

When Clean Air is Sacrificed for Global Commodities

Indonesia Forest and Peatland Fire Facts Report 2026

*The Failure of Peatland Restoration, the Web of Corporate Entities,
and a Multidimensional Crisis*





Cover: Members of the Manggala Agni forest and land fire brigade pull a hose while fighting a forest fire in Ogan Ilir, South Sumatra. 28/08/2026. © Abriansyah Liberto / Greenpeace



This fact sheet sets out comprehensively how the global market drive for palm oil commodities and the forestry industry continues to perpetuate the crisis of forest and land fires (*karhutla*) on peatland in Indonesia. We trace the common thread between the slow restoration of peatland ecosystems, the involvement of networks of corporate entities, and the resulting multidimensional crisis.

From ecological disasters and local economic losses to serious threats to public health. Drawing on empirical data and policy analysis, this fact report underscores the importance of strengthening the governance of peatland and forest ecosystem protection, and of corporate accountability, in order to end the neglect that allows air quality and ecosystem functions to be destroyed for the sake of short-term economic gain.



Local community members travel by boat through haze caused by peatland fires along the Kapuas River in Kalibandung Village, Kubu Raya, West Kalimantan. 16/09/2026.
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The Tragic Stories of Forest and Peatland Fire Victims

For residents living around peatland ecosystems, forest and land fires are more than the sight of flames in the distance. When peat burns, what comes with the fire is haze that can linger, spread, and turn everyday air into a health crisis. Schools may be forced to close, economic activity is disrupted, travel becomes dangerous as visibility falls, and people's health must brace for a rise in respiratory ailments.

Sharifah Hawa “Vivi”

Fisherfolk, Penang

When the haze is thick, going out to sea becomes dangerous because we cannot see clearly. As fisherfolk, the sea is our livelihood, but when visibility is poor, we risk losing our direction. We also have to worry about breathing polluted air when so much of our life and work is outdoors. The impact continues even after we return to shore. In our community, we make dried fish and squid from our catch, and we depend on strong sunlight to dry them properly. During severe haze, there is less sunlight, so the drying process becomes more difficult. It can affect the quality of the food and the income our families depend on. For us, haze is not just about dirty air. It affects our safety at sea, our food, our income, and a way of life that our community has depended on for generations.”



Tikka Hun

Mother with a one-year-old baby, Kuala Lumpur

“When the haze became severe, I tried to keep the polluted air out by closing every window; I even used tape to seal the gaps. I only had one air purifier, so my one-year-old baby and I stayed mostly in our bedroom. For days, we ate and slept in that room. I would only leave briefly to prepare food before going back to my baby. From my condominium, I could normally see buildings kilometres away, but during the haze they completely disappeared. Sometimes I could barely even see the nearby trees. I felt like I was in jail. We were trapped inside our own home, just trying to find cleaner air and protect my baby.”



Akata Yang

Farmer, Johor

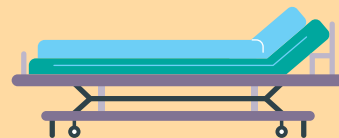
“Normally, my vegetables would be ready for harvest in about 40 days. But during the severe haze, there wasn’t enough sunlight, and the crops took 50 to 60 days to grow. My harvest dropped by around half. The impact was not only on my income. Part of my farm was a place for schoolchildren and local residents to come and learn about vegetable farming. Because the haze was so bad, we had to cancel visits and outdoor activities. For more than a month, I woke up every morning smelling haze. At one point, I even went to Tioman Island hoping to escape the haze, but the haze followed me there too. The fires may be hundreds of kilometres away, but the impact reaches us here. As farmers, we are the ones who feel it directly, through our crops, our income and our daily lives.”



Muhammad Syahir

Kids admitted to hospital due to haze , Kuala Lumpur

The recent haze in Malaysia took a severe toll on my daughter’s health, ultimately leading to her hospital admission for bronchitis. Despite two clinic visits and wearing a face mask, her condition worsened into severe chesty coughs and breathing difficulties by the third day. Seeing her hospitalized has been incredibly frustrating and heartbreaking for us as parents. She is a naturally active child, and being excused from school and having to stay indoors has been really tough on her.



 Region	 Haze Duration (days)
Sarawak	55
Sabah	16
Johor, Selangor	13
Kuala Lumpur	13
Selangor	12
Melaka	11

In late August 2026, forest and land fires and haze had tragic consequences, claiming the life of Akhmad Rizani, a firefighting volunteer in Central Kalimantan. The 53-year-old lost consciousness after putting out a land fire on Jalan Rungan, Jekan Raya, Palangkaraya City. Although he was taken to hospital, his condition worsened until he breathed his last, leaving his wife and child in grief. The Ministry of Health has stated that forest and peatland fires have affected 12.5 million people, four of whom have died, but has not disclosed further details.¹

The evidence of the health impacts is more than a scientific projection. In Kayong Utara Regency, West Kalimantan, the Health and Family Planning Office recorded 934 cases of acute respiratory infection (ISPA) between weeks 22 and 30 in 2026, or 31 May–1 August 2026, when air quality was affected by forest and land fires. The local health office subsequently urged residents to reduce outdoor activities.²

 Region	 Haze Duration (days)	 Number of Residents Affected *
West Kalimantan	54	5.7 million
Central Kalimantan	55	2.8 million
South Kalimantan	46	4.3 million
East Kalimantan	42	4.2 million
South Sumatra	35	9.1 million
Jambi	32	3.9 million
Riau	28	7.2 million
North Kalimantan	27	800,000
Bangka Belitung	24	1.6 million
Riau Islands	22	2.3 million

Table: Haze duration and number of residents affected, August–1 October 2026, in 10 provinces. The number of residents affected refers to 2024 data from Statistics Indonesia (BPS)³.

¹ BBC Indonesia. 2026. <https://www.bbc.com/indonesia/articles/cwe87mlylj560>

² Oxtora, Rendra. Antara Kalbar. 2026. ISPA Kayong Utara capai 934 kasus akibat karhutla [Kayong Utara ISPA Cases Reach 934 due to Forest and Land Fires].

³ Kemendagri. 2025. Jumlah Penduduk Berdasarkan Kabupaten/Kota [Population by Regency/City].

In Kotawaringin Timur Regency, Central Kalimantan, the regional government has even prepared oxygen rooms in health facilities as an anticipatory measure should air quality continue to deteriorate and demand for services arising from the impacts of the haze rise. This measure shows that some governments already regard haze as a problem that requires readiness on the part of the health service system.

PROVINCE	DISTRICT	TOTAL HAZE SOURCE SPOTS			
		AUG	SEP	OCT	AUG-1 OCT
Kalimantan Tengah	Pulang Pisau	99	423	39	561
	Kotawaringin Timur	102	158	3	263
	Seruyan	43	171		214
	Kotawaringin Barat	11	196	2	209
	Kapuas	65	91	13	169
	Katingan	40	64	1	105
	Sukamara	35	68		103
	Kota Palangkaraya	39	17		56
	Lamandau	5	20		25
	Barito Selatan	10	5		15
	Gunung Mas	7			7
	Barito Timur		1		1
	Kalimantan Tengah	456	1,214	58	1,728
Papua Selatan	Merauke	442	840		1,285
	Mappi	7	105		112
	Asmat	1	7		8
	Boven Digoel		8		8
	Papua Selatan	450	960		1,413
Kalimantan Barat	Ketapang	372	507	2	881
	Kubu Raya	126	54		180
	Kayong Utara	85	40		125
	Melawi	1	13		14
	Kapuas Hulu		13		13
	Sintang	1	11		12
	Mempawah	6	1		7
	Sambas	2	1		3
	Sanggau	1	1		2
	Landak	2			2
	Kota Pontianak	1			1
	Kalimantan Barat	597	641	2	1,240

PROVINCE	DISTRICT	TOTAL HAZE SOURCE SPOTS			
		AUG	SEP	OCT	AUG-1 OCT
Sumatera Selatan	Ogan Komering Ilir	62	496	81	639
	Banyuasin	14	152	5	171
	Musi Banyuasin	9	68	4	81
	Muara Enim	6	41		47
	Ogan Ilir	2	10		12
	Ogan Komering Ulu Timur	2	6		8
	Musi Rawas Utara	1	7		8
	Ogan Komering Ulu	1	6		7
	Penukal Abab Lematang Ilir	3	4		7
	Musi Rawas	2	5		7
	Sumatera Selatan	102	795	90	987
Kalimantan Selatan	Banjar	29	79	3	111
	Tapin	24	38		62
	Kotabaru	1	55	4	60
	Hulu Sungai Selatan	18	22		40
	Barito Kuala	11	26	2	39
	Tanah Laut	15	20	1	36
	Tanah Bumbu	5	16	1	22
	Kota Banjarbaru	9	6		15
	Hulu Sungai Utara	8	5		13
	Balangan	2	4		6
	Kalimantan Selatan	122	271	11	404
Kalimantan Timur	Paser		122	3	125
	Kutai Kartanegara		60		60
	Berau		27		27
	Kutai Timur		20		20
	Kutai Barat		8		8
	Penajam Paser Utara		4		4
	Kota Samarinda		3		3
	Kota Bontang		1		1
	Kota Balikpapan		1		1
	Kalimantan Timur	0	246	3	249
Maluku	Buru		44	6	50
	Maluku Tengah		38	1	39
	Seram Bagian Timur		28	3	31
	Seram Bagian Barat		17	3	20
	Buru Selatan		11	1	12
	Maluku	0	138	14	152
Papua Barat	Fak Fak		46	16	62
	Kaimana		47	9	56
	Teluk Bintuni		9		9
	Teluk Wondama		4		4
	Papua Barat	0	106	25	131

