

Burning down the house

How Unilever and other global brands continue to fuel Indonesia's fires



12 September 2019, PT Globalindo Agung Lestari, 2°29'21.79" S 114°34'39.54" E: Greenpeace Southeast Asia team documents burning peatland at a sanctuary reserve area inside an oil palm concession owned by the Malaysian company Genting Plantations Berhad that has been sealed by the KLHK for investigation. All of the consumer companies and traders reviewed for this report are supplied by Genting. ©Sukarno/Greenpeace

‘Our dependency on nature is critical, and the urgency to preserve it is an imperative. Better forest protection and land management will be fundamental to delivering the Paris Agreement. For this to happen, we need to transform how we produce and consume – and businesses that don’t step up won’t have a future.’¹

Alan Jope, Unilever CEO, UN Climate Action Summit on 23 September 2019



21 September 2019, PT Kaswari Unggul, 1°17'50.699" S 103°45'41.92" E: An excavator at work in the haze from peatland fires in the PT Bukit Barisan Indah Prima concession in Jambi. The plantation company is currently facing civil court action. PT Kaswari Unggul is named as a supplier to Unilever, Mondelēz, Nestlé and Procter & Gamble as well as Wilmar, GAR and Cargill.

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¹ Jope A (2019)

Key findings

Leading consumer goods companies Unilever, Mondelēz, Nestlé and Procter & Gamble (P&G), as well as top palm oil traders including Cargill, GAR, Musim Mas and Wilmar, are purchasing palm oil originating with producers linked to scores of fires in Indonesia this year, as research by Greenpeace International² shows. The findings also connect these traders and consumer companies – widely considered ‘sustainability leaders’ on palm oil – directly to palm oil operations that have been subject to court action, administrative sanctions or other government intervention as a result of fires.

Findings include:

- Up to 10,000 fire hotspots have already been detected across the operations of palm oil producer groups supplying Unilever, Mondelēz, Nestlé and P&G in 2019.
- Unilever is supplied by palm oil groups responsible for nearly 180,000 hectares (ha) of burned land between 2015 and 2018, and its named suppliers include eight plantation companies with court actions or sanctions against them and 20 companies whose operations have been sealed for investigation as a result of the 2019 fires.
- Wilmar – the world’s largest palm oil trader – is supplied by palm oil groups responsible for more than 140,000 ha of burned land between 2015 and 2018 and nearly 8,000 fire hotspots to date in 2019.
- All of the 30 palm oil producer groups most closely linked with Indonesia’s ongoing fires crisis trade in the global market.
- Of the fire hotspots detected during the first nine months of 2019 in these 30 producer groups’ concessions, three-quarters were in operations controlled by producer groups that are members of the Roundtable on Sustainable Palm Oil (RSPO).³

The present analysis almost certainly underestimates both the extent of producer group responsibility for fires and the exposure of traders and consumer goods companies to palm oil linked to environmental destruction. Overall, the accuracy and comprehensiveness of publicly available data on the boundaries and corporate ownership of palm oil concessions are variable. This is a result of corporate and government foot-dragging and failure to systematically address the need for transparency. The official fire hotspot and burn scar data used may also contain inaccuracies. Furthermore, traders’ and consumer goods companies’ supply chain disclosures are expressed in terms of the mills that supply their palm oil, rather than the concessions that supply the raw material (fresh fruit bunches) to those mills, meaning that not all links to concessions, and the producer groups that control them, can be established. See ‘The issue of transparency’ and Annex 1 below for further discussion.

² In this report, mentions of ‘Greenpeace’ should be read as references to Greenpeace International unless otherwise indicated.

³ For details about the RSPO and its role in the industry, see RSPO website ‘About’.

Table 1: Supply chain links to palm oil producer groups most implicated in the fires crisis

X = link revealed in latest trader or brand supply chain disclosures

O = link revealed in latest trader or brand supply chain disclosures but more recent evidence (eg grievance list) suggests purchases may have been suspended⁴

	Traders				Consumer goods companies			
	Cargill	GAR	Musim Mas	Wilmar	Mondelēz	Nestlé	P&G	Unilever
Producer group								
Agro Inti Semesta	X			X	X	X		X
Astra Agro Lestari	X	X	X	X	X	X	X	X
Austindo Nusantara Jaya (ANJ)					X	X	O	O
Bakrie	X	X	X	X	X	X	X	X
Best Agro Plantation					X			
Bumitama	X	X	X	X	X	X	X	X
Citra Borneo Indah								X*
Fangiono family	X		X	X	X	X	X	X
Gagah Putera Satria	X	X			X	X		X
Gama	X*	X	X*	X	X	X	X*	X
Genting	X	X	X	X	X	X	X	X
IOI	X	X	X	X	X	X	X	X
Jaya Agra Wattie	X	X			X	X		X*
Korindo						X*		X*
Kuala Lumpur Kepong (KLK)	X		X	X	X	X	X	X
Matahari Kahuripan Indonesia (Makin)	X	X	X	X	X	X	X	X
Musim Mas	X		X		X	X	X	X
NPC Resources	X			X	X	X	X	X
Pasifik Agro Sentosa	X		X	X	X	X	X	X
Perkebunan Nusantara	X	X	X	X	X	X	X	X
Rachmat	X	X	X	X	X	X	X	X
Rajawali/Eagle High	X	X	X	X	X	X	X	X
Salim	X*		O		X	X*	O*	X*
Sime Darby	X		X	X	X	X	X	X

⁴ It remains to be seen whether suspension or 'no purchasing' commitments extend to all levels of the supply chain, given that there are known failures in accurate identification of producer groups.

Sinar Mas/GAR	X	X	X	X	X	X	X	X
SIPEF	X	X	X	X	X	X	X	X
Sungai Budi/Tunas Baru Lampung	O		O		X	X	X	O*
Tianjin Julong	X	X			X	X	X	X
TSH Resources	X			X	X	X	X	X
Wilmar	X			X	X	X	X	X

* See Annex 3 for further details.

Table 2: Summary of supply chain links to fires: numbers represent the total number of hotspots recorded, area of fires, number of concessions with court actions or sanctions against them and number of sealed concessions relating to the producer groups in Table 1 and associated with each palm oil trader's or consumer goods company's supply chain

	Fire hotspots in 2019 (to 30 September)	Total area of fires 2015–2018 (ha)	Links via producer group to actioned/sanctioned plantation companies	Actioned/sanctioned plantation companies named as suppliers in mill lists	Sealed concessions in direct supply chain in 2019
Traders:					
Cargill	8,800	161,300	19	8	17
GAR	6,300	106,600	14	4	12
Musim Mas	6,600	116,400	11	2	9
Wilmar	7,900	141,200	12	4	13
Consumer goods companies:					
Mondelēz	9,900	186,200	19	5	19
Nestlé	9,700	190,500	20	10	21
P&G	8,400	152,000	14	6	15
Unilever	8,900	179,500	20	8	20

Introduction



9 August 2019, Palangkaraya, Central Kalimantan. ©Ifansasti/Greenpeace

From Brazil to the Boreal to Borneo, the world's forests are on fire, fanned by unrelenting growth in the food, energy and other industrial sectors' demand for natural resources and agricultural commodities. These fires, often set deliberately to clear land for plantation or agriculture, are a massive wake-up call that shows just how deeply these sectors are implicated in climate and ecological breakdown. Thanks largely to them, our global economy is burning down the house that we all live in.

Over the past decade there have been numerous commitments from industry to 'responsibly' source high-risk commodities (commodities whose production presents an elevated risk to forests and other ecosystems). Ten years ago, the Board of the Consumer Goods Forum (CGF), which represents over 400 leading retailers and manufacturing companies, made a commitment to achieve zero deforestation in its members' supply chains by 2020.⁵ Five years ago, more than 150 companies came together with governments, indigenous peoples and civil society organisations to sign the New York Declaration on Forests (NYDF), promising to eliminate deforestation for commodities including soya, cattle, palm oil and wood products (including timber, pulp, and paper) by the same date.⁶

In September 2019, the NYDF's official assessment concluded that achieving this goal is now 'likely impossible' because 'efforts to date have been inadequate to achieve systemic change'.⁷ This finding comes as no surprise. As reports by Greenpeace⁸ and other non-governmental organisations (NGOs) have repeatedly shown, private-sector initiatives and 'step-wise' efforts to clean up supply chains have singularly failed to deliver adequate results for forests, the climate or human rights.

The palm oil sector – one of the very few industry sectors to make serious-sounding public commitments to reform – has dithered for a decade, despite the efforts and hand-holding of numerous NGOs and money spent on sustainability consultants and flashy initiatives.

In January 2019, Greenpeace agreed to engage with the sector's so-called 'sustainability leaders' – Wilmar, Unilever and Mondelēz – to deliver what should have been a ground-breaking leap forward for the sector and for commodities trade generally: a credible, transparent and independent supply chain monitoring platform. Done properly, such a platform would enable consumer companies and traders to demonstrate publicly the extent to which their supply chains are free from palm oil originating with producer groups⁹ linked to deforestation, fires, human rights abuses or illegality. Greenpeace saw this initiative as the last chance for the palm oil industry and these leaders to demonstrate their willingness to eliminate deforestation before the 2020 deadline that companies agreed to back in 2010.

⁵ Consumer Goods Forum website 'Towards zero net deforestation'

⁶ New York Declaration on Forests website 'Home'

⁷ NYDF Assessment Partners (2019) p14

⁸ See eg Greenpeace (2018a,b,c,d) and Greenpeace (2019).

⁹ The compositions of many of these groups, and the rationale behind Greenpeace's interpretation of them (in general terms and individually), are set out in Greenpeace (2018b). The concept of a group goes beyond formal parent–subsidiary company relationships, taking into account not only common ownership but also shared financial, managerial and/or operational control. See Annex 2 for details on the producer groups discussed in this report.

In August, however – just before fires again engulfed large swathes of Indonesia, Singapore, Malaysia and the Philippines in haze,¹⁰ putting nearly 10 million children at risk from air pollution¹¹ – Greenpeace took the difficult decision to step back from the process. Nearly eight months of discussions had failed to deliver agreement on even the most basic elements of a credible, transparent and independent monitoring platform, due in large part to the lack of serious commitment by the companies.

Consumer companies such as Unilever and traders such as Wilmar are telling the world that they have made great progress towards cleaning up their supply chains and supporting transparency. The reality – as Greenpeace analysis shows – is that they are failing. Companies linked to Indonesia’s devastating forest and peatland fires still pervade the supply chains of all the major traders and consumer goods companies, including these so-called ‘sustainability champions’. The producer groups responsible include companies convicted by the Indonesian courts or sanctioned by the government, many of which have failed to pay the compensation ordered to restore the burned areas (see below).

The conclusion is stark: the palm oil sector – like the other high-risk commodity sectors – has been unwilling to reform. It is part of a broken global food and agriculture system.

The proposition that step-wise voluntary market-driven initiatives will lead to change has simply proven to be wrong. Failure to end both deforestation and the setting of disastrous forest and peatland fires – which together are wrecking our chances of preventing climate breakdown – must have serious consequences. Time is up for the trade in commodities produced by groups still engaged in environmental devastation.

Companies need to fundamentally change their business models to prevent a climate and biodiversity catastrophe and support human rights. The onus is on consumer companies that use high-risk commodities such as, but not limited to, beef, palm oil, paper/pulp and soya to demonstrate that their supply chains are free from deforestation. Companies like Unilever that use palm oil in their products thus face a stark choice: either they must force Cargill, Golden Agri-Resources (GAR), Musim Mas, Wilmar and other traders to limit their sourcing to what they can publicly demonstrate does not come from groups responsible for forest or other environmental destruction, or – if they are unwilling or unable to do what is needed to fix the global commodities trade – they must avoid such high-risk commodities entirely. Additionally, to transition to a new ‘commodities that protect forests’ business paradigm, they need to provide financing and support for forest and natural ecosystem conservation and restoration.

¹⁰ See eg Reuters (2019) and Gomez J & Armini N (2019).

¹¹ Agence France-Presse (2019)

How the palm oil sector is burning down the house



2 September 2019, PT Globalindo Agung Lestari, 2°28'54.079" S 114°34'58.08" E: Greenpeace Southeast Asia team takes temperature measurements inside an oil palm concession owned by the Malaysian company Genting Plantations Berhad that has been sealed by the KLHK for investigation.

All of the consumer companies and traders reviewed for this report are supplied by Genting.

©Sukarno/Greenpeace

The fires that ravaged Indonesia in 2015 are considered one of the greatest environmental disasters of the 21st century so far. The World Bank estimates that the 2015 fires crisis cost Indonesia's economy US\$16 billion in losses, an amount 'larger than the estimated value added from Indonesia's 2014 gross palm oil exports (US\$8 billion) and the value added from the country's entire 2014 palm oil production (US\$12 billion)'.¹² The 2015 haze caused respiratory and other illnesses in hundreds of thousands of people across the region and, according to one study, likely led to over 100,000 premature deaths.¹³

The Indonesian government responded with a series of commitments to prevent another such crisis and promised to hold to account those responsible, including companies that had fires on their land.¹⁴ Indonesia has strict corporate liability in relation to forest fires, meaning that forestry, plantation or mining companies are legally responsible for any fires within their concessions, regardless of the ignition source.¹⁵

After three years during which fires had a relatively low impact, thanks in large part to the La Niña weather pattern which limited their spread,¹⁶ Indonesia is again at the centre of a full-blown fire and emissions crisis with global climate impacts. The country's National Disaster Management Board has reported that between January and September 2019 an estimated 857,000 ha of land burned, of which 227,000 ha were peatland.¹⁷ Peatland fires can persist, smouldering below the surface, and lead to massive releases of carbon into the atmosphere, according to the Copernicus Atmosphere Monitoring Service (CAMS).¹⁸ The most recent estimate of the total emissions from Indonesia's forest fires, based on the Global Fire Emissions Database (GFED), is 465 megatonnes (Mt) CO₂ for the period 1 January to 22 October 2019.¹⁹ This places 2019 as the third-worst year for fire-related emissions in the last decade, and the worst since 2015.²⁰ To give an idea of the scale of the crisis, this means that by 22 October Indonesia's 2019 fire emissions alone were approaching the United Kingdom's total annual greenhouse gas (GHG) emissions.²¹

¹² World Bank (2016) p2

¹³ Koplitz SN et al (2016)

¹⁴ Under the principle of 'strict liability' contained in the Environment Law (2009), companies are responsible for damage due to fires that occur on land which they control, regardless of whether the company can be proved to have contributed to them or not. Supreme Court Judge and spokesperson Andi Samsan Nganro confirmed this legal principle when commenting on the final decision in the PT National Sago Prima case on 2 January 2019: 'Basically companies are responsible for fires in accordance with the strict liability principle.' See Saputra A (2019). Also see Agustin H (2017).

¹⁵ The Forestry Law (49/1999) stipulates that 'Title or permit holders shall be responsible for any forest fire occurring in their working areas' (clause 49) and the Environment Law (32/2009) more generally provides for strict liability (*tanggung jawab mutlak*) without burden of proof (clause 88) and liability for negligence resulting in environmental damage (clause 99).

¹⁶ See eg Haniy SU et al (2019) and Jong HN (2017).

¹⁷ Halim D & Ristiano C (2019)

¹⁸ CAMS (2019)

¹⁹ Source: Global Fire Emissions Database, version 4 (GFED4), based on established statistical relationship between fire detections and emissions for specific ecoregions. C and CO₂ emission estimates are retrieved on a daily basis for Indonesia.

²⁰ Source: Global Fire Emissions Database, version 4 (GFED4).

²¹ The UK's total GHG emissions were 490Mt CO₂e in 2014. Source: ClimateWatch website 'Historical GHG emissions'.

