing industrial plantations risks backfiring by triggering destruction of natural forests, exacerbating conflicts with Indigenous and local communities, and threatening irreplaceable biodiversity;
- Deforestation 'planning' in Tanah Papua is not evidence-based, is not accompanied by strong policies and protective measures, ignores major threats such as the Trans Papua road project, and fails to address previous violations of forest regulations;
- The new policy sets a potential deforestation target that is half as much again as Indonesia's already high 7.27 million hectare Nationally Determined Contribution (NDC) target for 2013--2030 – to that of 10.47 million hectares for 2021 - 2030. This is made up of 5.32 million hectares of planned deforestation and 5.15 million hectares of unplanned deforestation. This massive area of deforestation, equivalent to almost a quarter of the area of Sumatra, would release 10.1 gigatons of CO₂;
- If industrial timber plantations are expanded under this policy within existing concessions (rather than on new areas of unforested land) then 5.7 million hectares of natural forest may be cleared, risking the release of 5.5 gigatons of carbon into the atmosphere.

³ Ministry of Environment and Forestry Republic of Indonesia (2022) 'Rencana Operasional Indonesia's FOLU Net Sink 2030'. 24 Februari 2022. (Indonesia's FOLU Net Sink 2023 Operation Plan).

FOLU Net Sink 2030

The government is implementing a strategy to fulfil the 2030 FOLU Net Sink target through five steps, namely 1) reducing emissions from deforestation and forest degradation; 2) establishment of **timber plantation** (*hutan tanaman/kebun kayu*); 3) sustainable forest management; 4) forest rehabilitation including mangroves; and 5) peatland management.



Objective and strategy of FOLU Net Sink 2030. Source: *Rencana Operasional FOLU Net Sink 2030 KLHK* (Ministry of Environment and Forestry's FOLU Net Sink 2030 Operational Plan document)



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■ Drone footage of burnt remains of forested orang-utan habitat on deep peatland (>4m) located between two oil palm concessions in Ketapang, West Kalimantan. 1°52'48.443"S, 110°8'10.515"E. 21 September 2015.

In this analysis, we focus on two aspects from the points above, namely reducing emissions from deforestation and forest degradation, as well as establishment of industrial timber plantations, especially in peat landscapes.

In Indonesia, deforestation and forest degradation were the largest factors in the release of greenhouse gases into the atmosphere during 1990-2020. According to data from the global climate monitoring platform, Climate Watch⁴, land use, land use change, and forestry contributes an average of 47% of Indonesia's annual greenhouse gas emissions. This figure is the largest compared to other sectors such as energy, industry or waste; placing Indonesia as the 6th largest greenhouse gas emitting country in the world.

Meanwhile, our focus on industrial timber plantations is based on the fact that this sector is planned to expand massively. For this reason, we state that the strategy of timber plantation establishment contradicts the goal of reducing the forestry sector's emissions presented in the FOLU Net Sink 2030 policy.

In addition, our analysis considers other aspects such as forest rehabilitation and peat management, since forest-related policies are interrelated. To enrich our analysis, we used data on forest concessions in Indonesia, Indigenous communities, the population distribution of iconic threatened animal species, as well as referring to a number of research and reports.

4 https://www.climatewatchdata.org/countries/IDN?end_year=2020&start_year=1990

A Problematic Target

When addressing the G7 Hiroshima Summit at the end of May 2023, President Joko Widodo spruiked Indonesia's achievement in reducing deforestation rates to the lowest point in the last 20 years.⁵ Based on this achievement, the government is optimistic that the 2030 Net Sink FOLU target can be met.

It is important to point out that, in FOLU Net Sink 2030, **Indonesia does not aim to reduce deforestation to zero.** Indonesia also does not issue regulations prohibiting large-scale forest clearing. The government still allows deforestation in the name of 'large-scale development'⁶ through both planned and unplanned deforestation. The key claim in the FOLU Net Sink 2030 policy that carbon released through clearing natural forests can be offset by carbon absorption from timber plantation development is misleading.

5 Presiden Jokowi: Bumi Butuh Aksi Nyata, Bukan Retorika

6 Di Universitas Glasgow, Menteri LHK Jelaskan FoLU Net Sink Bukan Zero Deforestation

In planned deforestation, the government allows forest clearing for various activities such as oil palm plantations and industrial timber plantations (*Perizinan Berusaha Pemanfaatan Hutan-Hutan Tanaman*). There is also the mining sector and other projects designated as National Strategic Projects.⁷

Meanwhile, consideration in the policy of 'unplanned deforestation' means the government is still aware of the ongoing problem of forest fires and illegal forest encroachment.

■ A network of tracks in a deforested area for oil palm plantations near Kwala Kwayan. 24 July 2009.



© Daniel Beltrá / Greenpeace

⁷ Ministry of Environment and Forestry Republic of Indonesia (2022) 'Rencana Operasional Indonesia's FOLU Net Sink 2030'. 24 Februari 2022. (Indonesia's FOLU Net Sink 2023 Operation Plan).



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Open flames on dry tree branches in an area of recently deforested peatland in the PT Rokan Adiraya Plantation oil palm concession. 1°9'57.46"N, 100°49'33.19"E. 24 June 2013.

However, there is a problem that has existed right from the planning stage: the government knows that the past deforestation is already so bad that there is no more room for further deforestation – even worse, that deforestation target overshoot means that the policy can be said to be starting from the position of a negative deforestation quota.

Based on government estimates in the 2030 FOLU Net Sink Operational Plan, there is potential for total planned and unplanned deforestation during 2013-2030 of 4.226 million hectares (ha).⁸ Whilst during 2013-2019 alone, the same document records that deforestation already reached 4.80 million ha, an area larger than the Netherlands.

If the government is to act truly in accordance with its FOLU Net Sink strategy, it should not allow any more deforestation beyond 2020; because by 2019 the deforestation quota of 4.226 million ha has already been exceeded by 577,000 ha (see Table 1 below).

The government has tweaked targets by playing with numbers by juxtaposing them with targets from a previous NDC (2016 version) so that some deforestation quota appears to remain intact. Based on the NDC target, by the end of the current decade the deforestation quota will have allowed an additional 2.46 million ha on top of the 4.8 million actual deforestation up until 2019 to reach the target of a total of 7.27 million ha (see Table 1).

⁸ Ministry of Environment and Forestry Republic of Indonesia (2022) 'Rencana Operasional Indonesia's FOLU Net Sink 2030'. 24 Februari 2022. (Indonesia's FOLU Net Sink 2023 Operation Plan).

Table 1: Comparison of 2013–2019 deforestation figures with 2016 NDC Targets and FOLU Net Sink Targets and 2021–2030 Deforestation Projections

Mitigation Action	Actual (x1000 Ha)	Target NDC (x1000 Ha)			Target Net Sink (x1000 Ha)			Actual (x1000 Ha)	Projected Planned Deforestation (x1000 Ha)		Projected Unplanned Deforestation (x1000 Ha)	
	2013–2019	2013–2024	2013–2030	Sisa Kuota	2013–2024	2013–2030	Remaining Quota	2020–2022	2021–2030	Sisa Kuota	2021–2030	Remaining Quota
Deforestation - Mineral (x1000 Ha)	4107	5056	7195	3088	2954	3973	-134	370	5320	4950	5150	4780
Deforestation - Peat (x1000 Ha)	696	56	75	-621	188	253	-443					
Total	4803	5112	7270	2467	3142	4226	-577	370	5320	4950	5150	4780

(Source: Table 94, p. 92, 'Rencana Operasional Indonesia's FOLU Net Sink 2030' KLHK 2023 and deforestation predictions contained on p. 93 ('Indonesia's FOLU Net Sink 2030 Operational Plan' Ministry of Environment and Forestry 2023 and deforestation projections))

Moreover, despite the above inconsistent targets, the government has recklessly projected deforestation to be nearly half as much again as the already-high NDC target (of 7.27 million ha), to now be 10.47 million ha for 2021 - 2030 (see Table 1). This figure is almost equivalent to a quarter of the area of Sumatra island, divided into planned deforestation of 5.32 million ha (around 0.53 million ha per year) and unplanned deforestation of 5.15 million ha (0.52 million ha per year)⁹.