PROVINCE	DISTRICT	TOTAL HAZE SOURCE SPOTS			
		AUG	SEP	OCT	AUG-1 OCT
Kepulauan Bangka Belitung	Bangka Selatan		72	3	75
	Bangka Tengah		16		16
	Bangka Barat		7		7
	Belitung Timur		5		5
	Belitung		4		4
	Bangka		1		1
	Kepulauan Bangka Belitung	0	105	3	108
Jambi	Tanjung Jabung Timur	1	49		50
	Tebo	2	11		13
	Muaro Jambi	2	11		13
	Tanjung Jabung Barat	2	9		11
	Batanghari		7		7
	Sarolangun	4	3		7
	Bungo		2		2
	Jambi	11	92	0	103
Lampung	Mesuji	1	17	6	24
	Lampung Timur		19	4	23
	Tulang Bawang	2	13	4	19
	Lampung Tengah		5		5
	Way Kanan	1			1
	Tulang Bawang Barat		1		1
	Lampung	4	55	14	73
Riau	Indragiri Hilir	6	13		19
	Indragiri Hulu	1	13		14
	Pelalawan	6			6
	Siak	1	1		2
	Bengkalis	1	1		2
	Kepulauan Meranti		2		2
	Riau	15	30	0	45

ISLAND	HAZE SOURCE SPOTS			
	AUG	SEP	OCT	AUG-1 OKT
KALIMANTAN	1,175	2,379	74	3,628
PAPUA	450	1,155	26	1,634
SUMATERA	137	1,078	107	1,322
MALUKU		138	14	152
SULAWESI		75		75
INDONESIA	1,762	4,825	221	6,811

Table: Data on the number of haze source points per regency, August-1 October 2026

A 2022 study of the impacts of fires on peatland ecosystems shows that the health effects of haze operate more widely and are often harder to see. Research on the health impacts of peat fires in Indonesia estimates that long-term exposure to PM2.5 from peat fires in Sumatra and Kalimantan is linked with around 33,100 premature deaths among adults and 2,900 infant deaths per year, together with around 4,390 additional hospital admissions for respiratory disease and 635,000 cases of severe asthma attacks in children.⁴

Even before counting the area of land burned, the number of hotspots, or the value of carbon emissions, the crisis can already be seen in one simple variable: the growing amount of public spaces that must be set up so that residents can breathe a little better.

▶ Peatland fires within the PT Bintang Harapan Palma (BHP) area in Ogan Komering Ilir, South Sumatra. 24/09/2026.
© Alif R Nouddy Korua / Greenpeace



⁴ Lars Hein et al., “The Health Impacts of Indonesian Peatland Fires,” *Environmental Health* 21, no. 62 (2022), <https://doi.org/10.1186/s12940-022-00872-w> → <https://d-nb.info/1266372741/34>

Peatland Degradation and Its Multidimensional Impacts

The vulnerability of peat also has a chemical dimension that deserves attention, particularly in areas containing sulfidic material or pyrite. Pyrite (FeS_2) is generally stable when waterlogged and oxygen-deprived. When pyrite-bearing layers are drained or exposed to air, the pyrite can oxidise and produce high acidity. This process can lower the pH of soil and water and increase the mobility of a number of potentially toxic elements.⁵

The health threat from forest and land fires operates mainly through polluted air. Fire haze carries a mixture of pollutants, one of which is particulate matter (PM), and PM_{2.5} is of particular concern because of its extremely small size, with a diameter of 2.5 micrometres or less, which allows it to penetrate deep into the lungs and even enter the bloodstream.

The World Health Organization (WHO) states that the health risks of PM_{2.5} are strongly documented: both short-term and long-term exposure are associated with increased illness and death from respiratory disorders and cardiovascular disease, including ischaemic heart disease and stroke; long-term exposure is also associated with lung cancer and adverse effects on pregnancy.

Fires are one source of PM_{2.5} and PM₁₀ in ambient air,⁶ so when forest and land fires occur and haze concentrates over residential areas, residents face not only reduced visibility or the smell of haze, but also breathe in particles that are biologically able to penetrate deep into the body.

WHO sets guideline concentrations for PM_{2.5} of 15 $\mu\text{g}/\text{m}^3$ for 24-hour exposure and 5 $\mu\text{g}/\text{m}^3$ for the annual average, figures which show that air quality needs to be seen as a public health issue, not merely a matter of comfort.⁷

Thus, peatland damage can create layers of mutually compounding risk: drained peat burns more easily; fires produce haze and PM_{2.5}; haze worsens air quality; while chemical changes in pyrite-bearing layers can create additional problems for soil and water. The impacts do not always appear in one form or at one time.

The Government's Faltering Response to Forest and Peatland Fires

The scale of the regional governments' response shows that the 2026 forest and land fires are no longer a series of isolated events. According to data processed by Pantau Gambut, by mid-August 2026, nine provinces and 41 regencies/cities whose areas are linked to Peatland Hydrological Units (KHG) had declared an alert or emergency response status for forest and land fires and/or drought.⁸ Declaring this status shows that forest and land fires are a condition requiring a specific response, from mobilising resources, firefighting, and protecting communities to the readiness of health services.

5 Pantau Gambut. Peat 101

6 Ambient air is air in the atmosphere composed of nitrogen (78%), oxygen (21%) and other gases (1%).

7 WHO. Air quality, energy and health

8 Abas, Iola. Pantau Gambut. 2026. Paying for Land and Forest Fires with Taxes and Lung Health

However, the widespread declaration of emergency status at the regional level also reveals a problem at a higher level. When dozens of regencies/cities must take emergency measures separately to confront a threat that extends beyond administrative boundaries, the coordination and leadership of the central government become all the more important.

Forest and land fires, particularly in peatland ecosystems, do not follow provincial or regency boundaries; haze can travel across regions, while the sources of the fires and their impacts may lie in different locations. In such a situation, a response that rests on regional declarations and handling risks making local governments both the front line and the main bearers of the burden, while **no national response is yet visible** that is commensurate with the scale and spread of the emergency already acknowledged by regional governments.

For this reason, haze should not be treated as a side consequence that arises after a fire. Haze is one of the main forms of the impact of fire on people. When air quality deteriorates, residents' living space shrinks with it. When schools are closed, when health facilities prepare oxygen, when people have to "buy" their way to breathing comfortably, and when someone loses their life on the way home, the cost of fire has moved from the landscape to people's bodies and lives. This is an environmental crime that strips both the environment and residents of their rights!



Volunteers from Rumah Oksigen Muhammadiyah visit residents experiencing shortness of breath due to haze from peatland fires in Rasau Jaya, Kubu Raya, West Kalimantan. 18/09/2026. © Alif R Noudy Korua / Greenpeace



■ An area of land affected by peatland fires near Kalibandung Village, Kubu Raya, West Kalimantan. 16/09/2026.
© Alif R Noudy Korua / Greenpeace

A Portrait of the Destruction of Indonesia's Peatland Ecosystems

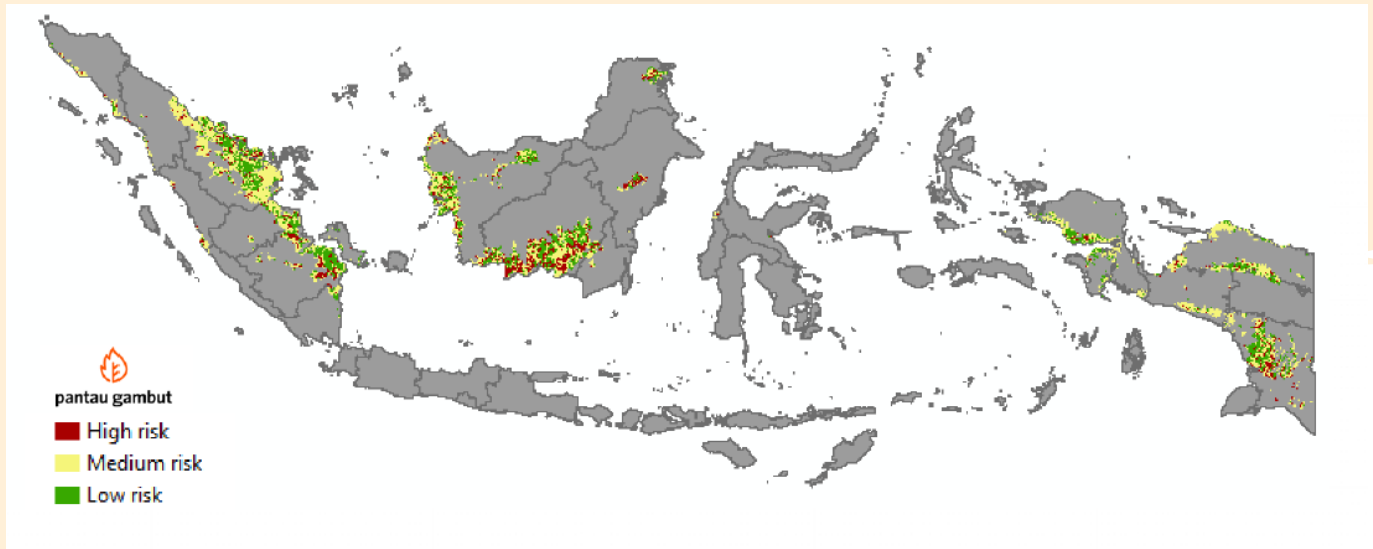
Peatland is a unique ecosystem because its soil layer is composed of accumulated organic matter. Peat forms through the sedimentation, preservation, and weathering of organic material over thousands of years. The lower layer (peat) and the upper layer (forest) of a peatland ecosystem are closely interdependent in sustaining it.