During the 2019 fires, which were still burning in late October, large swathes of the country – and of its neighbours Singapore, Malaysia and the Philippines – were again engulfed in haze, turning skies blood red across parts of Sumatra²² and putting nearly 10 million children at risk from air pollution, according to the UN.²³ More than 900,000 people in Indonesia have reportedly suffered acute respiratory infections due to the smoke haze from the 2019 fires.²⁴ Officials admit that nearly all the fires ‘occurred due to human factors’.²⁵

In the present report, analysis by Greenpeace exposes those responsible for the palm oil industry’s contribution to Indonesia’s ongoing fires crisis, first identifying the producer groups most closely linked to the fires, then investigating whether palm oil from these groups is present in the supply chains of some of the most important traders and consumer goods companies. Among the key findings of Greenpeace’s analysis are that:

- Of the fire alerts (also known as fire hotspots, or FHS) recorded in the first nine months of 2019 in concessions belonging to the producer groups that Greenpeace has identified as being most strongly linked to the fires crisis, roughly three-quarters were associated with groups that are members of the industry’s sustainability body, the RSPO.
- Mondelēz, Nestlé, P&G and Unilever all buy palm oil sourced from the producer groups most heavily linked to the recurrent fires crises, which collectively have been implicated in thousands of fires this year alone.

²² Reuters (2019)

²³ Agence France-Presse (2019)

²⁴ Tempo.co (2019)

²⁵ Regan H (2019)

Producer groups most implicated in the 2019 fires

*'2019 has proven a challenging year in terms of forest and land fires due, again, to the combined factors of prolonged dry weather/drought, higher than average temperatures generally indicative of climate change, and a return by some actors to slash and burn practices in light of lower CPO prices and other economic factors.'*²⁶

Ian Suwarganda, Head of Policy & Advocacy, GAR, 7 November 2019

To identify the palm oil producer groups most strongly linked to the fires in the first nine months of 2019, Greenpeace used satellite data to map fire hotspots onto individual oil palm concessions (see Annex 1 for an explanation of the data sources and methodology). Greenpeace has consolidated this data to identify the palm oil producer groups with the largest numbers of fire hotspots in their associated concessions across Indonesia.

Greenpeace analysis has identified 21 palm oil groups with more than 250 fire hotspots (a threshold indicating considerable fire presence) across their operations between 1 January and 30 September 2019. In total, 145,275 hotspots were identified as occurring across Indonesia during this period, with 19.6% of these being located in palm oil concessions. Some 35% of the hotspots in palm oil concessions were accounted for by the 30 producer groups identified in this report as most strongly linked to the fires crisis – representing just under 7% of all the hotspots in this period.

Table 3: Palm oil groups with the highest number of fire hotspots in associated concessions

Palm oil group	Fire hotspots Jan–Sept 2019 (MODIS+VIIRS)
Rajawali/Eagle High	837
Genting	765
Rachmat/Amara, Dharma Satya Nusantara, Triputra Agro Persada (including Union Sampoerna Triputra Persada)	669
Bumitama	545
Sungai Budi/Tunas Baru Lampung	529
Gama	504
Perkebunan Nusantara	495
Gagah Putera Satria	426
NPC Resources	418
Fangiono family/First Resources, Fangiono Agro Plantation, Ciliandry Anky Abadi	359
Austindo Nusantara Jaya	346

²⁶ GAR (2019b)

Salim/IndoAgri, Indofood and IndoGunta	332
Bakrie	331
Sime Darby	325
Sinar Mas/GAR	323
Makin	310
TSH Resources	293
Wilmar	288
SIPEF	274
Tianjin Julong	263
IOI	251

Producer groups most strongly linked to burning in 2015–2018

Some 3.4 million ha of land burned at least once between the years 2015 and 2018 in Indonesia, according to Greenpeace analysis of official government burn scar data.²⁷ In 2015 alone more than 2.6 million ha burned. Counting repeated burns on the same land in different years takes the total area to over 3.7 million ha. Burned area mapping for 2019 was not available at the time of writing.

Table 4: Palm oil groups with most area burned in own concessions²⁸

Palm oil group*	Total area of fires 2015–2018 (ha), including repeat burns	Total land area affected by fire 2015–2018 (ha)	Approximate area burned more than once (ha)
Rachmat	18,400	14,300	4,100
Bakrie	18,200	16,500	1,700
Sungai Budi/Tunas Baru Lampung	17,800	16,500	1,300
Agro Inti Semesta	13,000	13,000	0
Korindo	11,500**	11,500	0
Genting	8,200	8,100	100
Salim	7,800	7,800	0
Gama	7,600	7,300	300
Fangiono family	7,400	6,800	600
SIPEF	7,300	7,300	0
Best Agro Plantation	7,200	6,200	1,000
Tianjin Julong	6,900	6,800	100
Citra Borneo Indah	6,800	6,800	0
Rajawali/Eagle High	6,200	6,000	200
Pasifik Agro Sentosa	6,200	5,800	400

²⁷ Greenpeace Southeast Asia (2019). The government data is available at <http://geoportal.menlhk.go.id/arcgis/rest/services/KLHK/>.

²⁸ Some data in this table does not match that used in Greenpeace Southeast Asia (2019). This is due to minor revisions to mapping following responses to the earlier report, and increased understanding of the control structure of some groups, which has led to treating some companies as one group (Rachmat) where they were previously viewed as four (Amara, DSN, Triputra Agro Persada and Union Sampoerna Triputra Persada). See Annex 2 for details. In addition, this report principally considers burned area over multiple years as a total of the areas burned in each year ('total area of fires'), including areas that burned more than once. The September briefing used the alternative measure of 'land area affected by fire' reported in this table, which discounts multiple burns on the same land.

Jaya Agra Wattie	6,200	5,000	1,200
Musim Mas	6,100	5,600	500
Makin	6,000	5,400	600
TSH Resources	5,800	5,700	100
Astra Agro lestari	5,300	4,300	1,000
Perkebunan Nusantara	5,100	4,700	400

** See Annex 2 for details on the groups identified here.*

*** This is likely an overestimate, as explained in Annex 4, though revised figures would not change the company's ranking in this list*

Court convictions, government sanctions and sealed concessions

In addition to data directly recording the extent and prevalence of fires within concessions belonging to particular palm oil producer groups, Greenpeace has amassed data on official sanctions imposed on producer groups and individual concessions in response to fires.

Government sanctions against companies whose concessions are subject to fires may be applied via criminal, civil or administrative means. Criminal cases may result in fines for the company and/or its managers, and/or prison sentences for managers/owners. Civil court cases can result in orders to pay compensation (*ganti rugi*), often referred to in the media as fines (*denda*). Administrative sanctions, imposed by the Ministry of Environment and Forestry (KLHK) without a court process, may involve the revocation (*pencabutan izin*) or freezing (*pembekuan izin*) of a licence or the issuing of a government compliance order (*paksaan pemerintah*). Warning letters (*teguran tertulis*) are also frequently sent to companies. The evidence-gathering stage prior to issuance of administrative sanctions may involve the ‘sealing’ (*penyegelan*) of recently burned land, during which time the company is prohibited from carrying out activities on the sealed area so as to avoid destroying evidence. Compliance orders and licence freezes may be lifted if companies take the actions ordered by the KLHK to improve their practices in the sanctioned concession areas. Information about the actions companies must take, or whether those actions have been taken, is usually not available to NGOs or other stakeholders.

Rampant illegality and limited government action

On 23 August 2019, Indonesia’s Supreme Audit Agency (BPK) announced that it had concluded that 81% of oil palm concessions in the country – including concessions belonging to ‘all the big players’ – violated one or more of the laws or mandatory management standards they were required to comply with.²⁹ Violations reported include operating illegally in protected, production or other forest areas; operating outside concession boundaries; operating without relevant permits; and failing to develop smallholdings for local people as required. A BPK commissioner called for the national police and the attorney general to help carry out a clean-up.

Separately, a recent government investigation found that 3.1 million ha of oil palm plantations, or about 19% of the country’s total, have been established without permits in forest areas. Authorities are in the process of identifying the owners of the unlicensed plantations and are seeking legal advice on how to deal with them, according to an official at Indonesia’s Ministry for Economic Affairs.³⁰

²⁹ See Jong HN (2019a,b). A copy of the Supreme Audit Agency’s ‘Special investigation report into oil palm plantation licencing and certification’ (pub. 28 February 2019) is held by Greenpeace.

³⁰ Listiyorini E & Rusmana Y (2019) and Winahyu AI (2019)

President Joko Widodo's flagship Palm Oil Moratorium regulation, promised in 2016³¹ and issued in 2018,³² was supposed to initiate a cross-ministerial concession licence review coordinated through the Ministry for Economic Affairs, but there is no public evidence that significant progress has been made.³³

The picture regarding action specifically against companies that have had fires on their land gives no greater grounds for optimism. In September 2019, Greenpeace Southeast Asia exposed the failure of Indonesia's government to enforce laws intended to prevent forest fires, which has allowed many of the palm oil and pulpwood producer groups with the largest burned areas in their concessions either to escape criminal, civil or administrative sanctions altogether or to get off lightly, receiving sanctions not commensurate with the scale of the damage.³⁴

The data amassed by Greenpeace Southeast Asia covering the period between 2015 and 2018 reveals that:

- None of the 10 oil palm concessions in Indonesia that had the largest total burned area during this period has received serious civil or administrative sanctions.
- No palm oil companies have had their licences revoked by the government as a result of fires during this period. The three cases where licences were revoked were all industrial timber plantations for pulp production (HTI concessions).
- Since 2012, of all the palm oil plantation companies ordered to pay compensation for the illegal use of fire or failure to control fires occurring on their land – a total of over US\$163 million in the cases that have been decided to date – none have so far complied.³⁵

Indonesia is not alone in failing to act. Approximately half of the fire hotspots recorded in the first nine months of 2019 on land controlled by the producer groups most strongly linked to the fires crisis – and an estimated one-third of the area that burned between 2015 and 2018 – were in concessions owned by groups with headquarters and/or stock exchange listings in Singapore or Malaysia. However, while they do have legal options, these countries' governments have also failed to sanction companies linked to the fires.

For example, despite Singapore's much vaunted Transboundary Haze Pollution Act 2014 (THCP) – a statute of the Parliament of Singapore that criminalises conduct which causes or contributes to haze pollution in the country – and a new haze crisis in 2019, the government has taken no serious action to ensure that producers, traders or consumer brands based in Singapore or their Singapore-based owners are properly sanctioned for their contribution to the fires. In September 2019 a National Environment Agency spokesman said the Government of Singapore 'has sent a diplomatic note to Indonesia, expressing concerns' about the fires and haze, but made no reference to other action.³⁶

³¹ Satriastanti FE (2016)

³² Sapiie MA (2018)

³³ Nugraha I & Arumingtyas L (2019)

³⁴ Greenpeace Southeast Asia (2019)

³⁵ See Table 5. Documentation held by Greenpeace. One fine has reportedly been paid, but not for fires in a palm oil concession; see BBC News (2019).

³⁶ Today Online (2019)

Malaysia’s response has been even more muted; indeed, the country’s Primary Industries Minister Teresa Kok has expressed concern about the KLHK sealing Malaysian-owned concessions: ‘[The] named Malaysian companies are among the most respected oil palm cultivators... I remain concerned that the current accusation will play right into the hands of the anti–palm oil campaigners.’³⁷ Furthermore, Malaysia’s Environment Minister, Yeo Bee Yin, has to date refused to resign her post despite claims of inaction and conflict of interest based in part on the Indonesian government naming IOI Corporation, a palm oil company linked to her husband’s family, as one of those contributing to the fires and haze.³⁸ She has stated that it is up to the Indonesian government to take action against those who infringe its laws.

Criminal and civil cases

Greenpeace has compiled a list, based on information provided by the KLHK and other data sources, of individual plantation companies reported to be involved in court cases due to fires on their land. In July 2019 the Indonesian government, in response to a Greenpeace Freedom of Information request, provided some details of companies that had received administrative sanctions between January 2015 and January 2019, as well as the numbers of civil (17) and criminal (13) court cases and investigations currently under way or completed in that period.³⁹ However, the response did not include company names or complete details of the civil and criminal actions. The table below is compiled from information received in response to Freedom of Information requests that Greenpeace had made to the KLHK, other government documents and media sources. It may not represent a comprehensive picture of all civil and criminal court actions against palm oil companies relating to fires, as this information is not publicly available.

Table 5: Reported court actions against palm oil plantation companies over fires⁴⁰

Company	Producer group (where known)	Amount owed and/or status	Additional information or updates
<i>Civil cases</i>			
PT Agro Tumbuh Gemilang Abadi		In appeal	Burned again in 2019. ⁴¹
PT Arjuna Utama Sawit		IDR 261.6 billion	Sealed by KLHK in 2019.

³⁷ Povera A (2019)

³⁸ See Straits Times (2019) and Channel News Asia (2019).

³⁹ Document held by Greenpeace.

⁴⁰ Information on civil and criminal prosecutions for the use of fire, including convicted plantation companies and those involved in ongoing cases, was obtained from a number of sources. Media reports are referenced in the table. KLHK sources include KLHK (2017a), KLHK (2017b) p16 and the ministry’s replies to Freedom of Information requests issued by Greenpeace.

⁴¹ Diana E (2019)

		(US\$18.5 million) ⁴²	
PT Jatim Jaya Perkasa	Gama	IDR 491 billion (US\$34.7 million)	Sued the fire expert for the government prosecution in 2018 (the company later withdrew the case). ⁴³
PT Kalimantan Lestari Mandiri	Tianjin Julong	Case in process	
PT Kallista Alam		IDR 366 billion (US\$25.9 million)	Found guilty of illegal burning in 2012, but has continued to fight the court order and in July 2019 filed a lawsuit challenging the legality of the decision. ⁴⁴
PT Kaswari Unggul	Bukit Barisan Indah Prima (BBIP)	Case in process	Sealed by KLHK in 2019. ⁴⁵
PT Palma Utama	Tianjin Julong	IDR 22.3 billion (US\$1.6 million)	
PT Ricky Kurniawan Kertapersada	Makin	IDR 191 billion (US\$13.5 million)	Sealed by KLHK in 2019.
PT Surya Panen Subur II	Rachmat/ Amara	IDR 439 billion (US\$31 million) ⁴⁶	
PT Waimusi Agroindah		IDR 29.6 billion (US\$2.1 million)	
PT Waringin Agro Jaya	Cempaka Mas Abadi	IDR 466.5 billion (US\$33 million)	Sealed by KLHK in 2019.
<i>Criminal cases</i>			

⁴² Jong HN (2019c)

⁴³ Wismabrata MH (2018)

⁴⁴ Hanafiah J (2019b)

⁴⁵ Diana E (2019)

⁴⁶ Hanafiah J (2019a)

PT Adei Plantation and Industry	Kuala Lumpur Kepong (KLK)	IDR 16.6 billion ⁴⁷ (US\$1.4 million)	Sealed by KLHK in 2019. ⁴⁸ The company, which was also convicted of illegal burning in 2001, ⁴⁹ received a criminal conviction for fires on its land in 2013 ⁵⁰ but has reportedly still not paid the compensation due for the rehabilitation of the affected land. ⁵¹ Its general manager was also sentenced to a year in prison and fined IDR 2 billion (US\$130,000), ⁵² and the director and two other officials subsequently went on the run, according to media reports. ⁵³ PT Adei's parent company, KLK, claimed to Greenpeace that the officials were convicted for failing to obtain the correct licences, not for their role in the fires, but did not provide supporting evidence. ⁵⁴ KLK was recently referred to as 'among the most respected oil palm cultivators' by the Malaysian Primary Industry minister. ⁵⁵
PT Jatim Jaya Perkasa	Gama	IDR 1 billion (US\$75,000)	The company was fined IDR 1 billion in 2017. ⁵⁶
PT Kaswari Unggul	Bukit Barisan Indah Prima	Case in process ⁵⁷	Sealed by KLHK in 2019.
PT Ricky Kurniawan Kertapersada	Makin	IDR 2 billion (US\$140,000)	The Chairman of the company was sentenced to 18 months in prison and fined IDR 2 billion. ⁵⁸
PT Surya Agro Palma	Genting	Under investigation	Two managers were reportedly arrested in August 2019. ⁵⁹ However, in correspondence with Greenpeace Genting has denied this and stated that 'our managers had cooperated and facilitated the investigations being conducted'. ⁶⁰
PT Surya Panen Subur II	Rachmat/Amar a	IDR 3 billion (US\$210,000)	Three company officials were jailed and the company was fined IDR 3 billion. ⁶¹

⁴⁷ IDR 1.5 billion for its role in the fires and IDR 15.1 billion for restoration of the burned area. See Widhiarto H (2014).