As a consequence, the deforestation rate risks producing carbon emissions of 5.13 gigatons of CO₂ and 4.97 gigatons of CO₂, or a total potential emission of 10.1 gigatons of CO₂. The 2021-2030 deforestation projection is 7.5 times more than Indonesia's carbon emissions from all sectors in 2010, which was 1.34 gigatons CO₂.¹⁰

This risk does not include other emissions due to forest and peat fires.



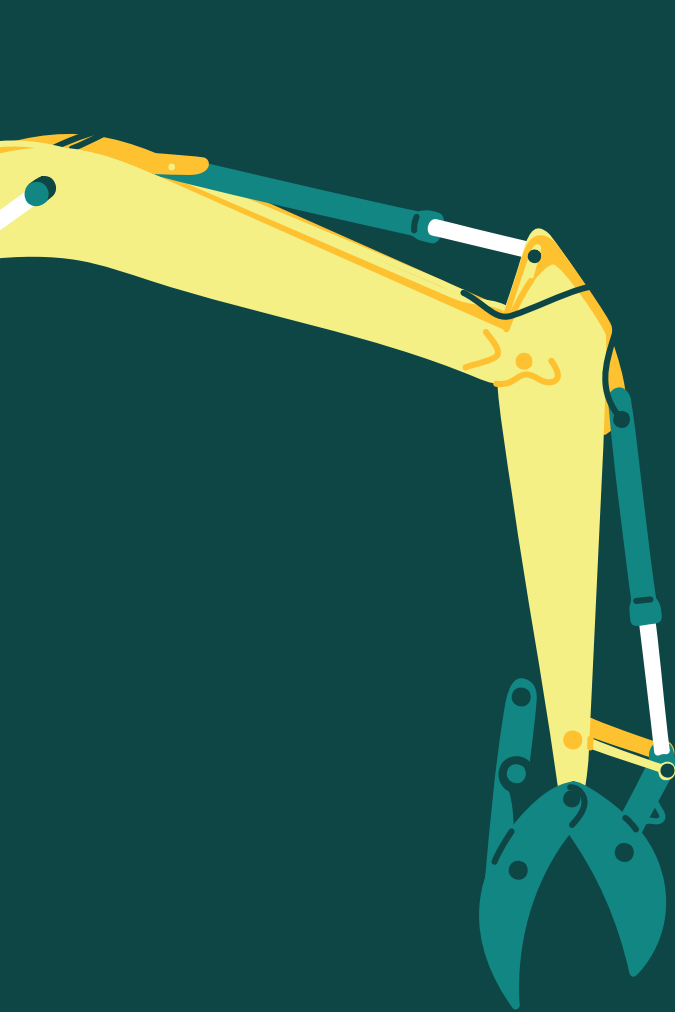
© Ulet Ifansasti / Greenpeace

Smoke rises during forest and plantation fires in Tanjung Taruna, Sub-district Jabiren Raya, District Pulang Pisau, Central Kalimantan, Indonesia. 07 August 2019.

⁹ Refer to pages 92–93 of the Ministry of Environment and Forestry Republic of Indonesia (2022) 'Rencana Operasional Indonesia's FOLU Net Sink 2030': 24 Februari 2022. (Indonesia FOLU Net Sink 2023 Operation Plan)

¹⁰ Greenpeace Indonesia Analysis 2023.

Threats emerging from Production Forest Areas



Between economic interests and natural forest protection

Our analysis finds that deforestation figures are at risk of exceeding the government's target in the FOLU Net Sink 2030. This is because many natural forests in concession areas are not protected by a strong legal umbrella (such as moratorium regulations or a permanent ban on natural forest conversion) to prevent deforestation.

Many of these natural forests are found in Production Forest areas, meaning forest areas where products can be taken, both wood and non-wood (sap, leather, fruit, and so on).

Based on Greenpeace calculations, the remaining natural forest area in this area is 39.1 million ha. This figure is equivalent to 46% of the total remaining natural forest area in Indonesia, which is 83.9 million ha.

Based on Greenpeace data, natural forests within Production Forest areas are mostly found on the islands of Papua and Kalimantan. The amount is almost 75% or almost 30 million ha and is spread across ten provinces of the two islands.



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A recently cleared area inside PT Damai Agro Sentosa oil palm concession, part of the Bumitama group, in Muara Kayong hamlet, Nanga Tayap sub-district, Ketapang Regency, West Kalimantan. 1°30'32"S, 110°16'17"E. 11 December 2016.



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1°30'28"S, 110°16'31"E. 11 December 2016.

Table 2: Area of natural forests in Papua and Kalimantan that are vulnerable due to their location within the Production Forest areas

ISLAND	PROVINCE	Size of the Natural Forest (Hectare)			
		Production Forest	Convertible Production Forest (HPK)	Limited Production Forest (HPT)	Production Forest Area
PAPUA	SOUTH PAPUA	2,134,398.0	778,323.6	1,750,444.0	4,663,165.5
PAPUA	PAPUA	1,191,888.7	578,323.9	1,904,387.4	3,674,600.0
PAPUA	WEST PAPUA	1,455,611.7	571,557.2	1,403,020.4	3,430,189.3
PAPUA	CENTRAL PAPUA	248,998.4	402,307.3	961,582.7	1,612,888.4
PAPUA	SOUTHWEST PAPUA	500,547.6	627,932.4	270,785.9	1,399,265.9
PAPUA	HIGHLAND PAPUA	471,934.8	395,195.2	489,265.4	1,356,395.4
	PAPUA	6,003,379.2	3,353,639.6	6,779,485.8	16,136,504.6

ISLAND	PROVINCE	Size of the Natural Forest (Hectare)			
		Production Forest	Convertible Production Forest (HPK)	Limited Production Forest (HPT)	Production Forest Area
KALIMANTAN	CENTRAL KALIMANTAN	1,714,561.9	467,085.7	2,648,956.8	4,830,604.4
KALIMANTAN	EAST KALIMANTAN	1,011,851.5	49,813.4	2,382,719.0	3,444,383.8
KALIMANTAN	NORTH KALIMANTAN	751,629.1	45,924.8	1,957,697.7	2,755,251.6
KALIMANTAN	WEST KALIMANTAN	688,719.0	51,795.9	1,346,449.2	2,086,964.1
KALIMANTAN	SOUTH KALIMANTAN	113,230.2	2,893.7	61,614.6	177,738.6
	KALIMANTAN	4,279,991.7	617,513.4	8,397,437.3	13,294,942.5

Source: Greenpeace analysis

Meanwhile, of the total 39.1 million ha of natural forest within the Production Forest area, there are around 8.1 million ha that have been encroached by timber plantation permits or Convertible Production Forest (*Hutan Tanaman Konversi/HPK*) permits, with respective areas reaching 2.7 and 5.4 million ha.

Through industrial timber plantations, permit holders can run a forestry business, such as monoculture acacia, eucalyptus, and pine plantations. In the timber plantation area, there are still the largest remaining natural forests on the islands of Kalimantan, Papua and Sumatra.



© Daniel Beltrá / Greenpeace

A track in an Eucalyptus plantation in PT Wira Karya Sakti concession. Eucalyptus trees are grown for the production of pulp and paper, causing the destruction of pristine forests. 04 July 2009.