If either is damaged, the entire ecosystem is affected and becomes very difficult to restore in a short time. Ironically, Indonesia's peatland ecosystems have changed from their natural condition. Peatland ecosystems that should always be waterlogged and moist have been deliberately and intensively drained, and are slowly turning into large-scale agro-extractive business concessions, with implications for the severe impacts of a multidimensional crisis.

A Pantau Gambut study found that, of the total 24.2 million hectares of KHG in Indonesia, around 16.4 million hectares are prone to burning and 6 million hectares are highly vulnerable to flooding.⁹ This picture shows that agro-extractive concession activity has a strong correlation with peat degradation and with increased risk of forest and land fires and floods.

Practices such as intensive drainage, logging, and the construction of thousands of kilometres of canals by oil palm companies holding Right to Cultivate (HGU) titles and Forest Utilisation Business Licences (PBPH) systematically alter the hydrological function of peat.

Vulnerability map of Peatland Hydrological Units

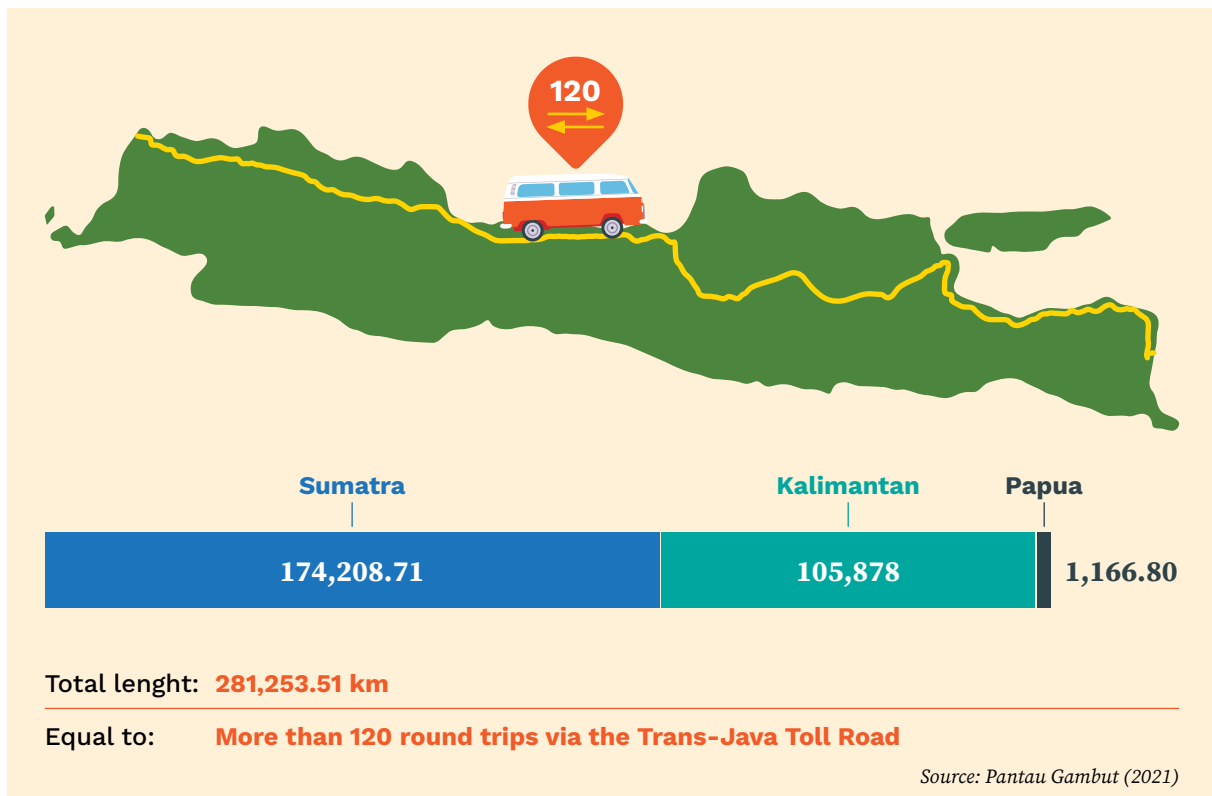


16 million hectares out of 24.2 million hectares of peat hydrological unit areas are prone to fires

Forest and land fires are not part of a cycle of disasters, but the accumulation of an ecological crisis caused by weak governance and regulation for the protection of peatland ecosystems in Indonesia. This is reinforced by a canal network 281,253.51 km long stretching across the regions of Sumatra, Kalimantan, and Papua. This figure is equivalent to 120 round trips between Banyuwangi and Merak via the Trans-Java Toll Road.¹⁰

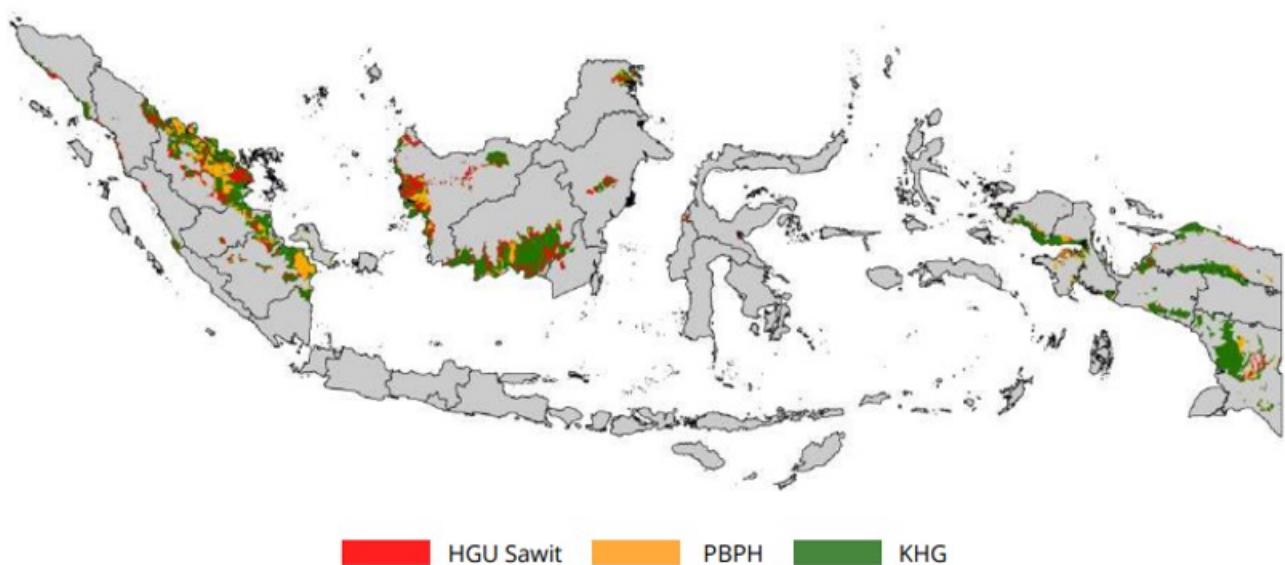
9 Pantau Gambut. 2025. *Drowned Peatland*

10 Pantau Gambut. 2025. *From Concessions to Consequences*



A more worrying fact is that all types of concessions in KHG, both oil palm HGU and PBPH, have a broad and systemic scale of vulnerability to forest and land fires and floods. As of July 2025, Pantau Gambut recorded the control of 8.3 million hectares of KHG by 936 concessions, consisting of Right to Cultivate (HGU), Forest Utilisation Business Licence (PBPH), Natural Forest (HA) and Ecosystem Reclamation (RE) concessions.