⁴⁸ Tirto.id (2019)

⁴⁹ Varkkey H (2013) p19

⁵⁰ Kuala Lumpur Kepong (2019b)

⁵¹ See Tanjung JW (2019); KLK confirmed to Greenpeace the IDR 15.1 billion fine relating to the 2015 case (Kuala Lumpur Kepong (2019b)).

⁵² Widhiarto H (2014)

⁵³ Tanjung JW (2017)

⁵⁴ Kuala Lumpur Kepong (2019b)

⁵⁵ Povera A (2019)

⁵⁶ kumparanNEWS (2017)

⁵⁷ Beritajambi.co (2019)

⁵⁸ Bahrie S (2018)

⁵⁹ Cipta H (2019)

⁶⁰ Genting (2109b)

⁶¹ Hanafiah J (2018)

PT Triomas FDI		IDR 14 billion (US\$930,000) ⁶²	The company was fined IDR 14 billion in 2018.
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Administrative sanctions

Data obtained from the KLHK in 2019 in response to a Greenpeace Freedom of Information request provides information on companies that received serious administrative sanctions between January 2015 and January 2019. These include companies holding oil palm concessions as well as pulpwood plantations and a few logging concessions. The data shows that in this period a total of 174 administrative sanctions were imposed: 115 warning letters and 41 government compliance orders were issued, 16 licences were frozen and three licences were revoked.⁶³ Full details of the warning letters, such as company names and the nature of the warnings, were not provided. A press release by the KLHK on 29 August 2019 reported various administrative actions since 2015 – ‘supervision’ (*pengawasan*) of 168 companies, 65 unspecified ‘administrative sanctions’ (*sanksi administrasi*) and 325 warning letters (*surat peringatan*) – but gave no details of the companies involved.⁶⁴

Table 6: Administrative sanctions imposed on palm oil plantation companies linked to fires⁶⁵

Plantation company	Producer group (where known)	Year	Sanction type
PT Agrindo Green Lestari	Fangiono family/Ciliandry Anky Abadi (CAA)	2017	Compliance order
PT Agrindo Green Lestari	Fangiono family/Ciliandry Anky Abadi (CAA)	2018	Compliance order
PT Bahana Karya Semesta	Sinar Mas/GAR	2015	Compliance order
PT Banyu Kahuripan Indonesia	Makin	2016	Compliance order
PT Bulungan Agro Citra Persada	TSH Resources	2015	Licence suspended
PT Bumi Sawit Sejahtera	IOI	2015	Compliance order
PT Citra Agro Abadi	Fangiono family/Ciliandry Anky Abadi (CAA)	2018	Compliance order
PT Graha Agro Nusantara	Gama	2018	Compliance order

⁶² IDR 13 billion of this for restoration of the burned area. See Mongabay (2018).

⁶³ KLHK responses to Greenpeace Freedom of Information requests, May–July 2019. Documents held by Greenpeace.

⁶⁴ KLHK (2019)

⁶⁵ Information provided by the KLHK in response to Greenpeace Southeast Asia request for data on administrative sanctions for fires; insufficient information was provided to confirm specific administrative sanctions all link to fires. Source: KLHK response to Freedom of Information request, 17 July 2019. Document held by Greenpeace.

PT Guntung Hasrat Makmur		2016	Compliance order
PT Heroes Green Energy	Fangiono family/Ciliandry Anky Abadi	2015	Licence suspended
PT Kaswari Unggul	Bukit Barisan Indah Prima	2015	Compliance order
PT Langgam Inti Hibrindo		2015	Licence suspended
PT Pinang Witmas Abadi		2018	Compliance order
PT Prana Indah Gemilang		2019	Compliance order
PT Priatama Riau	Fangiono family/First Resources	2016	Compliance order
PT Putra Lirik Domas	Gama	2018	Compliance order
PT Roempoen Enam Bersaudara		2016	Compliance order
PT Russelindo Putra Prima Block I	Rachmat/DSN	2015	Licence suspended
PT Sindora Seraya		2016	Compliance order
PT Sumatera Unggul Makmur	Gama	2018	Compliance order
PT Sumur Pandan Wangi		2015	Licence suspended
PT Surya Panen Subur 2	Rachmat/Amara	2018	Compliance order
PT Tempirai Palm Resources		2015	Licence suspended
PT Waringin Agro Jaya	Cempaka Mas Abadi	2015	Licence suspended

Concessions sealed by KLHK for investigation of fires in 2019

Between August and October 2019 the KLHK sealed (prohibited activity in) more than 60 concessions (including non-palm oil concessions) or areas within concessions that had been burned, to prevent evidence being destroyed pending investigation. These included oil palm concessions belonging to many of the major producer groups, some of which had received civil or administrative sanctions in previous years. This suggests that previous action by the authorities has not succeeded in making these companies deal with their fire problems.

Information on oil palm concessions sealed by the KLHK because of fire was compiled from a range of sources, including a leaked KLHK list,⁶⁶ a list published by the Indonesian newspaper Kompas⁶⁷ and a number of media reports.⁶⁸ While the sealing of a concession – as explained above – does not in itself constitute a sanction or demonstrate that a company is guilty of illegal fire use, this data nevertheless supplements the data on sanctions with an additional list of concessions where fires deemed suspicious have occurred.

Table 7: Oil palm concessions sealed by KLHK August to October 2019

Plantation company name	Producer group (where known)	Burned area identified by KLHK (ha, where available)
PT Adei Plantation and Industry	Kuala Lumpur Kepong (KLK)	4.25
PT Agro Sejahtera Manunggal ⁶⁹	Bumitama	
PT Andes Agro Investama	Cargill	100
PT Arjuna Utama Sawit		65
PT Arrtu Borneo Perkebunan	Rajawali/Eagle High	85
PT Arrtu Energi Resources	Rajawali/Eagle High	100
PT Bara Eka Prima		
PT Borneo Sawit Perdana		4
PT Bumi Perkasa Gemerlang	Sungai Budi/Tunas Baru Lampung	58
PT Central Sejahtera Sukses		4
PT Dendymarker Indah Lestari	SIPEF	
PT Gandaerah Hendana	Gama and Samsung (JV)	100
PT Gelora Sawita Makmur		150
PT Global Kalimantan Makmur	Djarum/HPI Agro	20
PT Grand Mandiri Utama	Tianjin Julong	37.6
PT Ichtiar Gusti Pudi		4
PT Jalin Vaneo	Pasifik Agro Sentosa	
PT Kalimantan Bina Permai		4.8
PT Kaswari Unggul	Bukit Barisan Indah Prima	
PT Kayung Agro Lestari	Austindo Nusantara Jaya (ANJ)	120
PT Kebun Ganda Prima	Salim/IndoAgri	2.3
PT Kedaag Sayaq		200
PT Kumai Sentosa	Gagah Putra Satria	2,300

⁶⁶ Document held by Greenpeace.

⁶⁷ Kompas (2019)

⁶⁸ Eg CNN Indonesia (2019), Gatra.com (2019) and Putri A (2019).

⁶⁹ Communication with Bumitama (Bumitama Agri Ltd (2019b)) indicates that the KLHK investigation found no violations and the concession is no longer sealed.

PT Limpah Sejahtera	Fangiono family/First Resources	
PT Mega Anugerah Sawit		300
PT Menteng Jaya Sawit Perdana	Kuala Lumpur Kepong (KLK)	50
PT Mitra Andalan Sejahtera		60
PT Mitra Austral Sejahtera	Sime Darby/Inti Nusa Sejahtera ⁷⁰	4
PT Mohairson Pawan Khatulistiwa		200
PT Musim Mas	Musim Mas	
PT Mutiara Bunda Jaya	Sampoerna Agro	
PT Nala Palma Cadudasa	NPC Resources	40
PT Nityasa Idola	Rachmat/DSN	14
PT Nusantara Sawit Persada		110
PT Putra Lirik Domas	Gama	30
PT Rafi Kamajaya Abadi		600
PT Rezeki Kencana	Tianjin Julong	
PT Ricky Kurniawan Kertapersada	Makin	
PT Rimbun Sawit Sejahtera		
PT Safari Riau	Kuala Lumpur Kepong (KLK)	
PT Sawit Mitra Abadi	Genting	10
PT Sawit Sumbermas Sarana	Citra Borneo Indah	
PT Sime Indo Agro	Sime Darby	3.34
PT Sinar Karya Mandiri		800
PT Sukses Karya Sawit	IOI	35
PT Sumatera Unggul Makmur	Gama	70
PT Sungai Putri Agro Sawit		121
PT Surya Bratasena Plantation		
PT Teguhkarsa Wanalestari	RGE palm-linked	8
PT Teso Indah		40
PT TH Indo Plantations	Gama	3.9
PT Waringin Agro Jaya	Cempaka Mas Abadi	

⁷⁰ In June 2019, ownership of PT Mitra Austral Sejahtera transferred from Sime Darby to Inti Nusa Sejahtera. See Sime Darby website 'Statement on the intention to sell-off 100% interest of PT Mitra Austral Sejahtera (PT MAS)'.

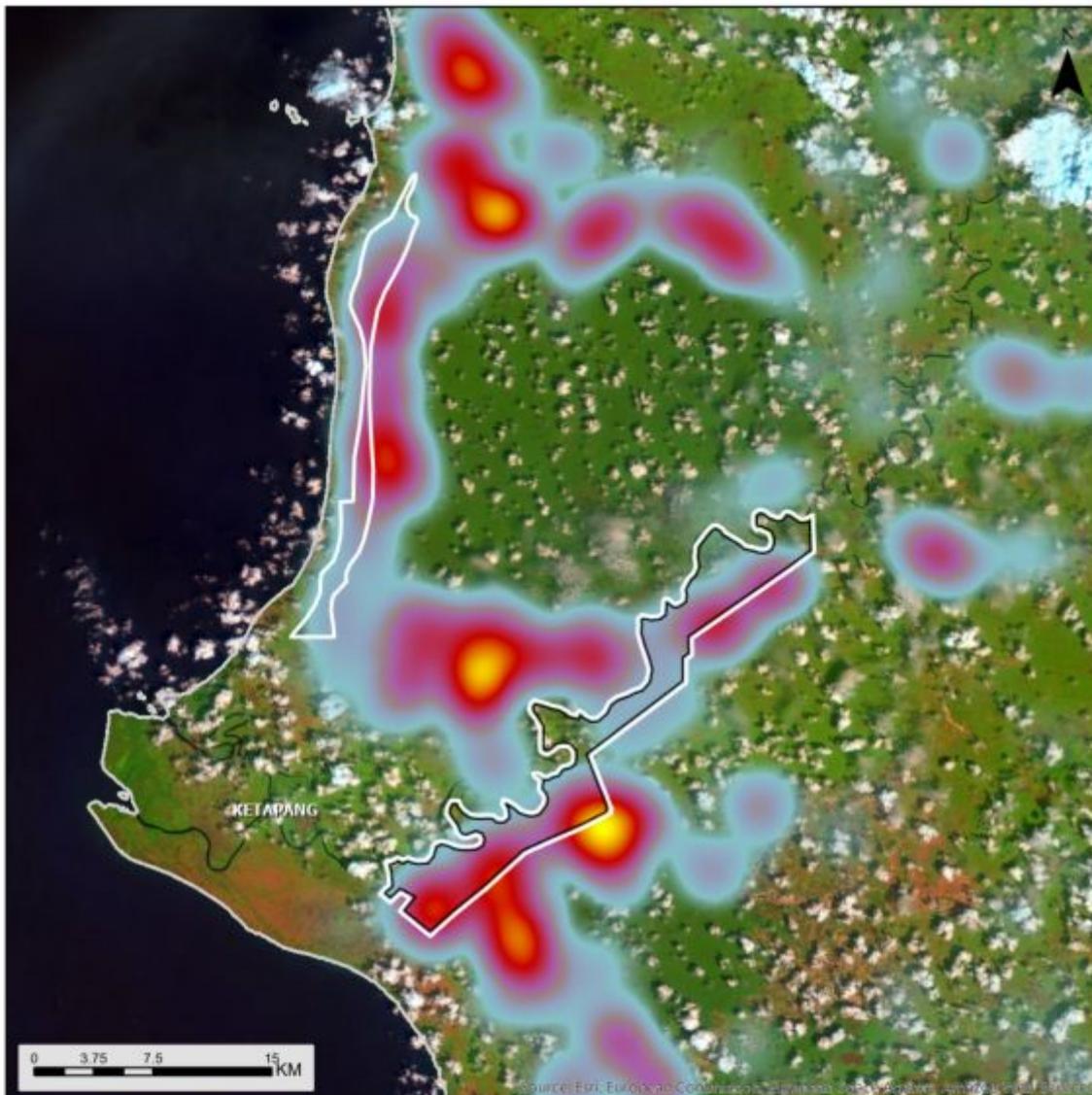
Table 8: summary of palm oil producer groups most strongly linked to fires

Producer group	Fire hotspots 2019 (Jan–Sep)	Area of fires 2015–2018 (ha)	Area of repeat burns	Number of identified civil/criminal court actions 2013–2019	Number of administrative sanctions 2015–January 2019	Number of sealings 2019
Agro Inti Semesta	76	12,996	0			
Astra Agro Lestari	151	4,515	188			
Austindo Nusantara Jaya (ANJ)	346	61	61			1
Bakrie	331	18,219	1,744			
Best Agro Plantation	153	7,153	912			
Bumitama	545	3,803	132			1
Citra Borneo Indah	105	6,814	8			1
Fangiono family	3598	7,433	596		4	1
Gagah Putera Satria	426	0	0			1
Gama	504	7,608	332	1	3	4
Genting	765	8,184	84	1		1
IOI	251	4,276	328		1	1
Jaya Agra Wattie	129	6,182	1,232			
Korindo		11,461	0			
Kuala Lumpur Kepong (KLK)	188	1,113	31	1		3
Matahari Kahuripan Indonesia (Makin)	310	6,022	656	1	1	1
Musim Mas	61	6,066	465			1
NPC Resources	418	3,562	428			1
Pasifik Agro Sentosa	214	6,246	441			1
Perkebunan Nusantara	495	5,091	373			
Rachmat	669	18,382	4,057	1	2	1
Rajawali/Eagle High	837	6,174	160			2
Salim	332	7,811	29			1
Sime Darby	325	2,008	0			2
Sinar Mas/GAR	323	3,148	29		1	
SIPEF	274	7,316	28			1
Sungai Budi/Tunas Baru Lampung	529	17,772	1,237			1
Tianjin Julong	263	6,879	90	2		2

TSH Resources	293	5,800	140		1	
Wilmar	288	1,610	0			



3 December 2015, PT Arrtu Energi Resources, 1°43'53.999" S 110°14'33" E": Burnt remains of forest following recent fires inside an oil palm concession owned by Rajawali/Eagle High in West Kalimantan. Visible in the background is an oil palm plantation operated by a different company, seemingly not impacted by the fires. All of the consumer companies and traders reviewed for this report are supplied by Rajawali/Eagle High. ©Ifansasti/Greenpeace