Essentially, managing timber plantations for the pulp and paper industry requires cleared land to grow and then harvest the trees (usually after 5 or 6 years). For this reason, concession holders will definitely clear any natural forests so that the land can be planted with industrial crops. This is deforestation.

The same process also applies to Convertible Production Forest (HPK) areas located in natural forests. HPK allows conversion to non-forest uses, for example for oil palm plantations, through the forest release process. The largest remaining forests within HPK are found in Papua, Maluku and Kalimantan.

Moreover, there are also remaining natural forests within the category of Other Use Areas (*Area Penggunaan Lain/APL*). APL areas are at high risk of deforestation through conversion to monoculture plantations, uses, or other activities that require large amounts of land.

For example, Greenpeace Indonesia has found remaining natural forest within Papuan oil palm plantation concessions covering an area of 1.7 million ha. Meanwhile, remaining natural forest inside oil palm plantation concessions in Kalimantan reaches 1.4 million ha.



■ Forest land clearing by one of Asia Pulp and Paper's (APP) pulp wood supplier seen from the air at the Kerumutan area in Riau. 0°9'6"S, 102°47'14"E. 28 February 2012.

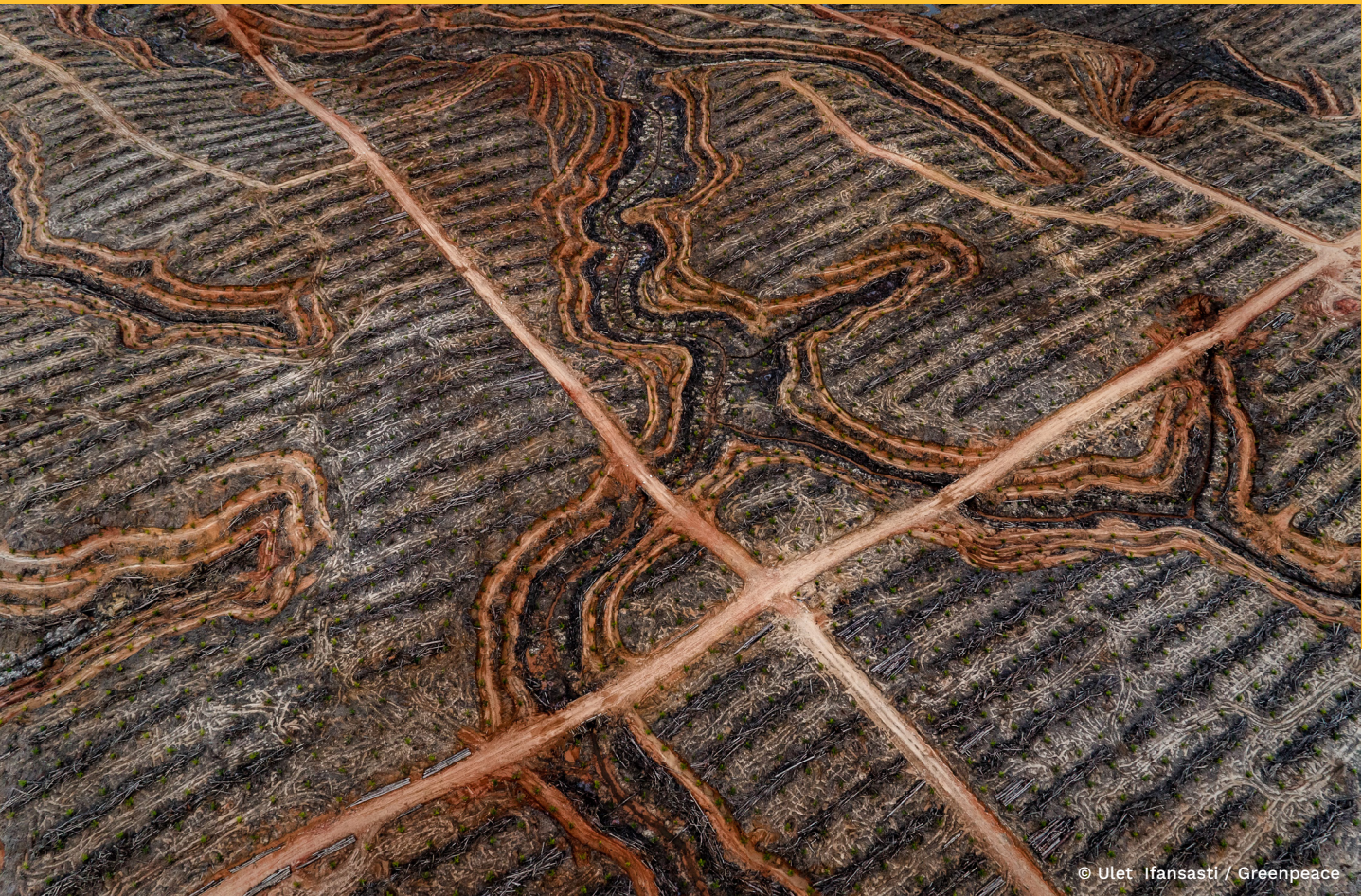
Indonesia turning its back on Papua: the last rainforest battle ground



In the FOLU Net Sink 2030 document, the government states that the risk of deforestation in Papua Province is at a 'moderate' to 'somewhat high' level. The policy estimates that deforestation in Papua can be limited to a maximum of 1.7 million ha total by 2050. This province, before its subdivision in 2022, had natural forest cover equivalent to 75% of the total size of the Indonesian half of the island of New Guinea.

Greenpeace Indonesia's analysis of deforestation trends and mapping shows however that these figures are not supported by adequate evidence and tend to underestimate the risk of deforestation faced in the land of the Bird of Paradise.

- Documentation of landcover, forest clearance and plantation development in PT Megakarya Jaya Raya (PT MJR) oil palm concession. 31 March 2018.