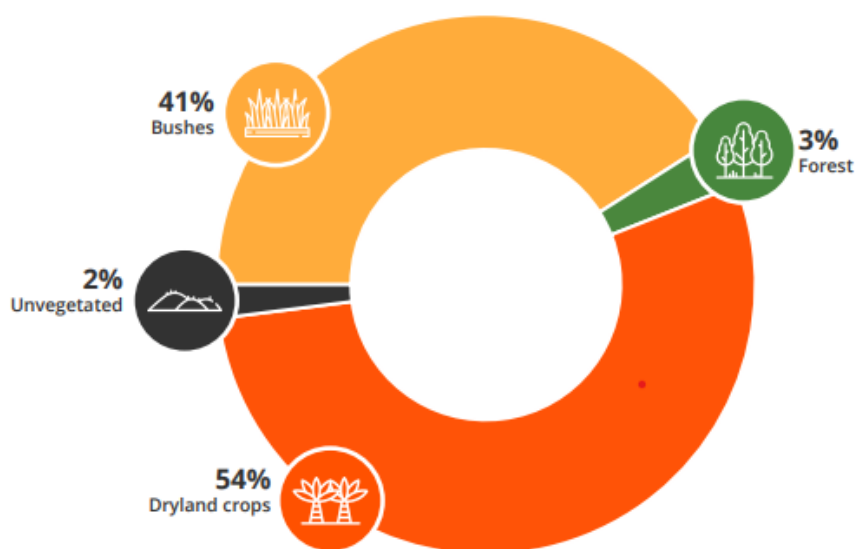
Distribution map of oil palm HGU and PBPH concessions within Peatland Hydrological Units



Meanwhile, restoration practice is far out of step with the rate of destruction. Over the period 2015–2024, Pantau Gambut found that around 3 million hectares of peatland burned, with significant escalation in El Niño years. The area burned within KHG has consistently exceeded 500,000 hectares, namely 1.3 million hectares in 2015, 735,000 hectares in 2019, and 525,000 hectares in 2023.

Although there was a 40% decline in 2019 compared with 2015, major fires still occurred during the 2023 El Niño period. This phenomenon indicates that the peatland restoration projects carried out by the Indonesian government have not been able to break the cycle of forest and land fires, so peatland remains a major contributor to national carbon emissions.¹¹

Proportion of land cover on formerly burned peatland areas and tree cover loss



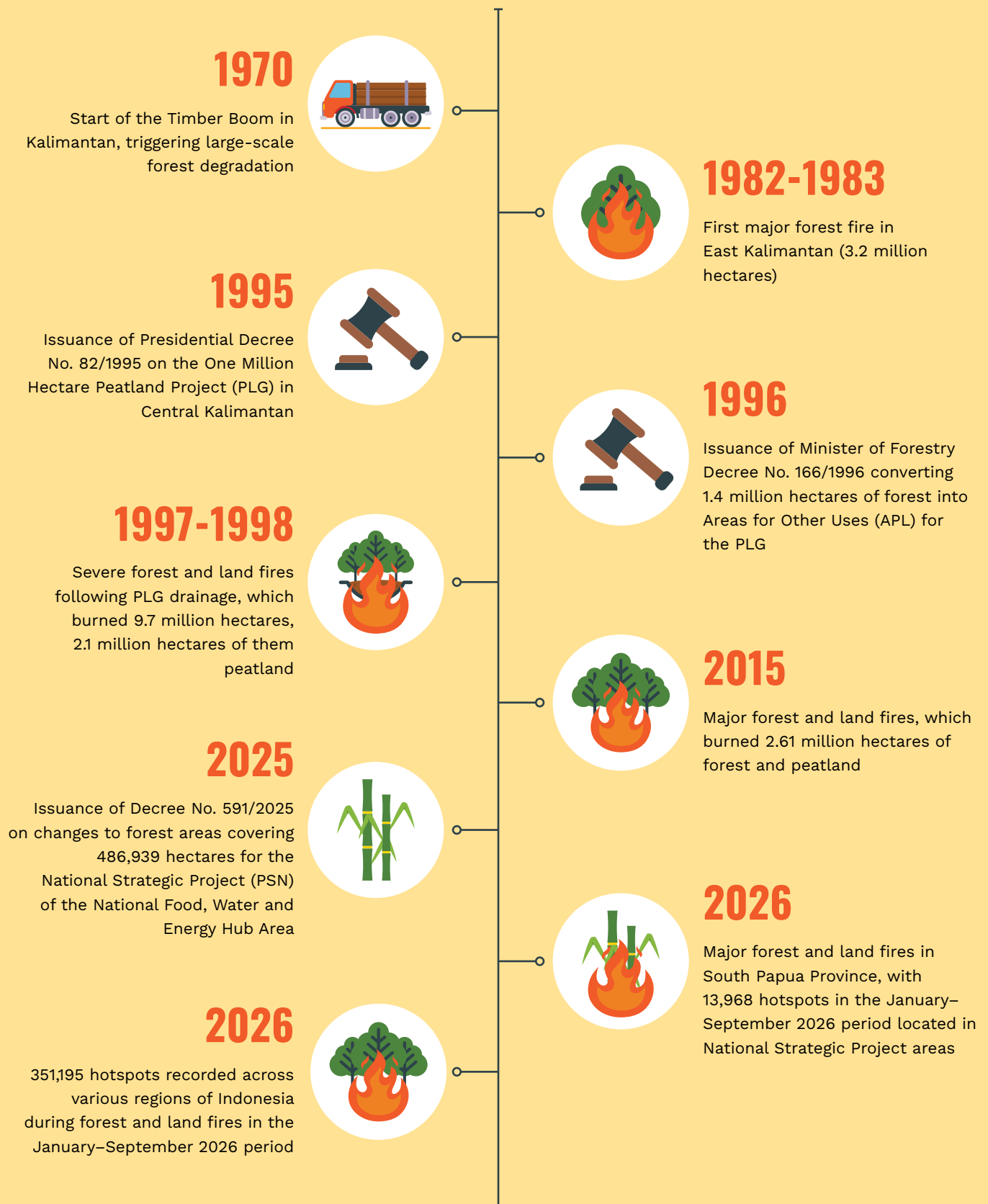
Moreover, efforts to protect peatland face serious challenges from a regulatory framework that is not yet optimal and from law enforcement that is not effective enough. The absence of a specific law on peatland leaves regulations that exist only at the government regulation (PP) level vulnerable to being overridden by higher-ranking laws.¹² This has even given rise to interpretations that could permit activities in protected peatland areas, as provided for by the Omnibus Law on Job Creation.

At the same time, the limited criminal sanctions at the PP level in fact have the potential to restrict the effectiveness of preventive law enforcement. This condition reflects the dynamic between legal-policy considerations regarding the protection of peatland ecosystems and short-term economic demands. This outlook has the potential to accommodate extractive activities by corporations, which can contribute to peatland degradation and create long-term risks to the environment and communities from year to year.

¹¹ Pantau Gambut. 2026. *A Decade of Peatland Restorations in Indonesia*

¹² <https://peraturan.bpk.go.id/Details/5778/pp-no-57-tahun-2016>

Phases of exploitation and planned disaster



Transboundary Haze

Forest and land fires do not end when the flames are extinguished. The haze they produce can move across administrative areas and national borders, affecting health, the environment, the economy, and the lives of people in other countries. In the Southeast Asian context, this phenomenon is known as transboundary haze. Thus, forest and land fires are not only a national problem for Indonesia, but also an environmental and public health problem with a regional dimension.

In 2026, this impact was seen again. As of 1 October 2026, according to Greenpeace’s analysis, haze affected 55 days in Sarawak, 16 days in Sabah, 13 days in Johor, 13 days in Kuala Lumpur and 5 days in Singapore, and was also detected in Brunei and the Philippines. This shows that when fires occur in one region, the consequences can reach hundreds of kilometres away. People in neighbouring countries also bear the impacts of environmental damage that they did not cause.

 Country	 Haze Duration (days)
Malaysia	55
Singapore	5
Brunei Darussalam	3–4
Philippines	1–3
Vietnam	1–3
Cambodia	1
Thailand	1

Tabel: Duration of transboundary haze, August–1 October 2026

For this reason, transboundary haze should not be seen merely as a matter of wind direction, hotspots, or firefighting response. Behind the haze lie problems of land governance, peat damage and drainage, activity inside concessions, weak prevention, and the responsibility of the state and corporations. The important question is not only “where does the haze come from?” but also “why did the fires occur, who controls and manages the area, who failed to prevent them, and who must be held responsible for their impacts?”

When environmental and health impacts have crossed national borders, a domestic response is not enough. A regional mechanism is needed that can link information, evidence, source tracing, corporate responsibility, protection of affected communities, and environmental restoration. Communities in affected countries must not remain merely recipients of the impacts; they must have access to information, participation, and justice.

Does ASEAN have a sufficient legal framework and mechanisms to prevent, address, and ensure accountability for transboundary haze? This question brings us to the ASEAN Agreement on Transboundary Haze Pollution (AATHP), a regional agreement that has existed for more than two decades but has not been able to stop the recurrence of the haze crisis in the region.