PT Arrtu Energi Resources Sealed Block *

PT Arrtu Energi Resources **

District boundary

Background Satellite image
Sentinel-2 Mosaic

Fire alerts Jan - Sep 2019 ***

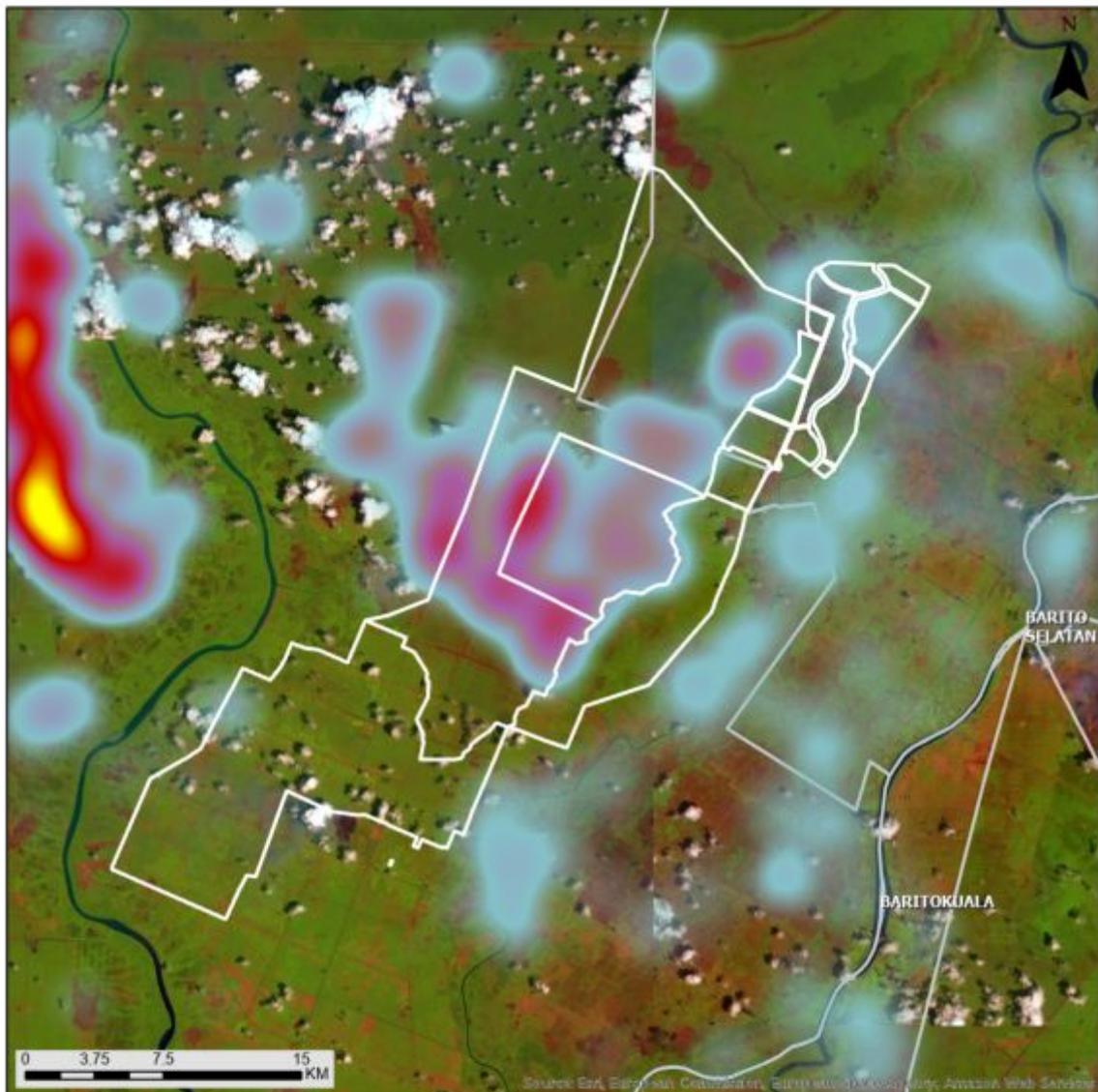
Sparse



Dense



* Concession sealed by KLHK 2019
 ** Concession boundary digitized by Greenpeace
 *** Fire alerts are based on MODIS and VIIRS data
 (01/01 - 30/09/2019)



PT Globalindo Agung Lestari * Fire alerts Jan - Sep 2019 **
 District boundary



Background Satellite image
Sentinel-2 Mosaic



* Concession boundary digitized by Greenpeace
 ** Fire alerts are based on MODIS and VIIRS data
 (01/01 - 30/09 -2019)



12 September 2019, PT Globalindo Agung Lestari, 2°29'7.12" S 114°34'46.03" E and 2°29'21.829" S 114°34'40.6" E: Drone footage of smoke rising from burning peatland forest over a drainage canal inside an oil palm concession owned by the Malaysian company Genting Plantations Berhad that has been sealed by the KLHK for investigation. All of the consumer companies and traders reviewed for this report are supplied by Genting. ©Rizky/Greenpeace

Market links



22 September 2019, PT Dyera Hutani Lestari, Jambi: An eagle (*Nisaetus cirrhatus*) flies over burned peatland. ©Adimaja/Greenpeace

As a proxy assessment of the progress the global market has made towards ending its links with environmental destruction, Greenpeace reviewed the most recent publicly available supply chain disclosures of some of the largest and most influential traders (Cargill, GAR, Musim Mas and Wilmar⁷¹) and consumer goods companies (Mondelēz, Nestlé, P&G and Unilever⁷²) involved in the trade and purchase of palm oil from Indonesia (for data sources and methodology see Annex 1).

The results reveal that the supply chains of the selected traders and consumer goods companies include many of the palm oil producer groups most implicated in the fires crisis – those that had the highest number of fires in their concessions in the first nine months of 2019, that had the largest areas of burned land in their concessions between 2015 and 2018 and/or that have been sanctioned for fires. In addition to revealing these group-level links, the consumer companies' mill lists identify as suppliers a number of specific plantation companies, mostly belonging to the groups identified in this report, that have either been sanctioned or whose concessions have been sealed for investigation as a result of fires.

It is possible that individual traders and consumer goods companies (or their suppliers) may have eliminated some of the producer groups concerned from their supply chains since publishing their most recent mill lists. Where possible, Greenpeace's review process takes into account information in a trader's or consumer goods company's publicly available grievance tracker – a list of suppliers known to be non-compliant with 'no deforestation, no peat, no exploitation' (NDPE) requirements, along with actions taken – indicating that the company has stopped sourcing from a producer group, even if this is not reflected in the company's latest mill list.⁷³ In cases where grievance trackers are not publicly available, it is possible that recent changes may not have been taken into account. Companies must be accountable for the information they choose to make public.

It should be noted that all eight consumer companies and traders assessed are members or even board members of the RSPO, as are over two-thirds of the problem producer groups to which the analysis linked them.⁷⁴ Indeed, three-quarters of the 2019 fire hotspots attributable to the palm oil producer groups most implicated in burning (as identified in the present report) were in concessions controlled by groups with full or partial RSPO membership – quite an indictment of an organisation with a 15-year history whose intention is to 'transform markets by making sustainable palm oil the norm'.⁷⁵ Under RSPO rules, a group should be a member at a level which covers all of its palm oil operations,⁷⁶ meaning partial membership

⁷¹ See Kusumaningtyas R & van Gelder JW (2017) p7.

⁷² These four are consistently amongst the top-profiting global consumer brands and are amongst the top buyers of palm oil and palm oil derivatives, based on RSPO Annual Communication of Progress reporting for 2018 (<https://rspo.org/members/acop>).

⁷³ Grievance lists (also known as grievance trackers) are publicly available logs of supply chain complaints received. Most major traders have public grievance lists (see Cargill (2019a), GAR website 'Grievance list', Musim Mas website 'Grievance list' and Wilmar International website 'Supply chain map'). Unilever is currently the only consumer brand known to make its full grievance list public (see Unilever (2019b)), although Nestlé does list some excluded groups on its website (see Nestlé website 'Palm oil').

⁷⁴ 21 of 30 groups. Details in Annex 2.

⁷⁵ See RSPO website 'About'.

⁷⁶ RSPO (2017) pp6–7, clause 5.2

is a breach of this rule. For this report, all of a group's operations are treated as RSPO-linked where any part of the group is currently an RSPO member.

Table 9: RSPO links to fires⁷⁷

	Number of groups	Fire hotspots in 2019 (to 30 September)	Total area of fires 2015–2018 (ha)
All groups in this report	30	9,960	204,514
RSPO-linked groups	21	7,427	149,663
RSPO-linked percentage	70%	75%	73%

Prior to publication, Greenpeace offered all palm oil producer groups and end users highlighted in this report an opportunity to comment. Responses are discussed in Annex 3 and are publicly available.⁷⁸ Evidence was requested to support any claims of errors in the mapping analysis. Equally, any changes to alleged errors in chain of custody links was required to be supported by the publication of corrected mill lists.

Table 10: Traders' and consumer goods companies' named supply chain links with plantation companies with civil/criminal actions or administrative sanctions against them

Plantation company	Producer group	Action/sanction type	Traders:				Consumer goods companies:			
			Cargill	GA R	Musi m Mas	Wilmar	Mondelēz	Nestlé	P&G	Unilever
PT Adei Plantation and Industry	Kuala Lumpur Kepong (KLK)	Criminal	X			X	X	X	X	X

⁷⁷ The RSPO itself claimed that as of 10 September 2019 less than 0.5% of all fires detected (not just those within oil palm concessions) in Malaysia and Indonesia were in its members' concessions (see RSPO (2019)). Greenpeace's data shows a much higher percentage of around 5% of all fire hotspots in Indonesia between January and September 2019 (and approximately 26% of all hotspots in oil palm concessions) occurring within the concessions of just the 21 RSPO-linked producer groups who feature among the 30 most strongly fire-associated groups identified in this report. Notably, the RSPO's assessment fails to take into account the widespread flouting of its rules on group-level membership (see RSPO (2017) pp6–7, clause 5.2) – meaning that many groups have partial membership and fail to declare all their linked concessions to the RSPO (see Annex 2), let alone submit maps of them. As a result, the RSPO does not take account of (and may not even know) the full extent of its members' plantation interests – an incomplete understanding that fundamentally compromises the organisation's fire hotspot data.

⁷⁸ Copies of company responses are available at https://drive.google.com/drive/folders/1XadmdtXMzT_Xg8vQM7tigywjF6MjBKyb?usp=sharing.

PT Arjuna Utama Sawit		Civil	X	X	X	O	X	X		
PT Bahana Karya Semesta	Sinar Mas/GAR	Administrative		X				X	X	X
PT Banyu Kahuripan Indonesia	Makin	Administrative	X					X	X	X
PT Jatim Jaya Perkasa	Gama	Civil and criminal	X			X		X	X	
PT Langgam Inti Hibrindo		Administrative	X			X	X	X	X	X
PT Palma Utama	Tianjin Julong	Civil	X	X			X	X		X
PT Ricky Kurniawan Kertapersada	Makin	Civil and criminal	X	X				X		X
PT Surya Panen Subur	Rachmat/Amara	Civil and criminal	O					X	X	X
PT Waimusi Agroindah		Civil	X		X	X	X	X		X

Table 11: Traders' and consumer goods companies' named supply chain links with oil palm concessions sealed in 2019

Plantation company	Group	Traders				Consumer goods companies:			
		Cargill	GAR	Musi m Mas	Wilmar	Mondelēz	Nestl é	P& G	Unilever
PT Adei Plantation and Industry	Kuala Lumpur Kepong (KLK)	X		X	X	X	X	X	X
PT Agro Sejahtera Manunggal	Bumitama	X	X		X	X	X	X	X
PT Andes Agro Investama	Cargill		X						
PT Arjuna Utama Sawit		X	X	X	O	X	X		
PT Dendymarker Indah Lestari	SIPEF	X			X	X	X		X
PT Gandaerah Hendana	Gama and Samsung (JV)	X	X	X	X	X	X	X	
PT Global Kalimantan Makmur	Djarum/HPI Agro	X	X		X	X	X		X

PT Ihtiar Gusti Pudi		X			X	X	X	X	X
PT Kayung Agro Lestari	Austindo Nusantara Jaya (ANJ)						X		X
PT Limpah Sejahtera	Fangiono family/First Resources	X				X	X	X	X
PT Mitra Austral Sejahtera	Sime Darby/Inti Nusa Sejahtera ⁷⁹	X	X	X	X	X	X		X
PT Musim Mas	Musim Mas	X		X		X	X	X	X
PT Mutiara Bunda Jaya	Sampoerna Agro	X	X		X	X	X	X	X
PT Nala Palma Cadudasa	NPC Resources	X				X	X	X	X
PT Nusantara Sawit Persada		X	X		X	X	X	X	X
PT Rezeki Kencana	Tianjin Julong	X	X			X	X	X	X
PT Ricky Kurniawan Kertapersada	Makin	X	X				X		X
PT Sawit Mitra Abadi	Genting								
PT Sawit Sumbermas Sarana	Citra Borneo Indah								X
PT Sime Indo Agro	Sime Darby	X	X	X	X	X	X	X	X
PT Sukses Karya Sawit	IOI		X	X	X	X	X	X	X
PT Surya Bratasena Plantation				X	X	X	X	X	X
PT Teguhkarsa Wanalestari	RGE palm-linked	X		X		X	X	X	X
PT TH Indo Plantations	Gama				X	X	X	X	X

⁷⁹ In June 2019, ownership of PT Mitra Austral Sejahtera transferred from Sime Darby to Inti Nusa Sejahtera. See Sime Darby website 'Statement on the intention to sell-off 100% interest of PT Mitra Austral Sejahtera (PT MAS)'.

*'Transparency, participation, and access to justice are essential to good governance. Governments and companies play an integral role in ensuring transparency and access to forest-related information, which is fundamental to creating the necessary conditions to protect and enhance forests. Transparency is instrumental to good governance in that it enables accountable, inclusive, legitimate, and democratic practices. This inclusivity further depends on mechanisms to allow public participation in decision-making processes around forests. Finally, access to justice empowers citizens to challenge decisions and actions after the fact, through judicial and administrative mechanisms. True access also depends on having the means and support to maneuver through these systems. Information such as deforestation rates, forest tenure, and concessions in forest areas allows stakeholders to participate in and influence decision-making and monitoring by providing a check on the government and other actors. However, to make a difference, information must not only be available and accessible. Stakeholders also have to know how to find and have the means to obtain and use it.'*⁸⁰

NYDF Assessment Partners Five-Year Assessment Report, September 2019

The issue of transparency



22 September 2019, PT Agro Tumbuh Gemilang Lestari, 1°14'54.94" S 103°58'37.65" E: A company sign near burned peatland in an oil palm concession in Jambi which is facing civil court action.

©Adimaja/Greenpeace

⁸⁰ NYDF Assessment Partners (2019) p77

Findings from this analysis go beyond continued market exposure to the palm oil producer groups most strongly linked to recent fires in Indonesia. Transparency – and the provision of data in a useful format, enabling independent review – is a precondition for sectoral reform, notably the ending of palm oil’s links with deforestation, fire and other environmentally destructive activities and human exploitation.

For a company that trades or consumes palm oil to demonstrate reliably that its supply chain is not linked to deforestation, use of fire, human rights violations and other abuses, the information it makes public must be up-to-date, comprehensive and transparent. A broad view of the composition of each palm oil producer group, including control and ownership links, is critical in view of the often elusive nature of these groups (see Annex 2). Traders or consumer goods companies that focus only on the physical palm oil in their direct supply chains may satisfy themselves that the oil palm concessions or mills from which their oil comes are not involved in deforestation or other destructive practices, while overlooking the fact that the same producer groups that own those concessions or mills may be clearing or burning land elsewhere.

Many traders, including Cargill, GAR and Wilmar, state that their NDPE policies are intended to apply to entire producer groups, a concept taking into account not only ownership but also shared financial, managerial and/or operational control. Some major consumer goods companies have also adopted to a greater or lesser extent the principle of group-level responsibility in NDPE implementation, though in practice they appear to have made little effort to enforce compliance. The Accountability Framework Initiative (AFI),⁸¹ the RSPO⁸² and the CGF⁸³ (as well as the FSC⁸⁴ in the timber and pulp sectors) all embrace some kind of group-level responsibility.

However, despite the fundamental importance of group-level identification in implementing an NDPE policy, there is no publicly available, standardised database of oil palm concessions, mills and the producer groups that control them. As a result, supply chain analysis often requires painstaking research if it is to give a full picture of the mills and concessions controlled by each group.