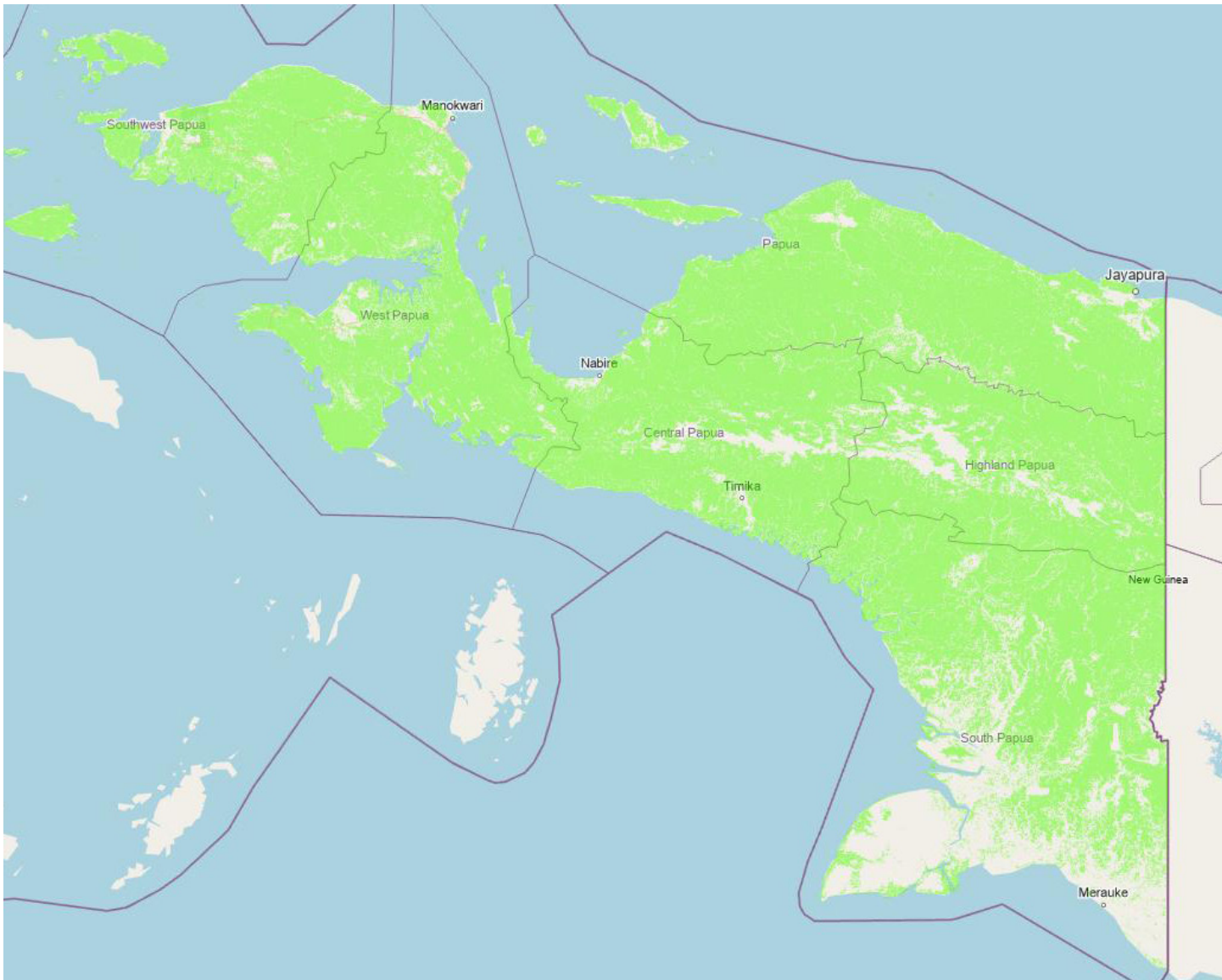


© Ulet Ifansasti / Greenpeace

The Indonesia Monitoring Coalition (*Koalisi Indonesia Memantau*) in its report stated that during 2001 - 2019 the natural forest cover of Tanah Papua (a combination of all provinces on the island of Papua) shrank by 663,443 ha, around 29% occurring in 2001-2010 and 71% in 2011-2019.¹¹ On average, the deforestation rate reached 34,918 ha per year. The highest deforestation occurred in 2015 when 89,881 ha of natural forest in Tanah Papua was destroyed.

This risk will continue to increase, without the presence of strict forest protection policies. So far the government has a poor record in protecting forests in plantation concession areas in Tanah Papua.

11 Koalisi Indonesia Memantau (Indonesia Monitoring Coalition). 2021. 'Menatap ke Timur: Deforestasi dan Pelepasan Kawasan Hutan di Tanah Papua' (Facing the East, Deforestation and (permit) Release of Forestry Area)



The distribution of remaining natural forest cover in Papua in 2022 Source: University of Maryland, 2022

Out of 32 companies with land released from the forest estate in Papua Province since Indonesia's Forest Moratorium first came into force in May 2011, around half apparently benefitted from violations of policies, procedures and regulations.¹²

The Ministry of Environment and Forestry has released 164 thousand ha of forest area to eight companies in Papua Province, and 104 thousand ha to six companies in West Papua Province. In one case, an area of national forest estate was released for conversion to a plantation by PT Prima Sarana

12 Greenpeace Internasional. (2021) 'Licence to Clear: The dark side of permitting in West Papua'. April 2021.

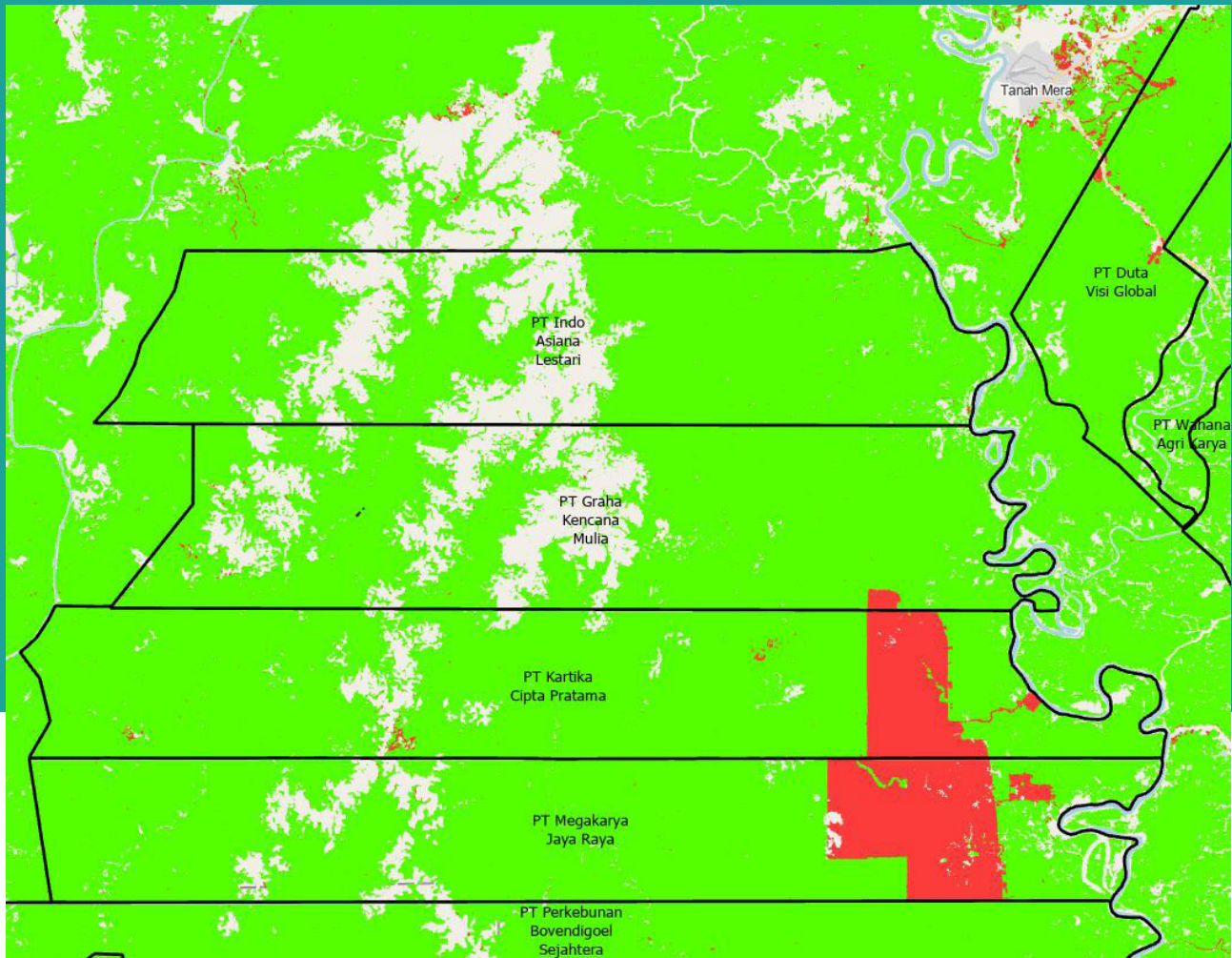
Graha in 2019 despite the government's own palm oil moratorium policy being in force. The government argued that its action was valid because the palm oil moratorium did not apply to ongoing forest release application processes.