Haze Distribution

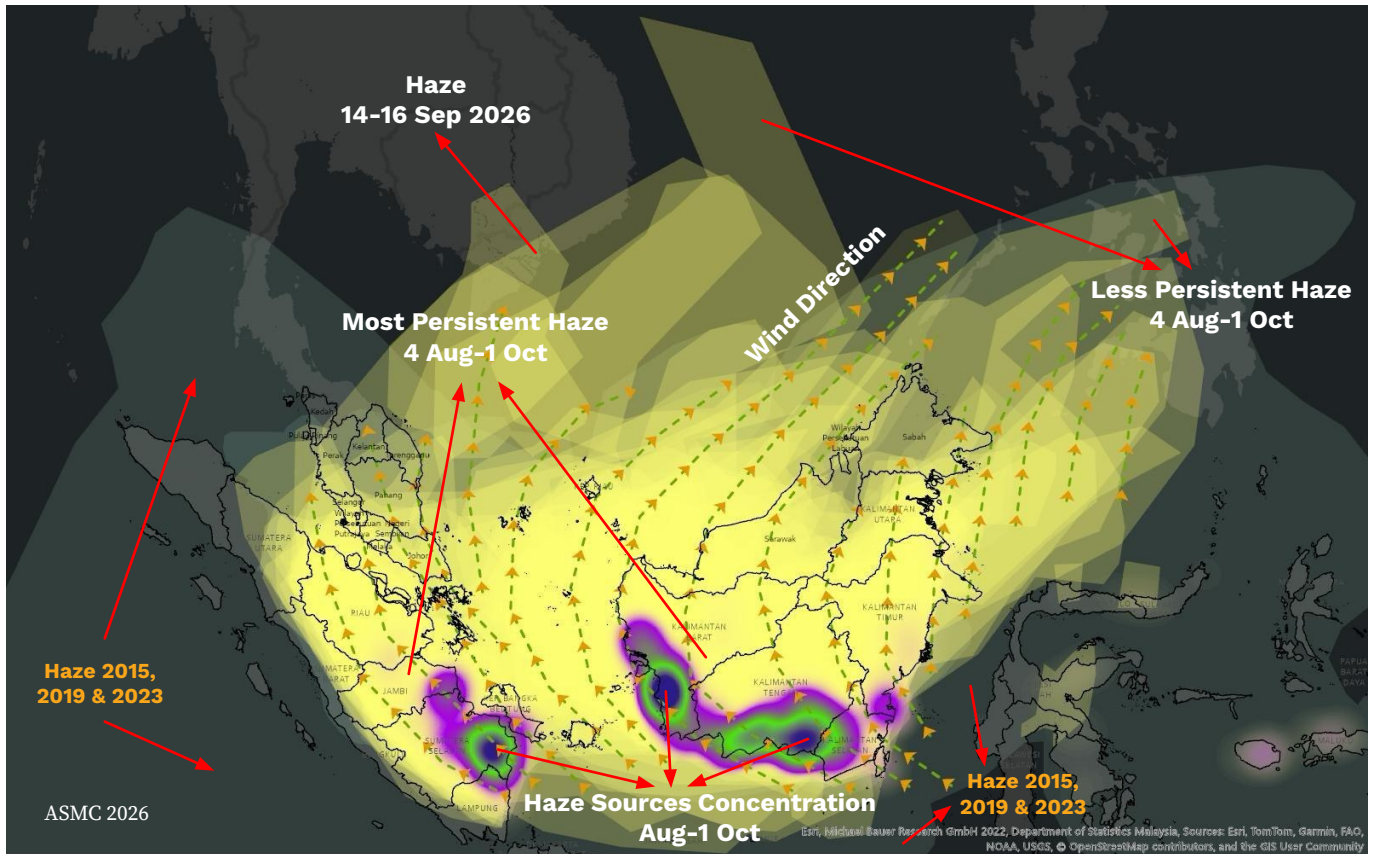


Figure: Haze distribution maps for 2015, 2019, 2023 and 2026, and wind direction from 4 August to 1 October 2026



Greenpeace Indonesia's Tim Cegah Api (Fire Prevention Team) uses a hose for extinguishing a peatland fire in Sungai Raya Dalam, Kubu Raya Regency, West Kalimantan. 11/08/2026. © Stefanus Taman / Greenpeace

ASEAN Transboundary Haze Pollution Act

For more than two decades, ASEAN has had the ASEAN Agreement on Transboundary Haze Pollution (AATHP), yet transboundary haze keeps recurring. The problem is not the absence of legal principles. Article 3 of the AATHP affirms the responsibility of states to ensure that activities within their jurisdiction or control do not cause environmental damage or endanger human health in other states, while also requiring precautionary measures.

The AATHP has also provided mechanisms for monitoring, prevention, preparedness, and emergency response. But what remains weak is how those principles are translated into prevention, attribution of responsibility, corporate accountability, and redress for transboundary victims.

Therefore, ASEAN needs to shift its approach from merely responding to haze towards accountability for the sources of damage. Investigations must not stop at who is seen setting fires, but must trace land governance, peat drainage and degradation, concession management, corporate prevention obligations, state oversight, and failures of law enforcement.

The chain of accountability must be clear: from evidence → attribution → obligations and breaches → damage assessment → restoration → through to the restoration of victims' rights. In this framework, responsibility lies not only with states, but also with corporations that control or manage areas at risk of causing transboundary impacts.

ASEAN's commitment to the right to a safe, clean, healthy and sustainable environment, affirmed in the 2025 ASEAN Declaration, must serve as the basis for strengthening these mechanisms. ASEAN needs to build regional fact-finding, strengthen transboundary environmental impact assessment, strengthen cooperation on tracing and corporate accountability, and open access for affected communities to information, participation and justice. The principles in the judgments in Pulp Mills (2010) and Costa Rica v. Nicaragua (2018) also show that the prevention of transboundary harm, the assessment of environmental damage, and restoration are legal matters that can be tested, not merely matters of politics or diplomacy.

Haze knows no national borders. For that reason, ASEAN's law, accountability, and environmental justice must also not stop at national borders. ASEAN needs a regional mechanism that can link information, evidence, corporate and state responsibility, protection of affected communities, and environmental restoration. If damage can move across borders, the responsibility to prevent and remedy it must also be able to work across borders.



Peatland fires within the PT Bintang Harapan Palma (BHP) area in Ogan Komering Ilir, South Sumatra. 24/09/2026. © Alif R Noudy Korua / Greenpeace

The Web of Corporate Entities in Forest and Land Fires

Forest and land fires cannot be separated from the activities of corporations that control and manage peatland areas. Peatland ecosystems that should be wet and waterlogged have in many places been turned into production areas through land clearing, canal construction and large-scale drainage. These practices alter the hydrological function of peat and make it ever easier to burn. Vulnerability to fire is not merely a matter of weather or community behaviour, but is also a consequence of a landscape management model that gives wide scope to agro-extractive activity.

 KHG NAME	 KHG CONDITION	 AREA	 NUMBER OF HAZE SOURCE POINTS	 HAZE DURATION (DAYS)
KHG Sungai Kahayan - Sungai Sebangau	HIGH CRITICAL	WEST, CENTRAL & SOUTH KALIMANTAN	508	28
KHG Sungai Sugihan - Sungai Lumpur	HIGH CRITICAL	RIAU, JAMBI SOUTH SUMATERA	255	29
KHG Sungai Pawan - Sungai Tolak	INTERMEDIATE CRITICAL	WEST, CENTRAL & SOUTH KALIMANTAN	236	22
KHG Sungai Pukun - Sungai Mentaya	HIGH CRITICAL	WEST, CENTRAL & SOUTH KALIMANTAN	219	24
KHG Sungai Buluh Besar	INTERMEDIATE CRITICAL	WEST, CENTRAL & SOUTH KALIMANTAN	168	23
KHG Sungai Pawan - Sungai Kepulu	INTERMEDIATE CRITICAL	WEST, CENTRAL & SOUTH KALIMANTAN	142	18
KHG Sungai Kahayan - Sungai Kapuas	HIGH CRITICAL	WEST, CENTRAL & SOUTH KALIMANTAN	115	19
KHG Sungai Katingan - Sungai Sebangau	INTERMEDIATE CRITICAL	WEST, CENTRAL & SOUTH KALIMANTAN	106	20
KHG Sungai Air Hitam Laut - Sungai Buntu Kecil	INTERMEDIATE CRITICAL	RIAU, JAMBI SOUTH SUMATERA	91	19
KHG Sungai Lamandau - Sungai Jelai	INTERMEDIATE CRITICAL	WEST, CENTRAL & SOUTH KALIMANTAN	84	20

Tabel: Top 10 KHG by distribution of haze source points and haze duration, 8 August–1 October 2026

Greenpeace's 2026 findings show an increasingly clear pattern. Of the 6,811 haze source points identified between 8 August and 1 October 2026, 970 points were inside 120 PBPH concessions and 980 points were inside 233 oil palm plantation concessions. A further 3,577 points were within 141 KHG, while 2,719 points were found in areas that had previously burned in 2015–2023. This concentration shows that fires do not occur merely sporadically but recur in the same landscapes and in areas that are partly held or managed by business entities. The more haze source points are found within an entity, particularly in peatland areas, the stronger the need to view the forest and land fire problem from the standpoint of land governance, the obligations of area managers and the effectiveness of state oversight.