In recent years, many commodities traders have taken an important step towards transparency and implementing NDPE commitments in their palm oil supply chains by publishing, typically on a quarterly basis, the names and locations of the mills that supply them, along with the plantation companies and, in some cases, the producer groups that control each mill. In early 2018, Greenpeace challenged 17 of the largest consumer goods companies to publish this same key information for their own supply chains. Greenpeace analysis of the resulting disclosures for the September 2018 report *Final Countdown* showed

⁸¹ See corporate group definition at Accountability Framework website ‘Definitions’.

⁸² RSPO (2017) pp6–7, clause 5.2

⁸³ Consumer Goods Forum (2015)

⁸⁴ FSC (2015)

that, despite the fundamental importance of such information, the mill ownership information in the companies' disclosures was in many cases incomplete and inconsistent.⁸⁵

Review of the most recent trader and consumer company mill lists suggests that transparency across the sector remains lamentable.

An obvious problem with some of the mill lists considered – specifically those produced by the consumer goods companies – is the long time lag in their release. While the lists published by the traders are relatively up-to-date and are generally updated quarterly, those published by the consumer companies have so far been updated annually at best and in some cases cover a period long before publication. It is especially hard to see how P&G can justify not having published a 2018 mill list to date, while in the cases of Mondelez and Nestlé it is not even clear how old the information included was at the time of the 'snapshot' provided. Nestlé's list, though featuring information from April 2018 (and so potentially dating back to 2017 in some cases, given the inevitable delay of a few months in the provision of information by traders), was not published until August 2019.

In terms of the actual content of the lists, a profound and persistent problem remains the use of the mill as a proxy for the origin of the palm oil supplied, rather than disclosing the actual locations of concessions or plantations. Geospatial information about concession boundaries is fundamental for supply chain transparency.

Producer groups also continue to be under-identified in both traders' and consumer companies' data, with a number of lists identifying individual plantation companies, rather than the overall producer groups, as the parent companies of mills. Notably, Mondelez does not include parent company or producer group information in its list at all, identifying mills only by name and GPS coordinates. The omission of key corporate ownership data calls into question companies' commitment to group-level NDPE implementation, while making it much harder for stakeholders to monitor their NDPE performance.

Many of the fire-linked producer groups featured in this report have complex networks of ownership and control that are not publicly acknowledged (see Annex 2). If not before, traders and consumer goods companies were made aware of the identities of some of these groups by Greenpeace and other NGOs in 2017 and 2018. Most traders supplied by these groups, including Cargill, GAR, Musim Mas and Wilmar, have entered the groups and their respective mills/concessions into their grievance trackers; however, in many cases the traders' and consumer companies' mill data still fails to identify the groups as the owners of their associated mills and plantation companies. In some cases, traders have failed to identify a mill in their mill lists as belonging to a particular group even while they are engaging with that group over suspected non-compliance.

Finally, accurate data on ownership and boundaries of concessions is not readily available in Indonesia, and despite ongoing efforts by NGOs to press companies and the government to release this data, progress has been extremely limited. However, Greenpeace and other

⁸⁵ See Greenpeace (2018b).

NGOs have been able to compile 'best available' nationwide concession data from a variety of sources, despite the lack of cooperation. Critically, the governments of Indonesia and other countries in the region are blocking rather than supporting efforts to create transparent monitoring systems to ensure that supply chains and financial activities are not contributing to the destruction of ecosystems or to social conflict.

Overall, the accuracy and comprehensiveness of the data available to verify compliance with corporate NDPE commitments is questionable and variable, even between consumer companies that rely on shared implementation partners and so ostensibly have access to the same privileged information about group ownership. Producer groups responsible for deforestation, fires or human rights violations continue to 'hide in plain sight' within supply chain disclosures.

While all reasonable effort has been made to ensure that the group and concession data used for the analysis in this report is accurate, because of the different data sources and lack of government and company transparency there may be some inaccuracies. Groups were provided with the opportunity to comment prior to publication and requested to provide evidence to support any changes to the findings. Responses are discussed in Annex 3 and Annex 4.

Greenpeace's analysis reveals that leading brands and consumer goods companies are widely exposed to the producer groups reviewed in this report – but as a result of serious transparency failings, much of this exposure is not made explicit in their public supply chain disclosures, which require painstaking analysis to reveal the full extent of their links to companies responsible for fires, deforestation and human exploitation. Moreover, as a result of the various data challenges presented above, the present analysis almost certainly underestimates the extent of brand and trader exposure to producer groups responsible for forest fires.

For these reasons, Greenpeace dedicated significant capacity and resources over the first eight months of 2019 to collaborative discussions with Wilmar, Unilever, Mondelēz and Aidenvironment in order to develop a credible, transparent and independent supply chain monitoring platform for the palm oil sector and global commodities trade. The inability to gain agreement on even the minimal core elements necessary for such a platform has left Greenpeace with the stark conclusion that despite a decade of professed commitments and numerous initiatives on 'sustainable' and 'responsible' supply chains, both by major players in the palm oil industry itself and its end users, the palm oil sector has proven itself unable or unwilling to reform.

Annex 1: Methodology and data

The analysis in this report relies upon a number of sources of data and information for:

- the locations of **fire hotspots** and **burned areas** (annual burn scars) in oil palm growing areas of Indonesia;
- the locations, boundaries and immediate ownership of fire-affected oil palm **concessions**;
- the identities, locations and immediate ownership of **mills** processing oil palm fresh fruit bunches (FFB) from these concessions;
- **enforcement actions** of various kinds taken against companies in whose concessions fires have occurred;
- the identities of the palm oil **producer groups** that ultimately own and/or control fire-affected concessions and associated mills (among others), either through formal parent–subsidiary structures or through networks of informal – and often clandestine – ownership, management and other links; and
- the presence in the **supply chains** of downstream companies (traders and consumer goods companies) of palm oil either originating directly from mills that process FFB from fire-affected concessions or supplied by the producer groups that operate those mills and/or the concessions that supply them.

The sources for each of these types of data and information are described below, followed by a brief explanation of how our analysis brought them together to produce the results presented in this report. Most of the types of data exhibit unavoidable shortcomings and limitations of one kind or another, which are discussed in each case.

Burned areas

Official Indonesian government information was used for burned area analysis. The Indonesian government, through the KLHK, has published official annual burn scar⁸⁶ maps every year since 2015. Greenpeace analysed data for the years 2015 to 2018 (burn scar mapping for 2019 was not available at the time of writing).

Limitations

While it is likely that these maps contain some inaccuracies, they are used here because they are the only official data source for burned area in Indonesia. Greenpeace takes the view that if companies identify inaccuracies in these maps, which are publicly accessible, it is their responsibility to discuss and resolve these issues directly with the government. It is the responsibility of the government to ensure that these maps are up to date and accurate.

⁸⁶ Burn scar is a term that refers to areas of visibly burned land after a fire event. When looking from space using satellite imagery, these are usually visible as blackened or charred areas. With images captured on a regular basis it is possible to identify and map burn scars by looking for changes in the landscape over time. Government burn scar data is data that comes from an official Indonesian government map showing these burned areas. Greenpeace has calculated the figures in this report using this government mapping data, available at <http://geoportaal.menlhk.go.id/arcgis/rest/services/KLHK/>.

Companies confronted with mapping evidence of burned areas within their concessions frequently argue that fires have been started not by them but by local communities or other third parties to clear land, or else have occurred spontaneously (eg as a result of lightning strike), and that they may have started outside their concessions and spread into them. Such explanations are undoubtedly correct in many cases. Often it may be impossible for an investigation to establish the cause of a fire with certainty. Nevertheless, given that Indonesian law clearly stipulates that plantation companies are legally responsible for any fires within their concessions, regardless of the ignition source,⁸⁷ Greenpeace maintains that it is entirely justifiable to present data for fires affecting a particular group's concessions, irrespective of their cause. It represents the best available picture of a producer group's or downstream company's exposure to the Indonesian fires crisis, and the responsibility of the plantation sector as a whole.

Fire hotspots

Fire hotspot data was downloaded from the Indonesian National Institute of Aeronautics and Space (LAPAN)⁸⁸ and includes data from the MODIS Aqua and Terra and VIIRS SNPP satellites⁸⁹ from all confidence values.⁹⁰ Combining the alert data from these different satellites, passing over at different times during the day, increases the chances of capturing fires within the concession areas. The fire hotspot count for each concession was retrieved by spatial analysis within the Geographical Information System (GIS). The Government of Indonesia applies the same satellite sensor data for its monitoring system as is applied in this analysis.

The use of the complete range of confidence levels for fire hotspots can be justified on the following grounds:

1. No clearly defined relationship has been established between confidence levels and false positives over Indonesian landscapes, so there is no *a priori* optimal cutoff level. The World Resources Institute (WRI) has observed: 'Low confidence fires are lower intensity fires that could either be from non forest-clearing fire activity (clearing fields or grass burning), or could be older fires that have decreased in intensity (smoldering rather than flaming fires).'⁹¹ Similarly, peat fires are likely to be excluded from fire

⁸⁷ The Forestry Law (49/1999) stipulates that 'Title or permit holders shall be responsible for any forest fire occurring in their working areas' (clause 49) and the Environment Law (32/2009) more generally provides for strict liability (*tanggung jawab mutlak*) without burden of proof (clause 88) and liability for negligence resulting in environmental damage (clause 99).

⁸⁸ The data is available via the online platform at <http://modis-catalog.lapan.go.id/monitoring/>.

⁸⁹ Fire hotspot alerts as derived from satellite sensors provide spatial and temporal information on the possible locations of a fire during the moment of overpass by the satellites Terra, Aqua and SNPP. For details of the fire detection systems used see Earthdata website 'Firms FAQ' and Deputi Bidang Penginderaan Jauh Lembaga Penerbangan dan Antariksa Nasional - LAPAN (2016).

⁹⁰ See 'What is the detection confidence?' at Earthdata website 'Firms FAQ' for a discussion of confidence values. For MODIS these range from 0% to 100%; for VIIRS they are set to low, nominal or high. For different applications – or indeed different regions – different ranges (so-called fire classes) may be more appropriate. The higher the setting the fewer the specific false alarms, but the more true fires are missed.

⁹¹ Sizer N et al (2013)

hotspot data limited to confidence levels above 80%. Use of all fire hotspots will miss fewer true fires.

2. We use fire hotspots as an indicator and have summed them for concessions and groups of concessions, so we are not making conclusions on the accuracy of individual fire hotspots.

Limitations

Fires may have occurred undetected by the systems used for this analysis because of data capturing intervals, because of clouds or haze or tree cover obstructing detection, or because the fire was too cool at the surface to be detected (a problem with peatland fires). Conversely, the use of all confidence levels will inevitably lead to the inclusion of some false positives. There is no single perfect fire detection system available at present.

Additionally, the combining of data from several satellites, while it reduces the risk of fire hotspots being missed, does create the possibility of some fires being counted more than once.

As with burn scar data, companies confronted with fire hotspot data frequently argue that hotspots within their concessions may represent fires either started by third parties or occurring spontaneously, and that fires may have spread from outside their concession boundaries or even be located just outside them. Additionally, they point out that many hotspots included in the data are false positives and do not indicate a fire at all. Once again, while these limitations in the data exist, we maintain that the data used for the purposes of analysis in this report nevertheless provides the best available picture. The overall accuracy of the satellite data is high and more than sufficient to identify producer groups with significant incidences of burning in concessions that they own or operate.

Concession boundaries and ownership

Greenpeace's concession mapping is based on the best available concession maps compiled by Greenpeace and other NGOs, with reference to a variety of corporate or official

government sources.⁹² The identities of the plantation companies that are the immediate owners of each concession come from permit documents.

Limitations

Accurate and detailed maps showing the locations and boundaries of concessions, and data on the ownership of plantation companies, are not readily available in Indonesia. Despite ongoing efforts by Greenpeace and other NGOs to press companies and the government to release this data, progress has been extremely limited. As a result, the best available data, while correct as far as Greenpeace is aware, is certainly far from complete. Producer groups (including their most prominent constituent companies) were provided with the opportunity to comment prior to publication, and all were asked to provide their official concession data. Only one has done so.

Mill ownership

Determination of the immediate ownership of mills starts from the working assumption that a mill located within or adjacent to an oil palm concession probably belongs to the same concession company. However, this is not always the case, and moreover in some cases Greenpeace may have no information about any concessions with which the mill may be associated, or the mill may not be located in or near an oil palm concession. Additionally, while mills may share the name of a plantation company, often they do not. Accordingly, other sources (including notary acts and company registry profiles, annual reports and websites) have had to be consulted in order to identify or corroborate the immediate ownership of mills. Some of the downstream mill lists may also provide some useful ownership information.

⁹² These include, but are not limited to the following:

- State Forest Release for plantation map, KLHK, 2018
http://geoportal.menlhk.go.id/arcgis/rest/services/KLHK_EN/Releasing_Forest_Area_for_Plantation/MapServer
- Oil palm concession map, RSPO, 2017 <https://rspo.org/members/georspo>
- *Hak Guna Usaha* (HGU; Right to Cultivate) map, Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (Kemen ATR/BPN), 2018 <http://peta.bpn.go.id/>
- *Ijin Usaha Perkebunan* (IUP; plantation business permit) maps, Plantation Agency at district (Kabupaten) level (only certain districts and years were available)
- Indicative moratorium map revision 13, KLHK, 2017
http://geoportal.menlhk.go.id/arcgis/rest/services/KLHK_EN/Moratorium_13th_Revision/MapServer
- State Forest map, KLHK, 2018
http://geoportal.menlhk.go.id/arcgis/rest/services/KLHK_EN/Forest_Area_/MapServer
- Land cover map, KLHK, 2018
http://geoportal.menlhk.go.id/arcgis/rest/services/KLHK_EN/Land_Cover_2017/MapServer
- Plantation business map, Matapapua.org, 2018 <http://maps.matapapua.org/maps/matapapua>
- Papua palm oil atlas (Atlas Sawit Papua), Pusaka, 2015
<https://awasmiffee.potager.org/uploads/2015/04/atlas-low-resolution-Final-id.pdf>
- Sawit, fire, deforestation and conflict map, Sawitwatch, 2018
<http://sharedlandscapes.maps.arcgis.com/apps/Style/index.html?appid=b7504de0d147495b9f8c9aec74c4e572>
- Palm oil plantation concessions map, WWF Indonesia, 2009
<https://www.wwf.or.id/?13020/Peta-Konsesi-Perkebunan-Sawit>
- Work block maps, Jikalahari, 2018
<http://jikalahari.or.id/category/database/peta/blok-kerja-jikalahari/>

Enforcement actions

There is limited transparency on the part of the Indonesian government regarding enforcement action against plantation companies, with no publicly available register of cases or investigations. In May–July 2019 the government, in response to a Greenpeace Freedom of Information request and a series of follow-up letters, did eventually provide some details of companies that had received administrative sanctions between January 2015 and January 2019, as well as the numbers of civil and criminal court cases and investigations currently under way or completed in that period.⁹³ However, the responses did not include company names or other details relating to the civil and criminal cases and investigations. Greenpeace was therefore obliged to compile information on current and recent civil and criminal prosecutions and investigations from responses to other Freedom of Information requests that it had made to the KLHK, along with other publicly available government statements and media reports.⁹⁴

Information on oil palm concessions sealed (in whole or in part) by the KLHK between August and October 2019 pending investigation because of fire was compiled from a range of official and unofficial sources, including a leaked KLHK list,⁹⁵ a list published by the Indonesian newspaper Kompas⁹⁶ and a number of other media reports.⁹⁷

Limitations

As a result of the piecemeal sources relied on in the absence of a public register, the information compiled by Greenpeace may not represent a comprehensive picture of all current and recently completed civil and criminal legal actions against and investigations of palm oil companies relating to fires. The data on administrative sanctions, too, may underestimate the scale of these sanctions across the forestry sector; indeed, a 29 August press release from the KLHK (which did not name individual companies) gave considerably higher figures than the sources we have used, for an only slightly longer period.⁹⁸ Moreover, the data provided to Greenpeace by the government did not include the names of companies that had received the most common and least serious type of administrative sanction (the warning letter), so, in the absence of an alternative data source, this type of sanction had to be omitted from our analysis. The number of concessions sealed may also be understated, for similar reasons to the numbers of civil and criminal cases.