The Ministry of Environment and Forestry (MoEF) also appeared to lack the will to implement its own Decree No. SK.01/MENLHK/SETJEN/KUM.1/1/2022 concerning Revocation of Permits in Forest Areas, especially in concession areas that overlap with forest areas in Papua. The issuance of this decree was not accompanied by enforcement powers, and was instead merely declarative. The MoEF move was also not accompanied by an implementing regulation nor adequate coordination between the MoEF and other agencies such as the Ministry of Agrarian Affairs and Spatial Planning, the Ministry of Agriculture, and regional governments.

Coordination is vital to ensure that concession holders with revoked permits lose their legal basis for clearing natural forests in Papua. For example, the existence of two palm oil companies, PT Megakarya Jaya Raya and PT Kartika Cipta Pratama in Boven Digoel Regency pose a continuous threat to 65.4 thousand ha of natural forest. Moreover, the operations of these two companies also endanger the livelihoods of the Awyu Indigenous People who depend on the integrity of the forest.

Documentation of landcover, forest clearance and plantation development in PT Megakarya Jaya Raya (PT MJR) oil palm concession. 6°25'9.26"S, 140°15'19.72"E. 31 March 2018.





Map of the concession area (PT. Indo Asiana Lestari) that overlaps with natural forest belonging to the Awyu indigenous territory (hutan alam wilayah adat), South Papua. Source: [University of Maryland, 2022](#)

Adding to the pressure from the above mentioned two companies, the Awyu Indigenous People have also been impacted by the presence of palm oil company PT Indo Asiana Lestari whose 39.1 thousand ha permit was issued by Papua province. Around 59% of the permit area (26.3 thousand ha) is covered with natural forest. If the concession is deforested, it will deprive the Awyu people of their traditional sources of livelihoods, and release 23 million tons of CO₂ into the atmosphere.¹³

The Ministry of Environment and Forestry did not provide full support towards licence evaluation efforts carried out by the West Papua Provincial Government (before its subdivision into new administrative areas), as was carried out by the

Sorong Government when revoking PT Inti Kebun Sejahtera's business permit in 2021¹⁴. To date, the Ministry of Environment and Forestry has not taken the necessary action to revoke the forest release permit for PT Inti Kebun Sejahtera, which covers an area of 1174 ha. The release of this forest area is problematic because it overlaps with the Moi Indigenous community's territory in Sorong.

As for future risks, Greenpeace Indonesia's analysis¹⁵ found that there are 4.73 million ha of natural forests in four Papua provinces (*Papua, Papua Pegunungan, Papua Selatan, Papua Tengah*) at medium and high risk of clearing as it is located within company concessions.

13 [Sidang Gugatan Lingkungan Hidup, Kuasa Hukum Suku Awyu Ajukan 50 Dokumen Bukti - Greenpeace Indonesia](#) (Environmental Lawsuit Hearing, The Awyu Indigenous Community's Legal Counsel Submits 50 Documents of Evidence - Greenpeace Indonesia)

14 [Masyarakat Adat Papua Melawan Perusahaan Sawit: Mencabut Izin, Mengembalikan Hak Adat - Project Multatuli](#) (Papuan Indigenous Community Against Palm Oil Companies: Revoking Permits, Restoring The Indigenous Community's Rights - Multatuli Project)

15 <https://drive.google.com/file/d/1kAaDuyDvzh7uYuXawTCYfssW8NiduWTn/view?usp=sharing>

The details are that around 2.49 million ha falls within logging concessions (*Hak Pengusaha Hutan*), and 747.6 thousand ha within industrial timber plantation concessions. There are also 1.49 million ha within palm oil concessions.

The government also underestimates the risk of future deforestation because it has not factored in the impact of constructing the Trans Papua road project. This road would stretch for 3,887 km from Sorong in the west,¹⁶ heading southeast—cutting through Lorentz National Park in central Papua, then heading north to Jayapura and south to Merauke.

The Trans Papua road will enable access to forests in remote areas that were previously isolated, increasing the risk of deforestation. According to research¹⁷ published in September 2021, forest clearing following the road's construction could

reach 4.5 million ha. Most of this figure, namely 3.2 million ha, comes from additional land opened up for plantations, forestry and mining industries (namely for processing facilities, secondary roads, housing or industrial infrastructure).

The road infrastructure dissecting Lorentz National Park poses a threat to the preservation of biodiversity in this area, especially ancient *Nothofagus* trees, found only in certain areas of the southern hemisphere. Ever since the Trans Papua road was opened, as imagined, logging has been observed with timber transported in trucks out of the national park area.¹⁸

■ Documentation of landcover and oil palm plantation development in PT Internusa Jaya Sejahtera (PT IJS), part of the Central Cipta Murdaya group. 7°14'16.15"S, 140°42'39.29"E. 01 April 2018.



16 Riset: Sekitar 4,5 juta hektare hutan bakal hilang, terimbas proyek Trans Papua (Research, Around 4.5 million hectares of forest will be lost, affected by the Trans Papua project)

17 Riset: Sekitar 4,5 juta hektare hutan bakal hilang, terimbas proyek Trans Papua

18 UNESCO calls for closure of road running through World Heritage park in Papua

The paradox of the timber plantation solution



Apart from identifying the scale of planned deforestation, Greenpeace Indonesia's analysis has also identified a paradox in the FOLU Net Sink 2030 policy's strategy of developing timber plantations to mitigate climate change.

The government considers the development of timber plantations to be a strategy with a double positive impact: increasing carbon stock via timber plantations, while reducing pressure on natural forests in meeting demand for timber materials and their derivatives or in the context of fulfilling energy through the Energy Plantation (*Hutan Tanaman Energi*) scheme.¹⁹

■ Piles of acacia logs are loaded on a barge at a log pond inside PT. Adindo Hutani Lestari pulpwood concession. 4°5'5"N, 117°17'28"E. 11 January 2015. © Ulet Ifansasti / Greenpeace

19 Trend Asia 2022. [Ancaman Deforestasi Tanaman Energi](#). (Threat of Deforestation for Energy Crops)



© Ulet Ifansasti / Greenpeace

Recently burnt peatland forest beside recent peatland clearance inside the PT Sumatra Riang Lestari (PT SRL) pulpwood concession in Rupert Island, Bengkalis Regency, Riau Province. 1°46'31"N, 101°36'9"E, 20 May 2014.

Indonesia also relies on the timber plantation policy for another FOLU Net Sink 2030 strategy: preventing land degradation. The government targets expansion of plantations and increased productivity.

Unfortunately, we found this strategy to be reckless and not based on sufficient scientific evidence. A study from the World Resources Institute²⁰ found that, instead of storing carbon, the development of tropical timber plantations actually generates large CO₂ emissions. Emissions released come

from harvesting timber over a period of 20-30 years into products that end up in landfills or burned.²¹ Natural forests also store 40 times more carbon than plantations and 6 times more than agroforestry.²² Restoring natural forests is the best way to sequester carbon in the atmosphere.²³

20 [The carbon costs of global wood harvests | Nature](#)

21 [The illusion of saving the planet with a trillion trees](#)

22 [The scandal of calling plantations 'forest restoration' is putting climate targets at risk](#)

23 [Restoring natural forests is the best way to remove atmospheric carbon](#)

The CO₂ emissions that will be released into the atmosphere if this large expansion of timber plantation continues have been ignored in the FOLU Net Sink 2030 analysis.

The environmental sins multiply when the expansion of timber plantations comes from clearing natural forests that means a large loss of carbon as well as biodiversity. Currently, the area of timber plantation concessions based on data from the Ministry of Environment and Forestry is around 11.2 million ha in 2022.²⁴ The majority are found on the islands of Kalimantan and Sumatra.