Distribution of haze source points

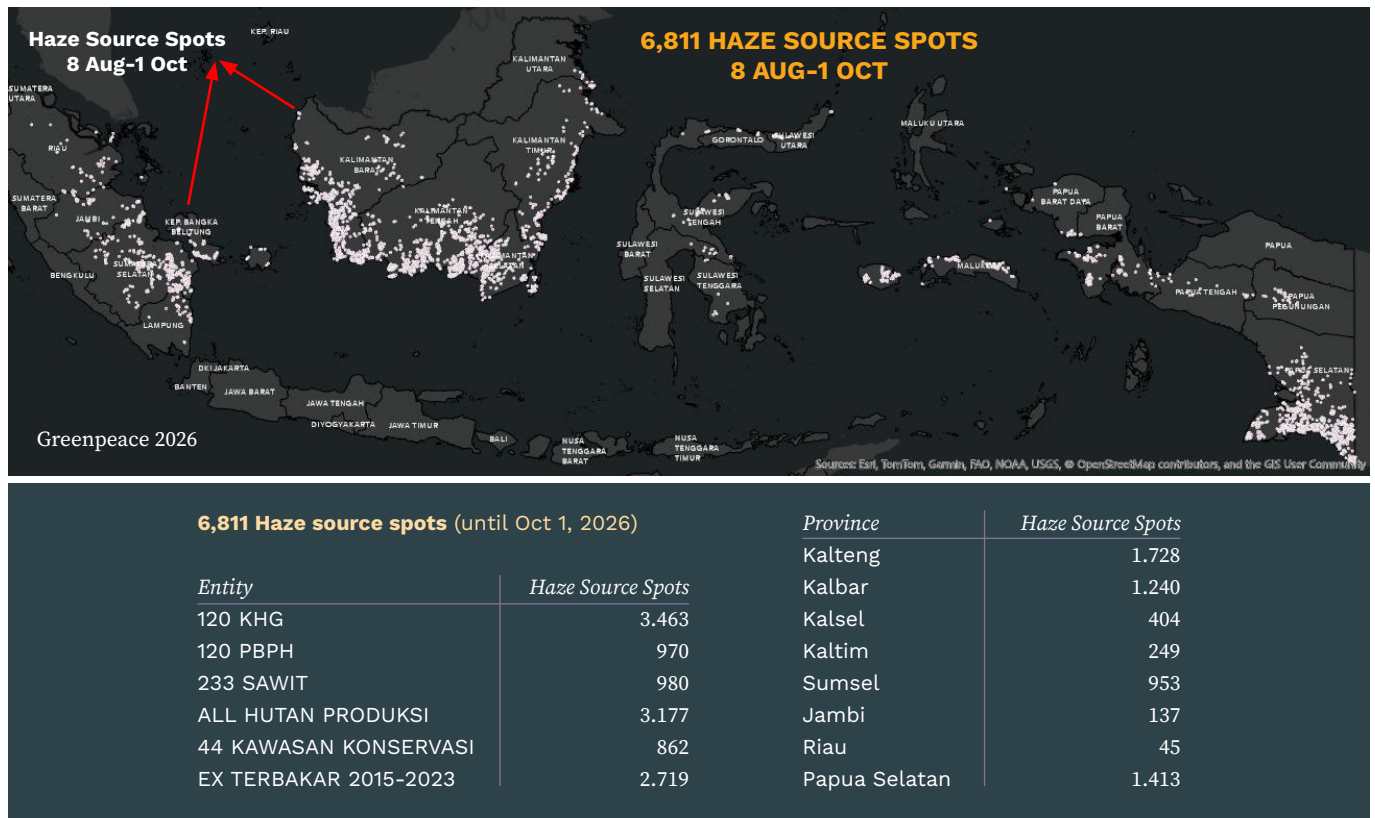


Figure: Distribution of haze source points, 8 August–1 October 2026

This problem is not a new phenomenon. Greenpeace's report on forest and land fires over the last five years¹³ shows that repeated fires were found inside both oil palm and pulp concessions. The report shows a number of companies with large burned areas in 2015–2019, including companies belonging to large business groups.

In several cases, fires occurred repeatedly within the same concession, while law enforcement and the imposition of sanctions were not always commensurate with the scale or frequency of the fires. Findings on the links between companies and business groups and employers' associations also show that the forest and land fire problem does not stop at the boundaries of a single business entity but is tied to a broader economic structure and industry governance. Thus, the experience of the last five years should serve as a lesson that tackling forest and land fires is not enough once the flames have appeared, but must begin with oversight of land-use change and of the ecological condition of areas under the control of business entities.

13 Greenpeace. 2020. *Karhutla dalam Lima Tahun Terakhir [Forest and Land Fires over the Last Five Years]*.

 PBPH CONCESSIONS	 GROUP	 HAZE SOURCE SPOTS	 HAZE DURATIONS (DAYS)
PT BUMI MEKAR HIJAU	Sinarmas	213	29
PT MOHAIRSON PAWAN KHATULISTIWA	YARI	66	12
PT SELARAS INTI SEMESTA	Medco	41	6
PT HUTAN KETAPANG IND (d.h. KERTAS BASUKI R)	Sampoerna Agro	36	10
PT HUTAN LESTARI RAYA		32	14
PT PLASMA NUFTAH MARIND PAPUA	Moorim	31	11
PT HERMES SUGAR INDONESIA	Hermes Distillery Private Limited	26	10
PT MAYAWANA PERSADA	RGE/Tanoto Family	26	7
PT INHUTANI I UNIT PULAU LAUT (SEMARAS)	GOVERNMENT	22	11
PT RIMBA MAKMUR UTAMA		21	5
PT TELUK BINTUNI MINA AGRO KARYA		18	8
PT ARFAK INDRA		17	9
PT CIPTAMAS BUMI SUBUR		17	3
PT SUMATERA ALAM ANUGERAH		17	8
PT BARATAMA PUTRA PERKASA		15	4
PT SBA WOOD INDUSTRIES		14	5
PT BUANA MEGATAMA JAYA		14	10
PT PARAMITRA MULIA LANGGENG		14	10
PT RIMBUN SERUYAN		11	8
PT JAYA BUMI PASER		11	9

Tabel: The 20 PBPH entities with the largest number of haze source points, August–1 October 2026

 PALM OIL CONCESSIONS	 PO GROUP	 HAZE SOURCE SPOTS AUG-1 OCT	 HAZE DURATIONS (DAY)
PT Mekar Karya Kahuripan	Makin	52	12
PT Damai Agro Sejahtera	Bumitama	48	11
PT Sinar Karya Mandiri	Palma Agro Lestari	40	12
PT Abadi Mulia Sentosa		32	10
PT Arrtu Energie Resources	Rajawali/Eagle High	32	11
PT Hardaya Sawit Papua Plantation	Murdaya family/ Central Cipta Murdaya	31	8
PT Karya Luhur Sejati	Best International/ Best Agro Plantation	29	10
PT Sebukit Inter Nusa		26	6
PT Kayung Agro Lestari	Austindo Nusantara Jaya	25	7
PT Samora Usaha Jaya	Sungai Budi/Tunas Baru Lampung	20	7
PT Jalin Vaneo	Pasifik Agro Sentosa	19	11
PT Menteng Jaya Sawit Perdana	Kuala Lumpur Kepong (KLK)	19	6
PT Campang Tiga	Campang Tiga	19	10
PT Anugerah Palm Indonesia	Barito Pacific	18	6
PT Sawit Makmur Sejahtera	Carson Cumberbatch/ Goodhope Asia Holdings	17	4
PT Russelindo Putra Prima	Mugan	14	8
Koperasi Tanjung Pawan Mandiri		12	4
PT Proteksindo Utama Mulia	Cempaka Mas Abadi	11	3
PT Sinar Fajar Dua Ribu Lestari		10	9
PT Cipta Karsa Kahuripan		10	3

Tabel: The 20 oil palm concession entities with the largest number of haze source points, August–1 October 2026



■ A general view of a wildfire in Ogan Ilir, South Sumatra.
28/08/2026. © Abriansyah Liberto / Greenpeace

This year's fires in South Papua, particularly in Merauke Regency, bring a new and worrying dimension. Greenpeace recorded 1,413 haze source points in South Papua up to 1 October 2026. A number of haze source points were detected in two large conservation areas in Merauke, a region that is currently being pushed to become a hub for land-based National Strategic Projects (PSN).

Specifically, Greenpeace monitoring up to 1 October 2026 found 294 haze source points in the Ministry of Defence's Forest Area Release (PPKH) area, precisely around a 135 km access road whose permit was issued by the Ministry of Forestry. These fire points lie in locations designated for the sugarcane PSN, an area that is administratively recorded as not yet operating but that burned in August–September 2026.