Producer groups

There is no publicly available, standardised database containing full details of Indonesia's oil palm concessions, mills and the producer groups that control them. Many concessions and

⁹³ Document held by Greenpeace. A summary version of this information is available at <https://drive.google.com/drive/folders/1VXIHnAJkj2J7MB0jQENoBeYygACqUBqA>.

⁹⁴ Relevant media reports are referenced in Table 5. KLHK sources include KLHK (2017a) and KLHK (2017b) p16.

⁹⁵ Document held by Greenpeace.

⁹⁶ Kompas (2019)

⁹⁷ Eg CNN Indonesia (2019), Gatra.com (2019) and Putri A (2019).

⁹⁸ KLHK (2019)

mills do belong to formally established, stock-listed companies with conventional parent–subsidiary structures that list their subsidiaries and/or estates more or less comprehensively on their websites or in their annual reports – sources on which Greenpeace has based its characterisation of these groups, supplemented by information taken from permit documents and from traders' and consumer goods companies' mill lists (see below).

However, other concessions and mills have much less straightforward ownership and control, belonging to complex networks of companies owned by individuals or families whose links are not (or only in part) publicly acknowledged. In some cases a well-known, high-profile company may have a cluster of clandestinely linked 'shadow companies' in addition to its acknowledged plantation subsidiaries; in others there is no single ultimate parent company and the group consists largely of privately held companies, not listed on any stock exchange. Different family members may be the ultimate shareholders in different companies, or parts of the group may be held offshore, rendering the ultimate owner unknowable. It is necessary to take a broad view of what constitutes a group, going beyond straightforward ownership links to include other forms of control (financial, managerial, operational or other), so as to get around these ways in which unscrupulous owners obscure their ownership of plantation operations engaged in forest destruction or guilty of human rights violations, in order to avoid compromising the market access of their publicly acknowledged subsidiaries.

The compositions of a number of these less straightforward producer groups, and the rationale behind Greenpeace's interpretation of them (in general terms and individually), are set out in Greenpeace's report *Final Countdown*.⁹⁹ The work is ongoing, made more challenging by the failure of the sector and end users to cooperate.

Where possible, ownership has been attributed to the highest level of parent company.

The following sources have been used to identify corporate structure; links are indicative rather than exclusive. This list is ranked in order of significance, with sources submitted by the company itself to official bodies being prioritised (where such sources are unavailable, we have relied on additional sources, generally prioritising more recent information over older sources):

1. Official corporate registry profiles or notary acts
2. Publicly traded companies' annual reports and stock exchange circulars
3. RSPO documents, including membership profiles, audit reports, New Planting Procedure documents and Complaints Panel minutes
4. Company websites
5. Publications from consultants (eg Aidenvironment)
6. Publications from NGOs (eg Auriga, awasMIFEE, Pusaka)

The following sources are considered indicative if confirmed by at least one other source in this list to provide sufficient evidence of a link. This is because information in such sources is

⁹⁹ Greenpeace (2018b)

usually secondhand and may be out of date:

1. Mill lists (see 'Downstream links' below) and, in those cases where group information is attached to concession/mill company names, traceability dashboards (traders generally update their mill lists/dashboards on a quarterly basis, but although they bear a specific date the information they contain is often not up to date; consumer goods companies' mill lists are most often based on information provided by the traders that supply them, but as they currently disclose their mill-level data less frequently than traders, their data may be even more outdated and inaccurate)
2. Social network profiles (eg LinkedIn profiles and Facebook and Instagram accounts of company employees/owners)
3. Shared company addresses
4. Media reports (greater weight is given to articles where an identified company spokesperson is quoted or which contain a press release, as opposed to articles where names/owners are merely mentioned by the reporter)
5. Court transcripts
6. Field documentation (eg signs in or adjacent to plantations bearing company logos, testimonies from workers)
7. Other internet research, such as internet investor information (eg Bloomberg, Thompson-Reuters) and IP address ownership

Limitations

The task of establishing the structure and extent of an informal producer group is a complex one, as evidenced by the wide range of potential sources listed above, and the results obtained must inevitably be considered as potentially incomplete. In particular, as noted in *Final Countdown*, many of the informal producer groups discussed frequently restructure the ownership or management of their plantation companies – perhaps in part to obscure their true control. The work of mapping their structures is therefore ongoing, and the full extent of a group's control of plantation companies and mills may be underestimated at any given time.

Downstream links

Greenpeace reviewed the most recent publicly available supply chain disclosures of some of the largest and most influential traders and consumer goods companies involved in the trade and purchase of palm oil from Indonesia. These disclosures, henceforward referred to as 'mill lists', are lists of the mills that produced the crude palm oil (CPO) received by the company in question over a specified period, and usually include for each mill the name of a parent company – which may be either the plantation company served by the mill, a holding company or the overall parent group – as well as details of the mill's location. In some cases it was possible to update the picture of a company's supply chain links to problem producer groups that its mill list provided by referencing the company's grievance tracker – a list of suppliers known to be non-compliant with NDPE requirements, along with actions taken to remedy the non-compliance or to suspend or terminate the trading relationship.

Limitations

The time periods covered by the assessed companies' mill lists differ, with those produced by the consumer goods companies being less up-to-date and in at least one case less specific as to the period covered.¹⁰⁰ There is also considerable variation in the degree of mill ownership and location information provided, meaning that some mills linked to fire-associated producer groups may be impossible to identify with certainty (it is not unknown for mills in different locations to share a name). Moreover, some companies do not have publicly available grievance trackers, making it impossible to update the information provided in their mill lists by taking account of recent decisions to stop sourcing from a given producer group.

More broadly, the key drawback of the data by which Greenpeace links palm oil traders and consumers to fire, deforestation or other issues is that it relies on using the mill as a proxy for the origin of the palm oil supplied, rather than linking the downstream companies directly to the actual plantations where the forest destruction is occurring. This is particularly a problem because a mill may process FFB from locations other than the concession in or near which it is located, while conversely FFB from a concession associated with forest destruction may be processed elsewhere than at the nearest mill. Moreover, in some cases the concessions associated with a particular mill are simply not known. Geospatial information about the boundaries of the concessions (and smallholder areas) supplying those mills is fundamental for effective supply chain transparency and monitoring.

Analysis of data

The purpose of the analysis presented in this report was to expose those responsible for the palm oil industry's contribution to Indonesia's ongoing fires crisis, first identifying the producer groups most closely linked to the fires, then investigating whether palm oil from these groups is present in the supply chains of some of the most important traders and consumer goods companies.

GIS software allows the user to produce and analyse all types of geographical and spatial data, such as maps. Using GIS, burn scar data for each of the years 2015 to 2018 was mapped onto Greenpeace's best available mapping of oil palm concession boundaries, and summed by producer to identify the total area burned each year within concessions

¹⁰⁰ Greenpeace analysed mill data from the following palm oil traders and consumer goods companies, covering the most recently available periods as of 1 October 2019.

Traders:

- **Cargill:** Q1 2019. Source: Cargill (2019a).
- **GAR:** January through June 2019. Source: GAR website 'Supply chain map'.
- **Musim Mas:** July 2018 to June 2019. Source: Musim Mas website 'List of suppliers'.
- **Wilmar:** July 2018 to June 2019. Source: Wilmar International website 'Supply chain map'.

Consumer goods companies:

- **Mondelēz:** 'Snapshot based on data provided late 2018' (published April 2019) – the period covered by the data is not specified. Source: Mondelēz (2019b).
- **Nestlé:** 'Snapshot: April 2018' (published August 2019). Source: Nestlé (2019b).
- **P&G:** 2017. Source: P&G (nd).
- **Unilever:** 2018. Source: Unilever (2018).

controlled by particular producer groups (as identified by Greenpeace's analysis, described above). The burned areas for each year were summed to give the total area of fires associated with each group's concessions over the four-year period. These totals are in some cases larger than the overall area affected by burning during the period, as they include some areas that burned in more than one year.

The daily fire hotspot data for the period 1 January to 30 September 2019 was similarly mapped onto oil palm concession boundaries to identify the number of fire hotspots related to concessions controlled by particular producer groups during the first nine months of this year.

The selected traders' and consumer companies' market links to the producer groups most strongly linked to the fires crisis were then established by cross-referencing the companies' most recently published mill lists with Greenpeace's mill and concession ownership information for each producer group. In addition to revealing these group-level links, perusal of the mill lists revealed that the traders and consumer companies had all been supplied by individual plantation companies that Greenpeace's data shows as having either been sanctioned or had their concessions sealed for investigation as a result of fires.

Opportunity to comment

While all reasonable effort has been made to ensure that the group and concession data used for the analysis in this report is accurate, because of the wide range of data sources used and lack of government and company transparency there may be some inaccuracies.

As with previous reports on the palm oil sector, prior to publication of this report Greenpeace offered all palm oil producer groups, traders and end users featured herein an opportunity to comment and to provide concession and other relevant data to help ensure the accuracy of all findings. Responses are discussed in Annexes 3 and 4. Evidence was requested to support any claims companies made of errors in mapping. Equally, any alleged errors in supply chain links were required to be supported by the publication of corrected mill lists.

Copies of company responses are available here:

https://drive.google.com/drive/folders/1XadmdtXMzT_Xg8vQM7tigywjF6MjBKyb?usp=sharing.

Transparency and monitoring

A proliferation of satellite-based deforestation online monitoring platforms are now available – notably GFW, GFW-Pro, Starling and Cifor's Borneo/Papua Atlas. In addition, there are regular announcements of new technological developments, such as the near real-time deforestation alerts provided by Radar Alerts for Detecting Deforestation (RADD).¹⁰¹

It is not a lack of technology that is the barrier to clean supply chains, but the absence of transparency regarding land ownership and control, starting with the producer groups.

¹⁰¹ World Resources Institute (2019)

Traders and consumer goods companies must act immediately, making provision of maps showing the locations of a group's landholdings a condition of trade, so as to ensure that their monitoring of the producer groups in their supply chains covers the full extent of those groups' land banks. As well as ensuring that their subsequent disclosures give a full and clear picture of the producer groups in their supply chains, companies must then remove from their supply chains producer groups that they cannot demonstrate are free from links to fire, deforestation or other environmental damage.

At the same time, in order to ensure that traders and consumer goods companies can be held to account, open access to reliable data enabling independent monitoring of the global palm oil market's supply chains is a prerequisite for any reform of the sector. Currently, such access is compromised by the fact that the monitoring platforms that have access to the supply chain data of their clients are accessible only to specific stakeholders and by payment.

In light of the recent failure of the Wilmar/Unilever joint venture to deliver on its commitments to a transparent monitoring platform for the sector, Greenpeace will soon be publishing an updated version of its oil palm concession map – including details of ownership/control by producer groups and other relevant spatial data – in a bid to catalyse greater transparency in, and accountability of, the palm oil sector.

Greenpeace actively seeks partners with whom to collaborate to improve data quality and transparency. The data is fully open to review and we welcome the provision of corrected data by companies and organisations.

Annex 2: Producer groups discussed in this report

*'A corporate group is a set of individuals or legal entities in the plantation sector that are connected to each other through ownership, management and/or financial links.'*¹⁰²

Indonesian Ministry of Agriculture, 2013 regulation

A large segment of the plantation industry, especially in Southeast Asia, has always been controlled by complex conglomerates owned by individuals and families. In many cases, a group has no single ultimate parent company and may consist largely of privately held companies. The resulting group structures are often complicated, informal and opaque. The concept of a group as used in this report reflects this complexity: it goes beyond formal parent–subsidiary company relationships and takes into account indicators such as shared financial, managerial and operational control.

To identify producer groups and their associated operations, Greenpeace compiled a list of known concessions and mills owned by or linked to these groups, using a variety of sources including corporate deeds, annual reports and permit information. The structures of all the groups covered are described in the table below. Many of these groups were previously characterised in *Final Countdown*.¹⁰³

Table 12: Key characteristics of palm oil producer groups discussed in this report

Group	Headquarters/ stock listing	Described in 'Final Countdown'	RSPO/ HCSA/ POIG membership ¹⁰⁴	Description of group type
Agro Inti Semesta	Indonesia/none	No	RSPO	PT Agro Inti Semesta appears to declare all its related companies to the RSPO. ¹⁰⁵
Astra Agro Lestari		No	None	PT Astra Agro Lestari is a formally constituted,

¹⁰² Minister of Agriculture (2013) p4

¹⁰³ Greenpeace (2018b)

¹⁰⁴ The **High Carbon Stock (HCS) Approach** identifies forest areas and High Conservation Value (HCV) areas to be protected for their carbon, biodiversity and social values. It involves using satellite data and working with traditional communities to map an area, deciding on a conservation plan and gaining the consent of the community. Member companies and their suppliers must stop any clearance of potential HCS areas or peatland until such a process is completed. It is being overseen and further refined by the multi-stakeholder High Carbon Stock Approach Steering Group, which involves international NGOs including Greenpeace as well as palm oil producers and traders. See HCS Approach website 'The High Carbon Stock Approach'.

The **Palm Oil Innovation Group (POIG)** is a group of industry and civil society organisations aiming to go beyond RSPO standards on a range of environmental, social, supply chain and governance issues. See POIG website 'About POIG'.

¹⁰⁵ RSPO website 'Members: PT. Agro Inti Semesta'. This group was identified as LIPPO in Greenpeace Southeast Asia (2019). It is identified here as PT Agro Inti Semesta (the palm oil subsidiary) as that is how it is identified by the RSPO.

Jakarta/IDX			stock-listed group with a formal parent–subsidiary ownership structure. ¹⁰⁶
Austindo Nusantara Jaya (ANJ)			PT Austindo Nusantara Jaya is a formally constituted, stock-listed group, although it is majority-owned by the Tahija family, including Commissioners George Santosa Tahija and Sjakon George Tahija. ¹⁰⁷ ANJ has a formal parent–subsidiary ownership structure. ¹⁰⁸
Jakarta/IDX	Yes	RSPO	
Bakrie		RSPO (subsidiary PT Bakrie Sumatera Plantations)	Bakrie is a formally constituted conglomerate with interests across a range of industries. ¹⁰⁹ Its subsidiary PT Bakrie Sumatera Plantations is a formally constituted, stock-listed group ¹¹⁰ with a formal parent–subsidiary ownership structure. ¹¹¹
Jakarta/IDX	No		
Best Agro Plantation		Possible RSPO (subsidiary PT Batara Elok Semesta Terpadu) ¹¹²	Best Agro Plantation is a privately held group owned by the Indonesian Tjajadi family; it owns both oil palm concessions and palm oil refineries. ¹¹³
Jakarta/none	No		
Bumitama			Bumitama Agri Limited (BAL) is a formally constituted, stock-listed group; it is a joint venture between the Harita Group, controlled by members of the Lim Hariyanto family, and Malaysian conglomerate IOI Group (see below). ¹¹⁴ Although BAL has a formal parent–subsidiary ownership structure, with its plantation and milling companies under the control of its two immediate subsidiaries Bumitama Gunajaya Agro and Bumitama Sawit Lestari, ¹¹⁵ Bumitama and the Lim Hariyanto family have a long and complex history of concealing their links to concessions
Singapore/SGX	Yes	RSPO	

¹⁰⁶ PT Astra Agro Lestari (2019) pp61–64

¹⁰⁷ ANJ Group website ‘Our profile’, ‘Ownership structure’ and ‘Board of Commissioners’

¹⁰⁸ ANJ Group website ‘Group structure’

¹⁰⁹ Bakrie & Brothers website ‘Our company’

¹¹⁰ Bakrie & Brothers website ‘Investments’ and Bakrie Sumatera Plantations website ‘Products’

¹¹¹ Bakrie Sumatera Plantations website ‘Business group structure’

¹¹² Subsidiary PT BEST was a member as of the end of 2017 and submitted an Annual Communication of Progress for that year (see PT Batara Elok Semesta Terpadu (2017)). The company does not appear on the current list of members (<https://www.rspo.org/members/all>) but the RSPO has no public mechanism for tracking whether a member has left, meaning PT BEST’s current status is unclear.