However, from this figure, only around 3 million ha or 27% of the total concession area has been planted. A large portion (8 million ha) of the total concession has not yet been planted.

The problem that arises is that of the remaining 8 million ha of permitted concessions, around 5.7 million ha is still natural forest, most notably in Kalimantan, Sumatra and Papua. This means that only 2.4 million ha of yet-to-be developed industrial timber plantation areas are unforested.

Clearing the remaining 5.7 million ha of natural forest within existing industrial timber plantation concessions could contribute emissions of 5.5 gigatonnes of CO₂ due to loss of natural forest cover.

■ Young acacia plantation on peatland inside the PT Sumatra Riang Lestari (PT SRL) pulpwood concession in Rupert Island, Bengkalis Regency, Riau Province. 1°50'13"N, 101°34'23"E. 20 May 2014.



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24 Refer to page 112 of the Ministry of Environment and Forestry Republic of Indonesia (2022) 'Rencana Operasional Indonesia's FOLU Net Sink 2030'. 24 Februari 2022. (Indonesia FOLU Net Sink 2023 Operation Plan).

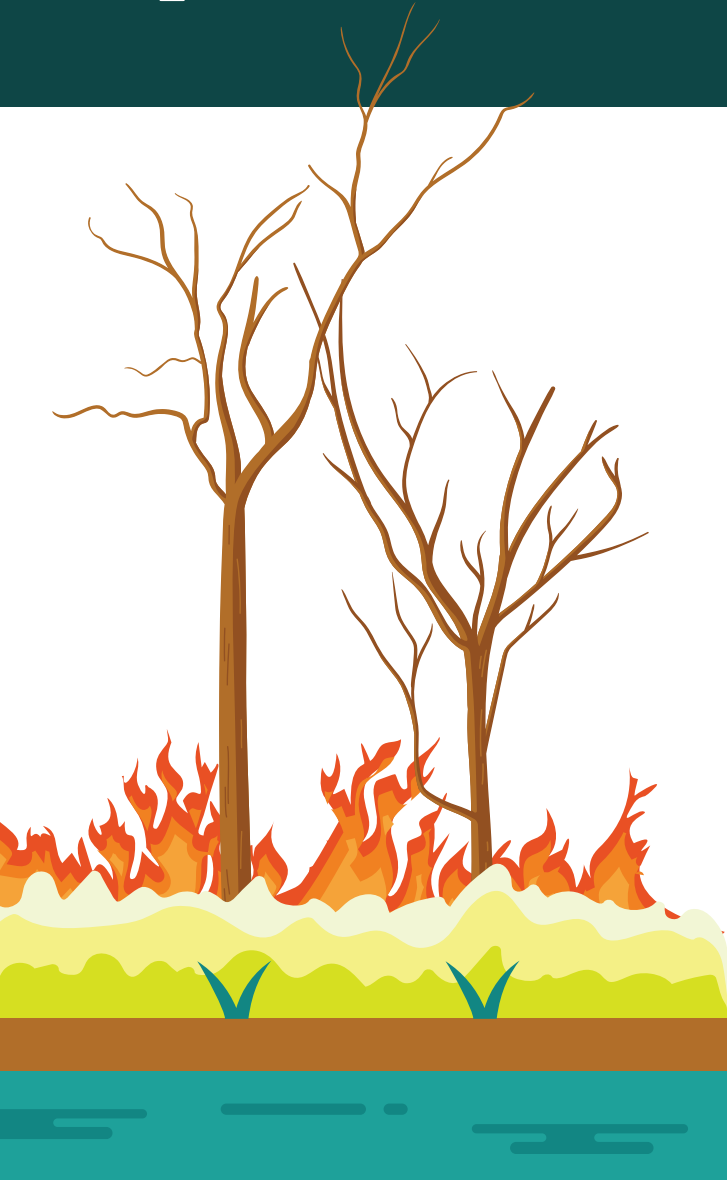
The FOLU Net Sink 2030 Operational Plan also states that the expansion of industrial timber plantations will reach 6.1 million ha by 2030, or an average of 0.6 million ha per year. If the establishment of those timber plantations relies on existing concessions, excluding additions, then some of them (at least 3.7 million ha) will have to be created by clearing natural forests. Deforestation of around 3.7 million ha risks releasing greenhouse gases of up to 3.57 gigatons of CO₂ into the atmosphere.



© Anonymous / Greenpeace

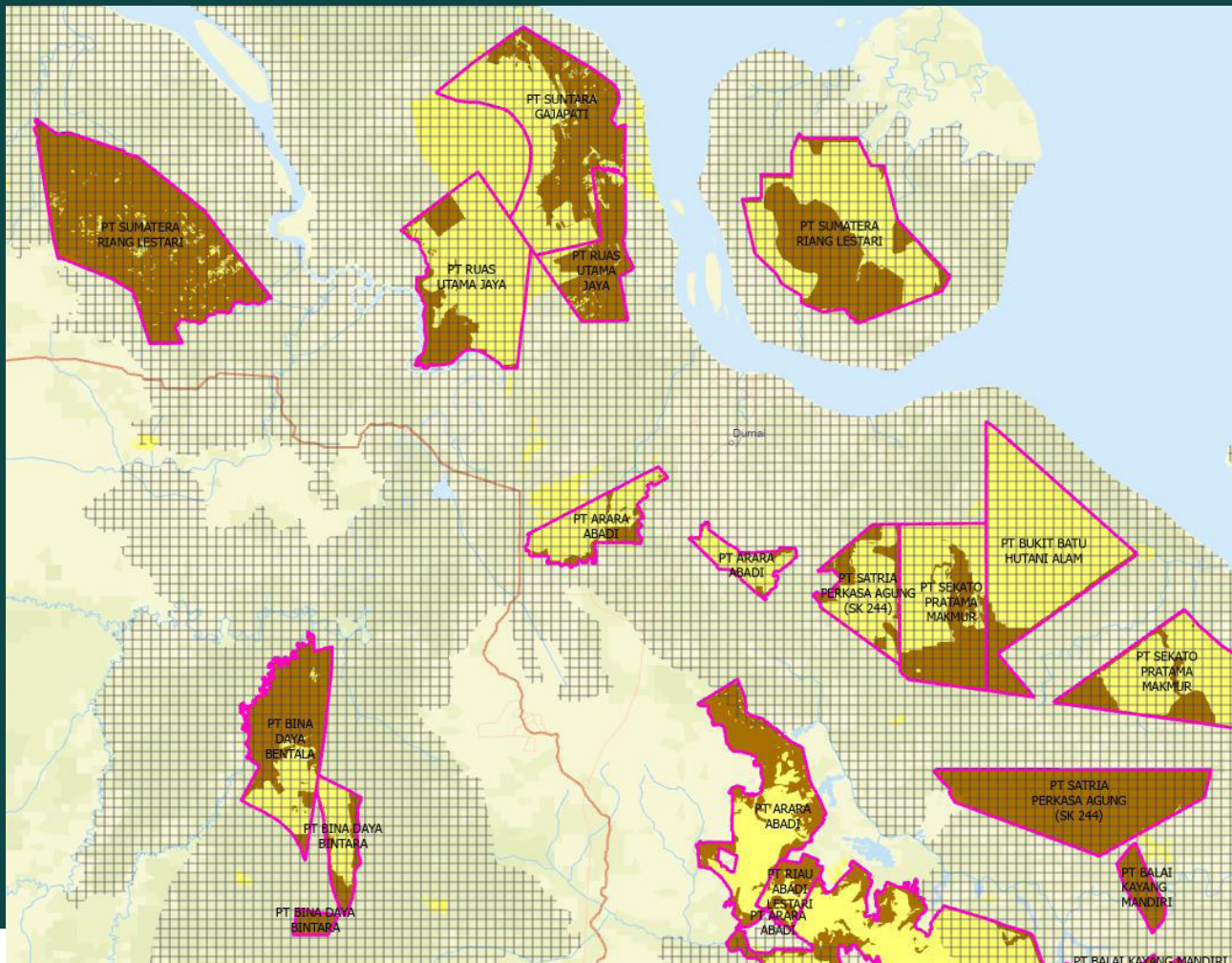
- Kerumutan peat swamp forest, Riau, Sumatra. Active clearance of natural forest on peatland in SMG/APP (Sinar Mas Group, Asia Pulp and Paper) affiliated PT Mutiara Sabuk Khatulistiwa. 05 May 2011.