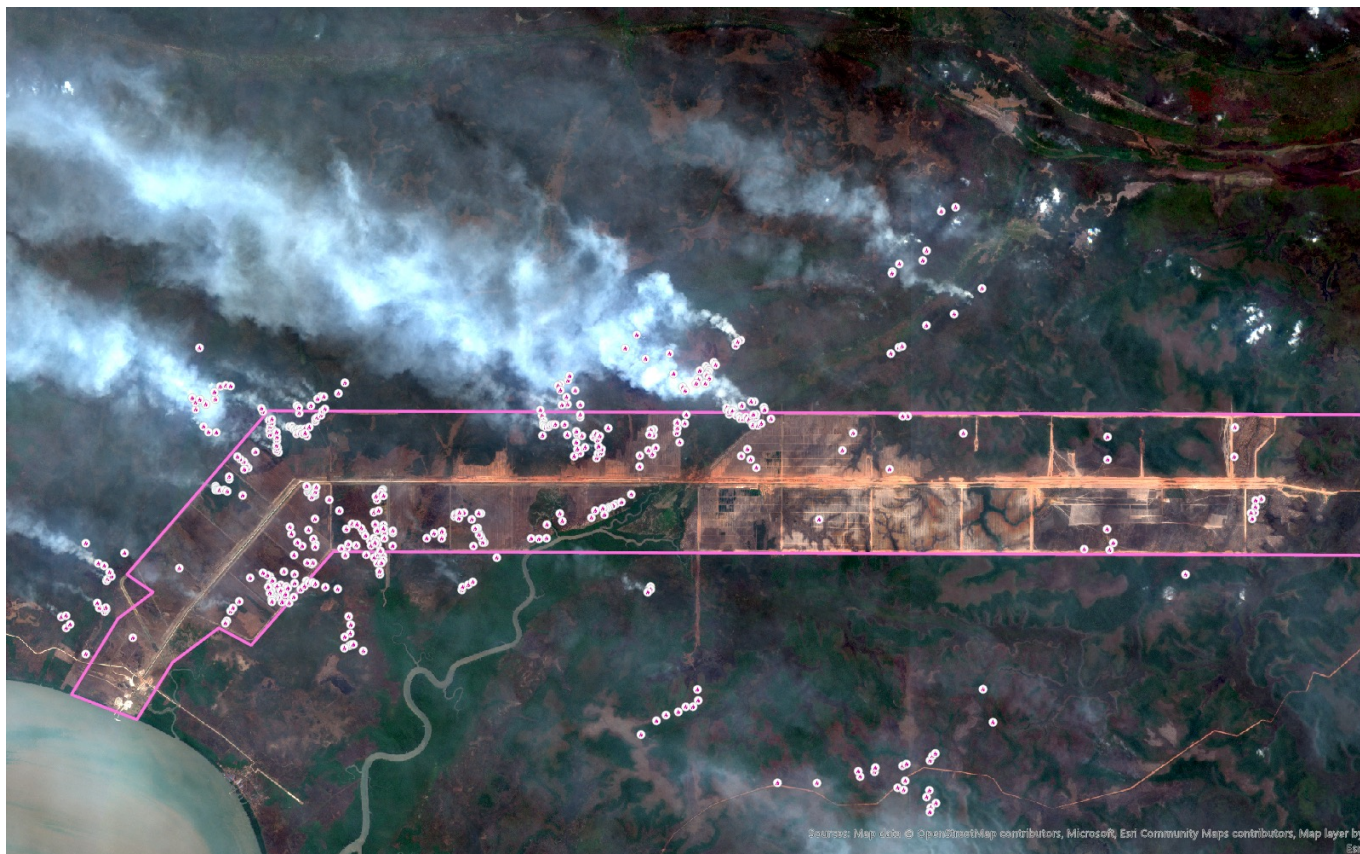
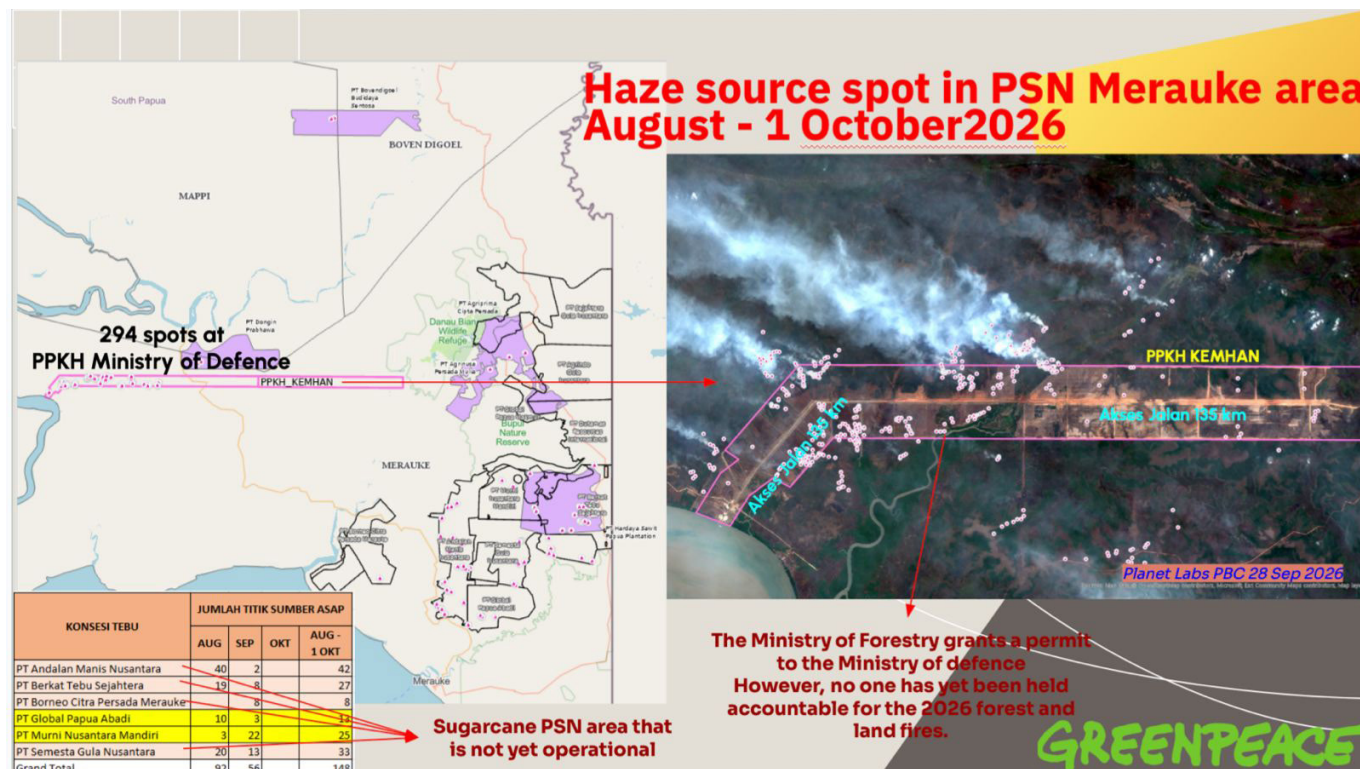


Figure: Haze source points in the Ministry of Defence PPKH area – Wanam, up to 1 October 2026. Source and distribution of haze from Sentinel-2 imagery dated 28 September 2026.



The Merauke case proves that the expansion and change of function of areas for large-scale development often become a main trigger of forest and land fires. When the expansion of land-based PSN runs alongside the emergence of fires, the state must not reduce this problem to an ordinary fire crisis. The state is obliged to investigate the control of the area, reveal the ecological changes that have occurred, demand the strict liability of the managing entities, and guarantee comprehensive protection for Indigenous Peoples and ecosystems before these projects proceed.

Peatland Fire Emissions and the Climate Crisis

Peatland fires are not only a matter of forest loss and the appearance of haze. Fires also release very large quantities of carbon emissions, so peatland fires cannot be separated from the climate crisis. Greenpeace Indonesia data show that, as of 1 October 2026, Indonesia is the country with the second-highest carbon emissions in the world this year from fires. The provinces with the highest fire emissions are Central Kalimantan, West Kalimantan and South Sumatra¹⁴.

As of 1 October 2026, Indonesia's fire emissions are estimated to have reached 126.88 million tonnes of CO₂e. Central Kalimantan contributed around 47 million tonnes of CO₂e, even above fire emission levels in 2019 and 2015. West Kalimantan reached 31.4 million tonnes of CO₂e, also higher than in 2019 and 2015. South Sumatra reached 20.58 million tonnes of CO₂e. These figures show that the 2026 forest and land fires are not merely a haze disaster but have become a highly significant source of climate emissions.

The scale of these emissions is closely related to the character of peat fires. When peat, which stores carbon in large quantities, is drained and then burns, carbon stored for hundreds or even thousands of years is released into the atmosphere within a short time. This means that peatland damage creates a vicious circle: peat is drained and becomes prone to burning, fires produce large emissions, and those emissions in turn worsen the climate crisis, which then increases the risk of hot and dry conditions.

For this reason, tackling the climate crisis cannot be limited to national emission reduction targets. Peatland protection and the prevention of forest and land fires must be placed as an important part of Indonesia's climate policy. The government needs to stop practices that cause peat to keep being drained and degraded, restore damaged ecosystems, strengthen the protection of vulnerable areas, and ensure that corporations and concession holders carry out their prevention obligations. Allowing peat to keep burning means allowing one of the major sources of emissions to keep recurring while at the same time deepening the impacts of the climate crisis.

14 <https://atmosphere.copernicus.eu/>

Fires and Their Links to Malaysian and Singaporean Entities

Another dimension that needs attention is the involvement of foreign business groups that own or control plantation companies in Indonesia. Greenpeace's 2026 monitoring data show that, among the 20 plantation concessions with the most haze sources, a number are explicitly linked to business groups based in Singapore and Malaysia. Among these concessions is PT Damai Agro Sejahtera, which is affiliated with Bumitama Agri Ltd, an oil palm company headquartered in Singapore. During August–September, 29 haze source points with a haze duration of 7 days were recorded in this concession, specifically from 21 August to 11 September 2026. Meanwhile, in the concession of PT Kayung Agro Lestari, which is associated with First Resources/ANJ/Fangiono and Singapore-based business groups, 25 haze source points were detected over 7 days, from 8 August to 10 September 2026, and around 487 hectares of burned area were recorded in July–August 2026, based on data from Atlas Nusantara/The TreeMap.