¹¹³ Aidenvironment (2017) p26

¹¹⁴ Bumitama Agri Ltd (2019a) pp41,134–135

¹¹⁵ Bumitama Agri Ltd (2019a) pp84–86

			engaged in deforestation by selling them temporarily to companies set up for the purpose by associates of the group, as detailed in Greenpeace's 2018 report <i>Final Countdown</i> . ¹¹⁶
Citra Borneo Indah Pangkalan Bun, Central Kalimantan/IDX (PT SSMS)	Yes	RSPO (subsidiary PT SSMS)	The Citra Borneo Indah Group is engaged in a wide range of industries, from manufacturing to shipping. ¹¹⁷ It consists of the privately held PT Citra Borneo Indah ¹¹⁸ and its subsidiaries, including its main palm oil plantation and milling subsidiary, the stock-listed PT Sawit Sumbermas Sarana (PT SSMS). ¹¹⁹ PT SSMS appears to have a formal parent–subsidiary ownership structure. ¹²⁰ However, as reported in Greenpeace's 2018 report <i>Final Countdown</i> , there is strong circumstantial evidence that Citra Borneo Indah, or the Rasyid family that controls it, retains an interest in another plantation company, PT Sawit Mandiri Lestari, which it sold in 2015 at a time when the company was subject to an RSPO complaint. ¹²¹
Fangiono family <i>(First Resources, Fangiono Agro Plantation, Ciliandry Anky Abadi)</i> Singapore/SGX (First Resources), Jakarta/none (Fangiono Agro Plantation, Ciliandry Anky Abadi)	Yes	RSPO (First Resources)	Members of the Indonesian Fangiono family control a number of ostensibly separate producer companies: First Resources (stock-listed ¹²²), ¹²³ Fangiono Agro Plantation ¹²⁴ and Ciliandry Anky Abadi. ¹²⁵ However, a review of corporate registry profiles highlights numerous connections between these companies, including shared addresses and overlapping management. Accordingly, Greenpeace regards them as constituting a single group. Further companies may be linked to the group via an individual known as Sulaidy, controlling shareholder in PT Setia Agrindo Jaya (PT SAJ) ¹²⁶ – a joint venture plantation holding company with First Resources until June 2018, when First Resources bought out its partner company's stake. ¹²⁷ Corporate registry profiles reveal that Sulaidy remains a controlling shareholder of several other plantation companies with no formal links to the Fangiono family, some of which have nevertheless had management or shareholder links with Fangiono interests. First Resources' buyout of PT

¹¹⁶ Greenpeace (2018b) pp38–45

¹¹⁷ PT Sawit Sumbermas Sarana website 'Our business'

¹¹⁸ PT Sawit Sumbermas Sarana (2019a) p65

¹¹⁹ PT Sawit Sumbermas Sarana (2019a) p11

¹²⁰ PT Sawit Sumbermas Sarana (2019a) pp68–71 and PT Sawit Sumbermas Sarana (2019b) p13

¹²¹ Greenpeace (2018b) p48

¹²² First Resources website 'Stock information'

¹²³ First Resources (2018b)

¹²⁴ Corporate registry profile.

¹²⁵ Corporate registry profile. See also Greenpeace (2018b) endnote 5 for sources relating to Fangiono family relationships.

¹²⁶ See analysis in Greenpeace (2018b) pp60–61.

¹²⁷ First Resources (2018a)

			SAJ may have been designed to obscure the family's links to these companies. ¹²⁸
Gagah Putera Satria Banjarmasin, South Kalimantan/none	No	None	PT Gagah Putera Satria has several business units including mining, plantations and wood processing. ¹²⁹ It seems to have a formal parent–subsidiary ownership structure but little is known about the group's palm oil operations.
Gama Jakarta/none	Yes	RSPO (S&G Biofuel PTE Ltd, a joint venture with Samsung C&T ¹³⁰)	Until late 2018, Gama was an informally linked family group comprising formally separate companies owned by brothers Martua Sitorus and Ganda along with members of their family, including their brother-in-law Hendri Saksti and Ganda's sons Darwin and Andy Indigo. ¹³¹ Sitorus, Ganda, Saksti and Darwin Indigo are all closely connected to Wilmar (see below). ¹³² For the purposes of our analysis, the group was also taken to include S&G Biofuel, Gama's joint venture with Samsung C&T. ¹³³ Since late 2018, the Gama group has been in the process of formal restructuring. It has also changed its name from Gama to KPN Corp. ¹³⁴
Genting Kuala Lumpur/Bursa Malaysia (Genting Berhad and Genting Plantations Berhad)	Yes	RSPO (Genting Plantations Berhad)	Genting Group has a formal parent–subsidiary ownership structure ¹³⁵ with plantation companies mainly being held by subsidiary Genting Plantations Berhad, though one is an indirect subsidiary of the group's holding company Genting Berhad. ¹³⁶ In addition, however, Greenpeace has uncovered evidence that Genting may still be linked to a plantation company that it sold in 2017 and which has since engaged in deforestation. ¹³⁷ Genting Berhad and Genting Plantations Berhad are stock-listed, as are subsidiaries Genting Malaysia and Genting Singapore. ¹³⁸ Genting Berhad and Genting Plantations Berhad share a chief executive, Tan Sri Lim Kok Thay. ¹³⁹

¹²⁸ See analysis in Greenpeace (2018b) pp60–61.

¹²⁹ Perusahaan Pertambangan Batu Bara Direktori Online website 'PT Gagah Putera Satria'

¹³⁰ Samsung C&T (2008)

¹³¹ Greenpeace analysis of corporate registry profiles. See Greenpeace (2018d) and Greenpeace (2018b) p68.

¹³² See Greenpeace (2018b) p68.

¹³³ Corporate registry profiles of PT Gandaerah Hendana and PT Inecda and their parent companies, and Samsung C&T Corporation and Subsidiaries (2017) p23

¹³⁴ See eg KPN Corp website 'Agriculture' and Gama Plantation website 'Home'.

¹³⁵ Genting Berhad (2019) pp25,193–211

¹³⁶ PT Varita Majutama. See Genting Berhad (2019) p196.

¹³⁷ PT Permata Sawit Madiri. See discussion in Greenpeace (2018b) p78.

¹³⁸ Genting Berhad (2019) pp24–25

¹³⁹ Genting Berhad website 'Directors & management' and Genting Plantations website

IOI Putrajaya, Malaysia/Bursa Malaysia	Yes	RSPO, HCSA	IOI Group (listed on Bursa Malaysia as IOI Corporation Berhad) has a formal parent–subsidiary ownership structure. ¹⁴⁰ IOI is part-owner of Bumitama (see above). ¹⁴¹
Jaya Agra Wattie Jakarta/IDX	No	None	PT Jaya Agra Wattie is involved in the cultivation, processing and marketing of rubber and palm oil. It is a formally constituted, stock-listed group and appears to have a formal parent–subsidiary ownership structure. ¹⁴²
Kuala Lumpur Kepong (KLK) Ipoh, Perak, Malaysia/Bursa Malaysia	No	RSPO, RSPO alternate board, HCSA	KLK is a formally constituted, stock-listed group engaged in the chemicals industry and property development as well as its core business of (predominantly oil palm) plantations. ¹⁴³ It has a formal parent–subsidiary ownership structure. ¹⁴⁴
Korindo Jakarta/none	Yes	None	Korindo is a privately held company controlled by the South Korean Seung family. ¹⁴⁵ It publishes little financial or ownership information. ¹⁴⁶
Matahari Kahuripan Indonesia (Makin) Jakarta/none	No	None	PT Matahari Kahuripan Indonesia (Makin Group) is a privately held group. It publishes little financial or ownership information. ¹⁴⁷
Musim Mas Singapore/none	No	RSPO, RSPO board, HCSA, POIG	Musim Mas Holdings Pte Ltd is a privately held group with businesses at every stage of the palm oil supply chain, from plantation and milling through refining to shipping, marketing and the manufacture of value-added products and consumer goods. ¹⁴⁸ It lists a number of plantation and other subsidiaries on the RSPO website. ¹⁴⁹
NPC Resources Sandakan, Sabah/Bursa	Yes	None	NPS Resources Berhad is a stock-listed investment holding company with subsidiaries involved in palm oil production and other sectors. ¹⁵⁰ The group structure of NPC Resources is not clear – it has (or had as of the

¹⁴⁰ IOI Group website ‘Group structure’

¹⁴¹ Held through Oakridge Investments Pte Ltd and Lynwood Capital Resources Pte Ltd, both wholly owned subsidiaries of IOI Corporation Berhad. Source: Bumitama Agri Ltd (2019a) p135.

¹⁴² See Reuters website ‘Jaya Agra Wattie Tbk PT’ and PT Jaya Agra Wattie website ‘Palm oil profile’.

¹⁴³ Kuala Lumpur Kepong website ‘Our company: Overview’

¹⁴⁴ Kuala Lumpur Kepong (2019a) p84

¹⁴⁵ Rainforest Action Network et al (2018) p13

¹⁴⁶ Korindo website ‘Group profile’

¹⁴⁷ Makin Group website ‘About Makin Group’

¹⁴⁸ Musim Mas website ‘About us: Introduction’

¹⁴⁹ RSPO website ‘Members: Musim Mas Holdings Pte. Ltd.’

¹⁵⁰ NPC Resources website ‘Main’

Malaysia			end of 2015) a formal parent–subsidiary ownership structure for at least some of its operations. ¹⁵¹
Pasifik Agro Sentosa		RSPO (subsidiary PT Barumun Agro Sentosa)	Pasifik Agro Sentosa is a privately held company focused on palm oil and sugar. ¹⁵² It is part of the Artha Graha Network, a privately owned group of companies with interests in property, finance, agribusiness and hospitality, among other sectors. ¹⁵³
Jakarta/none	No		
Perkebunan Nusantara			
Indonesia/none (state companies)	No	RSPO (PT PN III, IV, V and VI)	PT Perkebunan Nusantara is the name applied to each of 14 state-owned enterprises operating in the plantation sector (palm oil and other commodities) throughout Indonesia. ¹⁵⁴
Rachmat (<i>Amara, Dharma Satya Nusantara, Triputra Agro Persada [including Union Sampoerna Triputra Persada]</i>)			The Rachmat group is an informal designation for the business empire of Indonesian tycoon Teddy Rachmat and his family. This includes the privately held ¹⁵⁵ Triputra Group, with interests in agribusiness, manufacturing and mining. ¹⁵⁶ The Triputra Group subsidiary Triputra Agro Persada (TAP) ¹⁵⁷ is engaged in palm oil and rubber production and lists three subsidiaries on the RSPO website. ¹⁵⁸ Palm oil company PT Agro Maju Raya (Amara) – previously reported on separately by Greenpeace Southeast Asia ¹⁵⁹ – is reportedly also a subsidiary of the Triputra Group, ¹⁶⁰ although it is also attributed to PT Dharma Satya Nusantara (PT DSN, see below). ¹⁶¹ Other businesses associated with the family through ownership and/or management and engaged in palm oil production and processing include PT Union Sampoerna Triputra Persada (a joint venture between Triputra and PT Union Sampoerna) ¹⁶² and PT DSN (established as a joint venture with the late Winarto Oetomo ¹⁶³). The latter is a formally constituted, stock-listed group with a formal parent–subsidiary ownership structure; ¹⁶⁴ it lists a number of its subsidiaries on the RSPO website. ¹⁶⁵
Jakarta/none (Amara, TAP), Indonesia/IDX (PT DSN)	No	RSPO (TAP/PT DSN)	

¹⁵¹ NPC Resources (2015)

¹⁵² Artha Graha Network website 'PT Pasifik Agro Sentosa'

¹⁵³ Artha Graha Network website 'About us'

¹⁵⁴ Wikipedia website 'Perkebunan Nusantara'

¹⁵⁵ Forbes (2013)

¹⁵⁶ Triputra Group website 'Home'

¹⁵⁷ Triputra Group website 'Agribusiness'

¹⁵⁸ RSPO website 'Members: PT Triputra Agro Persada'

¹⁵⁹ Greenpeace Southeast Asia (2019)

¹⁶⁰ Chain Reaction Research (2015) p2

¹⁶¹ Forbes (2013)

¹⁶² Kulim (Malaysia) Berhad (2007)

¹⁶³ Forbes (2013)

¹⁶⁴ PT Dharma Satya Nusantara (2019) pp20–21,33–35

¹⁶⁵ RSPO website 'Members: PT. Dharma Satya Nusantara'

<p>Rajawali/Eagle High</p> <p>Jakarta/IDX (Eagle High), note 37% stake through FELDA</p>	<p>No</p>	<p>RSPO (Eagle High)</p>	<p>PT Eagle High Plantations, a subsidiary of the Indonesian Rajawali Corpora conglomerate,¹⁶⁶ is itself a stock-listed, formally constituted group with a formal parent–subsidiary ownership structure.¹⁶⁷ A stake in Eagle High was acquired in controversial circumstances in 2015 by Malaysian government agency the Federal Land Development Authority (FELDA),¹⁶⁸ which also part-owns the controversial palm oil company Felda Global Ventures, reported on in Greenpeace’s 2018 report <i>Final Countdown</i>.¹⁶⁹</p>
<p>Salim (<i>First Pacific, IndoAgri, Indofood and IndoGunta</i>)</p> <p>Hong Kong/SEHK (holding company First Pacific), Singapore/SGX (IndoAgri), Jakarta/IDX (Indofood), Jakarta/none (IndoGunta)</p>	<p>Yes</p>	<p>None¹⁷⁰</p>	<p>The Salim Group has a complex informal structure, with formal segments alongside various informal segments connected by operational, managerial and possibly financial group links.¹⁷¹</p>
<p>Sime Darby</p> <p>Petaling Jaya, Malaysia/Bursa Malaysia</p>	<p>No</p>	<p>RSPO, HCSA</p>	<p>Sime Darby Plantation Berhad is a formally constituted, stock-listed corporation with a formal parent–subsidiary ownership structure.¹⁷² It is focused on the production, processing, refining and marketing of palm oil and derivatives, and was formed by a demerger from the Malaysian conglomerate Sime Darby Berhad.¹⁷³</p>
<p>Sinar Mas/Golden Agri-Resources</p> <p>Jakarta/none (Sinar Mas), Singapore/SGX</p>	<p>No</p>	<p>RSPO (GAR), RSPO board, HCSA</p>	<p>Golden Agri-Resources Ltd is the agribusiness arm of the Sinar Mas group,¹⁷⁴ a loosely structured, privately held group controlled by descendants of the founder, Eka Tjipta Widjaja, who died in January 2019.¹⁷⁵ GAR is a formally constituted, stock-listed corporation (albeit majority-owned by the Widjaja family)¹⁷⁶ with a</p>

¹⁶⁶ Eagle High Plantations (2019a) pp67,87 (consolidated statements of financial position p7)

¹⁶⁷ Eagle High Plantations (2019a) pp66–73

¹⁶⁸ Malaysiakini (2019)

¹⁶⁹ Greenpeace (2018b) p63

¹⁷⁰ RSPO membership of IndoAgri subsidiaries PT PP London Sumatra (Lonsum) and PT Salim Ivomas Pratama (SIMP) ended in early 2019.