Immense threat posed by timber plantations in peatland



Greenpeace Indonesia's mapping analysis found that around 316,000 ha of the 2.4 million ha of unplanted, unforested land is also within peatland; for example this is the case for PT Satria Perkasa Agung's industrial timber plantation concession in Bengkalis and PT Sumatra Riang Lestari's in Rokan Hilir, both located in Riau Province.

Greenpeace Indonesia's mapping analysis found that almost all of the land contained in these two concessions is peatland, and also has not been planted.



Industrial Timber Plantation concessions in Riau. The brown areas have not been planted, and the crosshatched areas are the peatland. Source: Greenpeace analysis

Converting peat landscapes is very dangerous for the stability of the earth's climate. The development of industrial timber plantations will damage the integrity of the peat ecosystem, which is otherwise naturally damp. The disruption will cause the peat to dry out, making it prone to fires every year, as well as massive CO₂ emissions from oxidation of the peat.²⁵

This risk has been proven by recent fires. Greenpeace monitoring²⁶ reveals that during July - October 2023, forest and land fires burnt 603 thousand hectares in Sumatra and Kalimantan. More than half of them occurred within Peat Hydrological Units (*Kesatuan Hidrologis Gambut*). Most of them (208 thousand hectares) are designated 'highly critical' peat areas,

meaning they are in a very dry, vulnerable condition, and damaged due to repeated fires.

Emissions due to peat fires cannot be taken lightly. The smoke contains methane, a greenhouse gas that traps heat 21 times stronger compared to carbon dioxide.²⁷ Meanwhile, peat fire releases methane emissions as much as 10 times greater compared to fire from other types of land.²⁸

These damages ultimately are in conflict with other FOLU Net Sink strategies, namely protecting peat areas or restoring damaged ecosystems. The construction of timber plantations is also a set back on the national peat restoration program which was initiated in 2016.

25 <https://www.fao.org/3/i3013e/i3013e.pdf>

26 <https://gpidn.maps.arcgis.com/apps/webappviewer/index.html?id=342fef43a8b04add84c438248d688f7b> requires ESRI Arcgis Online public account.

27 [Changes in Atmospheric Constituents and in Radiative Forcing](#)

28 [Comprehensive laboratory measurements of biomass-burning emissions: 1. Emissions from Indonesian, African, and other fuels](#)

A slew of problems caused by industrial timber plantations

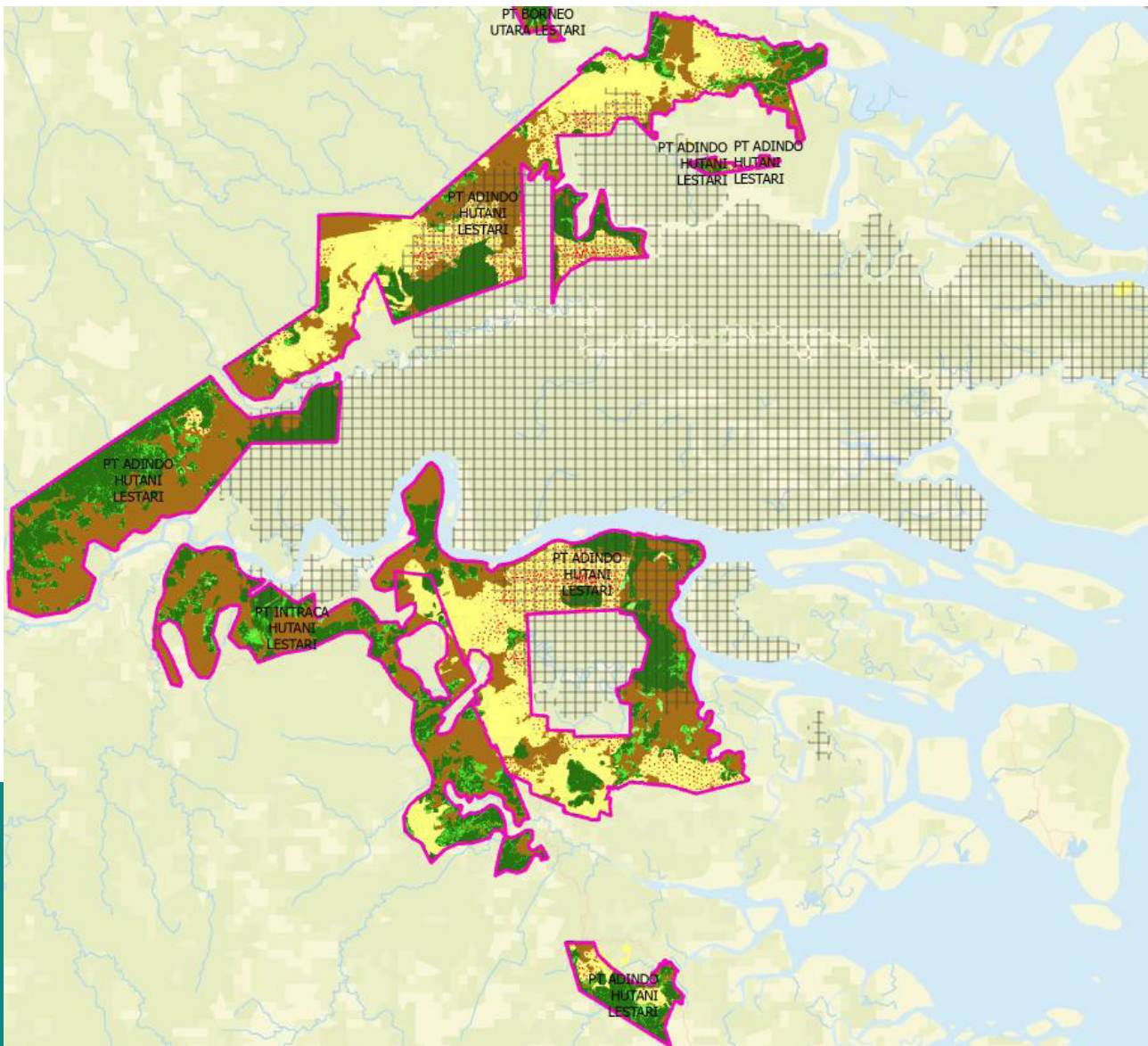


The government's plan to rely on the establishment of industrial timber plantations under the FOLU Net Sink 2030 policy turns a blind eye towards various environmental crimes committed by this sector for decades.

We can learn from the case of natural forest clearing by PT Adindo Hutani Lestari in Kalimantan during 2001-2022. Based on the *Pulping Borneo* report²⁹ jointly published by Greenpeace International, this company has experienced clearing of natural forests of high conservation value in its concession area of 56.8 thousand hectares.

From this figure, 34 thousand ha has been planted, meanwhile 22.8 thousand ha of cleared area remains unplanted.