Links with Singapore are also evident in several other concessions. PT Mitra Karya Sentosa, which is recorded as falling under the Fangiono Family/First Resources, has a connection to Singapore through its parent company, First Resources Ltd. This concession recorded 10 haze source points over six days, from 10 August to 11 September 2026.

Meanwhile, PT Arjuna Utama Sawit, which is recorded as part of First Borneo Plantations (FBP) and identified as an oil palm plantation company originating from Singapore, had 8 haze source points over three days, from 29 August to 11 September 2026. Thus, at least four concessions have been identified as having corporate links to Singaporean business groups, and all of them show the presence of haze source points.

As for links with Malaysia, these are seen in PT Menteng Jaya Sawit Perdana, part of the Kuala Lumpur Kepong (KLK) Group, a plantation group from Malaysia. This concession recorded 19 haze source points over 6 days, from August to 1 October 2026.

These 2026 findings also need to be read together with data from the previous five years, which show that Genting Plantations and TSH Resources, both Malaysian business groups, hold concessions in Indonesia with a record of burned areas in 2015–2019. Genting is recorded as having around 17,700 hectares of burned area, while TSH Resources, through PT Bulungan Citra Agro Persada, is recorded at around 6,100 hectares in that period.



This series of data shows that the forest and land fire problem has dimensions that cut across jurisdictions and ownership structures. On the one hand, the land and concessions are in Indonesia, and the concession-holding business entities in Indonesia have the direct obligation for environmental management. On the other hand, a number of these concessions are part of business groups that are based in, or linked to, Malaysia and Singapore. This is all the more important because haze originating in Indonesia also moves across national borders. In the 2026 monitoring, Singapore was recorded as affected by haze for 3 days, while Malaysian regions such as Sarawak experienced exposure for 46 days and Sabah for 11 days up to 20 September 2026. Thus, regional corporate links need to be examined, not to generalise that foreign companies are the cause of the fires, but to ensure ownership transparency, the tracing of responsibility up to the level of the business group, oversight of concessions, and accountability mechanisms when activities or land management in Indonesia produce ecological impacts and transboundary haze.



✶ An aerial view of Masjid Raya Mujahidin in Pontianak, surrounded by haze caused by peatland fires. 19/09/2026. © Alif R Noudy Korua / Greenpeace



■ An aerial drone view shows haze from Wildfires blanketing Palembang, South Sumatra. 30/08/2026.
© Abriansyah Liberto Korua / Greenpeace

Demands

Indonesia

- **The Indonesian government must stop the exploitation of peatland landscapes and rehabilitate degraded peatland landscapes**

The government must stop the exploitation of peatland and focus on rehabilitating peatland that has been damaged, so that recurring forest and land fire events do not happen again. Peatland's ecological function as a natural regulator of water systems must be restored. Draining peat for large-scale agro-extractive business activity will only worsen environmental impacts and accelerate the process of forest and land fires.

- **The Indonesian government must review the National Strategic Project (PSN) policy**

The policy and implementation of PSN in peatland ecosystem areas must be reviewed. PSN must not sacrifice environmental standards because of the wide latitude given to nationally scaled projects by the Omnibus Law on Job Creation. Every project, whether registered as a PSN or not, must be subject to strict environmental standards. This is important to prevent over-exploitation that results in ecological disasters, as occurred in the Central Kalimantan food estate project and the National Food, Water and Energy Hub Area in South Papua.

- **Corporations must bear strict liability for their concession areas**

Corporations bear strict liability for their concession areas and must immediately address damage to peatland ecosystems in accordance with the prescribed standards. This includes the comprehensive restoration of ecosystems.

- **Financing institutions must tighten environmental audits**

Financing institutions must impose restrictions on companies recorded as having destroyed peatland ecosystems and forests. Strict environmental audits must be carried out before such companies can access new financing. The risks of peatland damage include potential lawsuits arising from regulatory non-compliance, and environmental impacts such as forest and land fires and floods that deepen the crisis.

- **The government must fulfil the principle of state responsibility**

State responsibility, as represented by the government, is regulated in Article 2 of Law No. 32 of 2009 on Environmental Protection and Management (PPLH Law). This obligation means that the government cannot simply neglect peatland protection or pass it on to society.

Malaysia

- **Enact Clean Air Act to address transboundary haze pollution**

As recommended by the Human Rights Commission of Malaysia (SUHAKAM) in its Right to Clean Air report¹⁵, Malaysia should enact a comprehensive Clean Air Act that addresses transboundary air pollution. Such legislation could hold Malaysian citizens and businesses accountable when their overseas operations contribute to haze pollution, deter irresponsible practices that increase the risk of fires, and reinforce public confidence that environmental responsibility extends across borders. Malaysia has previously acknowledged that cross-border environmental legislation is possible and recently mulls special law to handle transboundary haze. The opportunity now is to build on this recognition and take the necessary steps to turn it into reality.

- **Driving Responsible Business Practices**

The haze crisis is also a matter of corporate accountability and governance. Some companies with Malaysian interests operating in the region have faced scrutiny over activities linked to peatland degradation and increased fire risks. This highlights the importance of strong environmental governance and accountability throughout supply chains. Malaysia can demonstrate regional leadership by promoting responsible plantation practices and ensuring that Malaysian-linked companies uphold the highest environmental standards wherever they operate. Strong accountability measures can strengthen public trust, improve market confidence and reinforce Malaysia's reputation as a responsible and sustainable producer in global markets.

15 SUHAKAM. 2024. *Silent Enemy: Report on Haze Pollution and The Right to Clean Air*

- **Champion Environmental Rights in ASEAN**

While the ASEAN Agreement on Transboundary Haze Pollution remains an important framework, further efforts are needed to address recurring haze episodes. Malaysia can continue to play a constructive role in advancing environmental rights, regional cooperation and accountability across Southeast Asia. The National Action Plan on Business and Human Rights and the National Planetary Health Action Plan are putting Malaysia on the right track. Strengthening these efforts helps prevent cross-border environmental harm, improve corporate accountability and better protect communities from pollution and ecological degradation.

Singapore

- **Make stronger use of the Transboundary Haze Pollution Act.**

Singapore passed the above Act in 2014 to deter firms or entities in or outside Singapore from carrying out activities that contribute to transboundary haze affecting Singapore. However, it has not been used in past years, and no companies have been fined or prosecuted under the Act.

- **Implement stronger environmental disclosure requirements for companies listed in Singapore.**

Companies like Wilmar and Sinar Mas, which have been linked to large-scale deforestation due to palm oil and pulp and paper plantations, are listed on the Singapore Exchange. If Singapore wants to position itself as a responsible stakeholder in the region, it should set an example by ensuring that these companies are held accountable. This can be done through mandatory disclosure and requirements for supply chain traceability, enforced through trading suspension or delisting.

- **Provide more support to communities affected by the haze and fighting peatland fires.**

The Singapore government should provide resources to allow faster response and more support for firefighting in the immediate term, while in the long term, collaborate with local communities to encourage sustainable livelihoods such as agroforestry, which can also protect and restore peatlands.

ASEAN

- **Integrate environmental rights into ASEAN's frameworks**

Adopt the right to a clean, healthy and sustainable environment into ASEAN's human rights framework, in order to align regional standards with international regulation and to strengthen the handling of specific issues such as transboundary haze, the enforcement of business accountability, and information disclosure by state actors.

- **Strengthen national and regional legal commitments**

Strengthen the formulation of environmental legislation at the national level in ASEAN member states and overhaul the AATHP framework to set binding legal standards for realising ASEAN citizens' fundamental right to a healthy living environment free from air pollution, for both state actors and business actors.

- **Promote the rule of law and its implementation**

Encourage the translation of ASEAN regional agreements into binding domestic policy, in order to bridge the links between human rights, environmental governance and accountability mechanisms at the national and regional levels, for both state actors and business actors.

Corporations: Strengthen NDPE and Measurable Corporate Accountability

Companies should strengthen No Deforestation, No Peat and No Exploitation (NDPE) standards across their operations, subsidiaries and supply chains including overseas operations. Companies should be required to:

- Disclose annually concession boundaries, beneficial ownership, suppliers, fire incidents and NDPE compliance.
- Monitor and report hotspots, burn scars, peatland conditions and fire-prevention measures within their concessions and supply chains.
- Investigate reported fires and NDPE breaches within defined timelines and publicly disclose findings and corrective actions.
- Remediate verified impacts, including restoration of affected forests and peatlands and remedy for affected communities where appropriate.
- Suspend or terminate non-compliant suppliers that fail to implement corrective actions within specified deadlines.
- Undergo regular independent verification against publicly available NDPE indicators and targets.



▶ A member of Local CSO Rawang and a volunteer with Greenpeace Indonesia's Fire Prevention Team, holds a banner reading "Forest Not Fires" in the PT Bintang Harapan Palma (BHP) concession area in Ogan Komering Ilir, South Sumatra. 24/09/2026. © Alif R Nouddy Korua / Greenpeace