29 *Pulping Borneo* - Greenpeace International 2023



Industrial Plantation concessions in East Kalimantan. The brown areas have not been planted and the shaded boxes are the peat areas. Source: Greenpeace analysis

In Papua, the development of a timber plantation carried out by PT Plasma Nutfah Marind Papua is suspected of having cleared 6 thousand ha of natural forest from 2015 to 2021.³⁰ Deforestation has not only destroyed biodiversity in the area, but also the space for sago trees to grow, which is the staple food of the Malind Indigenous People.

Greenpeace's investigation³¹ also found that the industrial timber plantation concession held by PT Merauke Rayon Jaya, which is dominated by natural

forest cover, is the traditional Indigenous territories of the Subur and Aiwat village communities in Boven Digoel Regency. Since 1998, this company has controlled 206 thousand ha of natural forest in the lowlands of South Papua. Based on the 2020 – 2029 Industrial Timber Plantation Business Work Plan (*Rencana Kerja Usaha Hutan Tanaman Industri*), this company will clear natural forests and replace them with industrial teak plantings over an area of 152 thousand ha, or around 74% of its concession.

30 FSC-certified Moorim Paper linked to massive forest clearing in Indonesia's Papua

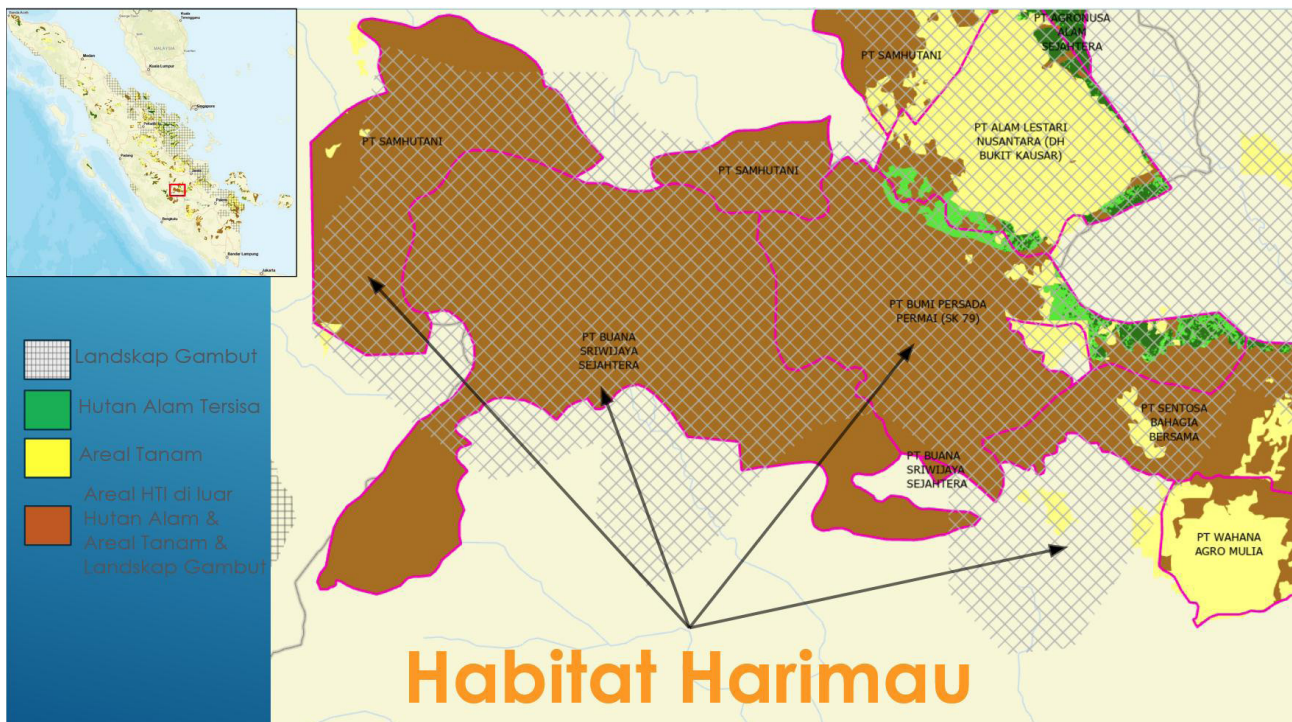
31 Case Study 9: Merauke, PT Merauke Rayon Jaya

The Wambon Tekamerop Indigenous community in Subur District, Boven Digoel Regency, strongly rejects this plan because clearing natural forest means the loss of their livelihoods. For the people of Wambon Tekamerop, the forest provides food, medicine and material to build their villages.

The people of Wambon Tekamerop also took legal action and conducted protests against this injustice.³² But unfortunately, the government continues to be indifferent towards the complaints of Indigenous communities.

Meanwhile, the development of timber plantations on the island of Sumatra continues to lead to problems, even for companies that claim to be clean, or in areas without forests, or those that do not overlap with peat areas.

For example, part of the 850 thousand ha of timber plantation area in Sumatra overlaps with Sumatran tiger habitat. If the FOLU Net Sink 2030 strategy is implemented, the effect will not only be bad for forest sustainability, but also for the preservation of Indonesia's precious tigers.



Industrial Plantation concessions in Riau. The brown areas have not been planted and the shaded boxes are the peat areas.
Source: Greenpeace analysis



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- A barge of rainforest logs from the destruction of natural rainforest. The destruction makes way for plantations to produce pulp paper, in Rimba Hutan Mas logging concession. 2°9'12.26"S, 104°1'50.25"E. 16 October 2010.

Conclusion



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Greenpeace Indonesia's analysis explains how the FOLU Net Sink strategy for absorbing emissions from the forest sector actually perpetuates deforestation and contributes to emissions, exacerbating damage to forests with high conservation values, high biodiversity and the imperilling the livelihoods of Indigenous and local communities. As a result, this strategy contradicts Indonesia's commitment to sustainable development and reducing greenhouse gas emissions.

To achieve actual emission reductions from the forest and land sector, Greenpeace Indonesia recommends that the government takes the following steps:

- a) Revise the 2030 FOLU Net Sink target and remove the terminology of planned and unplanned deforestation which misleads the public and contradicts the global commitment in addressing the climate crisis.
- b) Prevent deforestation, reducing its rate down to zero by implementing a permanent ban on clearing forests on both mineral and peat soils, especially within company concessions, as well as strengthening monitoring and ensuring strict law enforcement.

■ A solitary rainforest tree remains standing in a recently planted palm oil plantation on former orangutan habitat inside the PT Karya Makmur Abadi Estate II palm oil concession. 1°55'48"S, 112°26'8"E. 24 February 2014.



© Jeremy Sutton-Hibbert / Greenpeace

■ An Eagle (*Nisaetus cirrhatus*) stands on a burned tree stump in burned peatland covered by haze from the fires in an ex concession of PT. Dyera Hutani Lestari (DHL) in Koto Kandis Dendang, East Tanjung Jabung, Jambi. 1°15'0.16"S, 103°59'39.8"E. 22 September 2019.

- c) Prohibit new permit issuance in peat landscapes, especially locations with peat domes that are prone to drought.
- d) Accelerate forest rehabilitation, peatland landscape restoration and protection of remaining peatland areas; supporting the recovery of their function in absorbing carbon, providing environmental services for living creatures, as well as maintaining communities' living spaces.
- e) Actively involve Indigenous and local communities in preparing revisions to the FOLU Net Sink 2030 policy by implementing a community-based forest conservation policy framework.
- f) Align Indonesia's FOLU Net Sink 2030 policy with other global commitments such as the Kunming-Montreal 2022 Global Biodiversity Framework to effectively restore 30% of terrestrial, freshwater, coastal and marine ecosystems and expand conservation areas by 30% of the total land and sea globally.

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Published 8 December 2023
by Greenpeace Indonesia.

Unless stated otherwise, all references
in this report to Greenpeace refer to
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