¹⁷¹ Greenpeace (2018b) pp130–131

¹⁷² Sime Darby (2019a) pp311–321

¹⁷³ Sime Darby (2019a) pp140,27

¹⁷⁴ Sinar Mas website ‘Agribusiness and food’

¹⁷⁵ Tani S (2019)

¹⁷⁶ GAR website ‘Ownership structure’

(GAR), Jakarta/IDX (PT SMART)			formal parent–subsidiary ownership structure. ¹⁷⁷ Its subsidiary PT SMART is stock-listed in its own right. ¹⁷⁸ A complaint has been lodged with the RSPO by the Forest Peoples Programme alleging that land in West Kalimantan is being cleared by ‘shadow companies’ belonging to GAR, ¹⁷⁹ suggesting that the company may not have disclosed the full extent of its associated operations.
SIPEF Schoten, Belgium/Euronext Brussels	No	RSPO, RSPO alternate board	SIPEF is a formally constituted, stock-listed corporation and appears to have a formal parent–subsidiary ownership structure. ¹⁸⁰ It is primarily engaged in the cultivation of palm oil but also grows rubber, tea and bananas, with plantations in Indonesia, Papua New Guinea and Ivory Coast. ¹⁸¹
Sungai Budi/Tunas Baru Lampung Jakarta/IDX (Tunas Baru Lampung)	Yes	RSPO (Tunas Baru Lampung)	Sungai Budi/Tunas Baru Lampung is a family-owned group, controlled by the Widarto Oey family. ¹⁸² Known concessions appear to have a formal ownership structure. ¹⁸³
Tianjin Julong Tianjin, China/none	No	None	Tianjin Julong is a privately held group ¹⁸⁴ with a formal structure about which little information is available. ¹⁸⁵ Its Indonesian palm oil operations are run by subsidiary Julong Indonesia. ¹⁸⁶
TSH Resources Kuala Lumpur/Bursa Malaysia	No	RSPO	TSH Resources Berhad is a formally constituted, stock-listed corporation which appears to have a formal parent–subsidiary ownership structure. ¹⁸⁷
Wilmar Singapore/SGX	Yes	RSPO, RSPO board, HCSA	Wilmar International is a formally constituted, stock-listed group and appears to have a formal parent–subsidiary ownership structure, ¹⁸⁸ although its website and annual reports do not provide a list of its plantation subsidiaries. Moreover, until recently it had a problematic history of obscuring its links to concessions associated with environmental or human rights violations by selling them to Gama (see above), the group led by its co-founder Martua Sitorus, as

¹⁷⁷ GAR website ‘Corporate structure’

¹⁷⁸ Sinar Mas website ‘Agribusiness and food’

¹⁷⁹ See RSPO website ‘Complaint: Golden Agri-Resources Ltd’ and Forest Peoples Programme website ‘5 new complaints filed against Indonesia’s largest palm oil company’.

¹⁸⁰ SIPEF (2019a) pp4,49–71,143

¹⁸¹ SIPEF (2019a) p98

¹⁸² Tunas Baru Lampung website ‘Management’

¹⁸³ Tunas Baru Lampung website ‘Head office / factories / subsidiaries’

¹⁸⁴ Forest 500 website ‘Tianjin Julong Group Co.’ and Julong Group website ‘Our history’

¹⁸⁵ Julong Group website ‘Organizational structure’

¹⁸⁶ Julong Indonesia website ‘About us’

¹⁸⁷ TSH Resources (2019) pp36–37

¹⁸⁸ Wilmar International (2019a) pp184–188

			exposed by Greenpeace in its 2018 report <i>Rogue Trader</i> . ¹⁸⁹ It remains to be seen whether Wilmar will bring a new transparency to its operations in the future.
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¹⁸⁹ Greenpeace International (2018d)

Annex 3: Supply chain exclusions

Cargill

Cargill's grievance tracker¹⁹⁰ indicates that it suspended trade with **Ciliandry Anky Abadi** in February 2018 as a result of work by Greenpeace (which identified the Fangiono family group). However, it does not appear to have stopped trading with First Resources or Fangiono Agro Plantation, also linked to the Fangiono family group, and its most recent mill list¹⁹¹ shows supply chain links to First Resources. The grievance tracker also states that **Gama** is no longer in Cargill's supply chain due to Wilmar's suspension of trade with all companies associated with the Ganda and Martua families in June 2018, yet Cargill's mill list shows a supply chain link to PT Gandaerah Hendana – a plantation company owned by S&G Biofuel, Gama's joint venture with Samsung C&T¹⁹² – and Wilmar's grievance list shows that it resumed trade relations with Gama in March 2019.¹⁹³ Finally, Cargill's grievance tracker states that as of May 2018, **Indofood/Salim** is no longer in its supply chain; however, Cargill's most recent mill list (for Q1 2019, which should thus reflect the exclusion) reveals purchases from 'Gunta Samba' mills, which are part of the Salim Group but apparently not classified as such by Cargill.

The claims in the grievance tracker that PT Surya Panen Subur and PT Tunas Baru Lampung are no longer in Cargill's supply chain are supported by its most recent mill list.

In providing Cargill with an opportunity to comment on the findings of this report, Greenpeace requested that any changes to its supply chain findings be confirmed by listing mills/concessions that had been excluded. Given the company's failure to provide an updated mill list, Greenpeace cannot confirm the exclusion of certain producer groups. Therefore, in Table 1, based on publicly available information as of 1 October 2019, Greenpeace has listed Cargill as exposed to Fangiono, Gama and Salim through its supply chain.

Musim Mas

Musim Mas's grievance tracker¹⁹⁴ states that there has been a 'temporary cessation' in its business relationship with **IndoAgri/Indofood/Salim** (last purchase August 2018). It also states that **Sungai Budi/Tunas Baru Lampung** is no longer in its supply chain (last purchase July 2018), and that it has not had an 'active business relationship' with **Gama** since April 2017.

Greenpeace notes that Musim Mas's most recent mill list¹⁹⁵ shows a supply chain link to PT Gandaerah Hendana, a plantation company that is owned by S&G Biofuel, Gama's joint venture with Samsung C&T.¹⁹⁶

¹⁹⁰ Cargill website 'Managing grievances'

¹⁹¹ Cargill (2019a)

¹⁹² Corporate registry profiles of PT Gandaerah Hendana and PT Inecda and their parent companies, and Samsung C&T Corporation and Subsidiaries (2017) p23

¹⁹³ Wilmar International website 'Grievance procedure'

¹⁹⁴ Musim Mas website 'Grievance list'

¹⁹⁵ Musim Mas website 'List of suppliers'

¹⁹⁶ Corporate registry profiles of PT Gandaerah Hendana and PT Inecda and their parent companies, and Samsung C&T Corporation and Subsidiaries (2017) p23

In providing Musim Mas with an opportunity to comment on the findings of this report, Greenpeace requested that any changes to its supply chain findings be confirmed by listing mills/concessions that had been excluded. Given the company's failure to provide an updated mill list, Greenpeace cannot confirm the exclusion of mills not correctly attributed to the producer group in the most recent available mill list. Therefore, in Table 1, based on publicly available information as of 1 October 2019, Greenpeace has listed Musim Mas as exposed to Gama in its supply chain.

Sinar Mas/Golden Agri-Resources

Provided an opportunity to comment on Greenpeace's current assessment of its supply chain, Golden Agri-Resources did not offer any information that added to Greenpeace's understanding.

Wilmar

Provided an opportunity to comment on Greenpeace's current assessment of its supply chain, Wilmar stated that PT Arjuna Sawit Utama [sic – the company is PT Arjuna Utama Sawit] is no longer part of its supply chain,¹⁹⁷ although PT AUS does not appear on Wilmar's public grievance list.¹⁹⁸ Wilmar said it was unable to confirm whether **Rachmat** family interests were in its supply chain as it was not clear which entities constitute the group.

Mondelēz

Provided an opportunity to comment on Greenpeace's current assessment of its supply chain, Mondelēz stated that eight groups have been suspended, but did not indicate which ones.¹⁹⁹ It also noted that its mill list contains no mills whose names its suppliers associate with a further 12 groups to which Greenpeace has linked it. Greenpeace notes that the company's public mill list²⁰⁰ does not include group names as a field of information.

Nestlé

Nestlé does not have a grievance tracker, but its website does include some information about groups it has excluded from its supply chain.²⁰¹ Provided an opportunity to comment on Greenpeace's current assessment of its supply chain, Nestlé noted that since supply chain mapping as of April 2018, 'several mills have been suspended or otherwise removed. This includes ten upstream supply chain companies published on our website, like the **Korindo Group** and **Salim**. This underscores our commitment to achieving deforestation-free supply chains.'²⁰²

However, Nestlé's most recent publicly available mill list²⁰³ shows a supply chain link to PT Mitra Indo Cemerlang without correctly linking this company to Korindo. Nestlé's mill list also shows Salim Ivomas Pratama mills not attributed to Salim Group.

¹⁹⁷ Wilmar International (2019b)

¹⁹⁸ Wilmar International website 'Grievance procedure'

¹⁹⁹ Mondelēz (2019a)

²⁰⁰ Mondelēz (2019b)

²⁰¹ Nestlé website 'Palm oil'

²⁰² Nestlé (2019a)

²⁰³ Nestlé (2019b)

In providing Nestlé with an opportunity to comment on the findings of this report, Greenpeace requested that any changes to its supply chain findings be confirmed by listing mills/concessions that had been excluded. Given the company's failure to provide an updated mill list, Greenpeace cannot confirm the exclusion of mills not correctly attributed to the producer group in the most recent available mill list. Therefore, in Table 1, based on publicly available information as of 1 October 2019, Greenpeace has listed Nestlé as exposed to Korindo and Salim through its supply chain.

Procter & Gamble (P&G)

Provided an opportunity to comment on Greenpeace's current assessment of its supply chain, P&G noted that since publication of the mill list used for Greenpeace's analysis (data for 2017),²⁰⁴ three producer groups have been excluded from its supply chain for noncompliance, and stated that this will be reflected in its latest mill list to be published in November 2019. The three excluded producer groups are **Austindo Nusantara Jaya, Gama and Salim Group**.²⁰⁵ This information is not in the public domain.²⁰⁶

P&G's public mill list²⁰⁷ shows a supply chain link to PT Gandaerah Hendana – a plantation company owned by S&G Biofuel, Gama's joint venture with Samsung C&T²⁰⁸ – and attributes this company to Samsung. P&G's mill list for calendar year 2018, which is not in the public domain but has been shared with Greenpeace USA,²⁰⁹ shows continued exposure to Gama via PT Gandaerah Hendana; it also shows continued supply from London Sumatra, which is part of Salim's IndoAgri division, although this ownership is not indicated in the disclosure.

In providing P&G with an opportunity to comment on the findings of this report, Greenpeace requested that any changes to its supply chain findings be confirmed by listing mills/concessions that had been excluded. P&G stated in its reply that 'PT Gandaerah Hendana is a Wilmar supplier and is under Samsung group and not under GAMA'; it also stated that 'London Sumatra was in Musim Mas supply chain but was removed in June 2018 and is excluded from all their supply chain.'²¹⁰

In this case, P&G has not excluded mills associated with Gama (and given Wilmar's resumed trade with this company,²¹¹ its exposure is likely to increase). Regarding Salim, despite P&G's failure to provide an updated mill list and its evident heavy reliance on its suppliers to identify palm oil producer groups, Greenpeace accepts that London Sumatra, which appears to be the main source of exposure to Salim visible in P&G's disclosure, has been excluded from its supply chain.

²⁰⁴ See P&G (nd).

²⁰⁵ P&G (2019)

²⁰⁶ Details of producer groups excluded from P&G's supply chain for noncompliance with its Responsible Sourcing Policy were supplied to Greenpeace in P&G (2019).

²⁰⁷ P&G (nd)

²⁰⁸ Corporate registry profiles of PT Gandaerah Hendana and PT Inecda and their parent companies, and Samsung C&T Corporation and Subsidiaries (2017) p23

²⁰⁹ Document shared in May 2019.

²¹⁰ P&G (2019)

²¹¹ See Wilmar International website 'Grievance procedure'.

Therefore, in Table 1, based on publicly available information as of 1 October 2019, Greenpeace has listed P&G as exposed to Gama in its supply chain, but indicated that Salim may have been removed.

Unilever

Unilever's grievance tracker²¹² states that all suppliers have adopted a no-buy position for **Austindo Nusantara Jaya** and that it 'does not have any direct business relationship' with **Indofood/Salim**. It also states that **Korindo** is no longer in its supply chain as of June 2018.

Further, responding to Greenpeace's opportunity to comment on the findings of this report, Unilever stated 'we have suspended sourcing from six of the indirect suppliers identified in the Greenpeace tables. These are: *Austindo Nusantara Jaya (ANJ)*; **Best Agri Plantation**; **Citra Borneo Indah (SSMS)**; **Jaya Agra Wattie**; *Salim Group [...]*; **Sungai Budi / Tunas Baru Lampung**. These six suspended groups are no longer in our Supply Chain and will not appear in the next scheduled update to our mill list.'²¹³

However, Unilever's most recent mill list²¹⁴ shows supply chain links to several mills attributed to Sarana Sumber Mas Sarana, which is linked to Citra Borneo Indah (despite Unilever's claim that the group has been excluded since 2017²¹⁵); PT Kintap Jaya Wattindo, which is linked to Jaya Agra Wattie but not attributed as such; PT Mitra Indo Cemerlang and Dimex Selaras, which are part of Korindo but not attributed as such; and Salim Ivomas Pratama mills not attributed to Salim Group.

In providing Unilever with an opportunity to comment on the findings of this report, Greenpeace requested that any changes to its supply chain findings be confirmed by listing mills/concessions that had been excluded. Given the company's failure to provide an updated mill list, Greenpeace cannot confirm the exclusion of mills not correctly attributed to the producer group in the most recent available mill list. Therefore, in Table 1, based on publicly available information as of 1 October 2019, Greenpeace has listed Unilever as exposed to Citra Borneo Indah, Jaya Agra Wattie, Korindo and Salim through its supply chain.

²¹² Unilever (2019b)

²¹³ Unilever (2019a)

²¹⁴ Unilever (2018)

²¹⁵ Unilever (2019b) p27

Annex 4: Producer group responses to Greenpeace analysis of fire hotspot and government burn scar data

Agro Inti Semesta

The group did not respond to Greenpeace's provision of an opportunity to comment on the evidence presented in this report.

Astra Agro Lestari

In response to Greenpeace's provision of an opportunity to comment on the evidence presented in this report, Astra Agro Lestari replied in general terms, drawing Greenpeace's attention to its efforts to prevent and combat fire but offering no evidence to challenge any of Greenpeace's findings in this report concerning its association with fires.²¹⁶

Austindo Nusantara Jaya (ANJ)

The group did not respond to Greenpeace's provision of an opportunity to comment on the evidence presented in this report.

Bakrie

In response to Greenpeace's provision of an opportunity to comment on the evidence presented in this report, Bakrie wrote denying knowledge of fires in the vicinity of PT Monrad Intan Barakat and asking Greenpeace to clarify the source of the data.²¹⁷

The response did not contain evidence that changes Greenpeace's analysis.

Best Agro Plantation

The group did not respond to Greenpeace's provision of an opportunity to comment on the evidence presented in this report.

Bumitama

In response to Greenpeace's provision of an opportunity to comment on the evidence presented in this report, Bumitama stated that PT Agro Sejahtera Manunggal is not currently sealed and that the KLHK's investigation found no violations relating to the fires that occurred in the concession.

In relation to Greenpeace's analysis of official burn scar data finding 3,803 ha of burn scar in Bumitama's concessions between 2015 and 2018, the group responded: 'During the period of 2015–2018 we have recorded 257 occurrences of fires, which affected an area of 1,477 ha.'²¹⁸

The group's response did not contain evidence that changes Greenpeace's analysis.

²¹⁶ Astra Agro Lestari (2019)

²¹⁷ PT Monrad Intan Barakat (2019)

²¹⁸ Bumitama Agri Ltd (2019b)

Citra Borneo Indah

The group did not respond to Greenpeace's provision of an opportunity to comment on the evidence presented in this report.

Fangiono family (First Resources, Fangiono Agro Plantation, Ciliandry Anky Abadi)

In response to Greenpeace's provision of an opportunity to comment on the evidence presented in this report, First Resources repeated its claim (previously made to Greenpeace in the wake of the 2018 *Final Countdown* report²¹⁹) that 'First Resources is not related to CAA by way of formal or informal ownership links and overlaps in management or operational control.'²²⁰ It provided no new evidence for this assertion, but merely referred Greenpeace to its 2018 response.

First Resources went on to deny that PT Limpah Sejahtera's concession had been sealed during 2019, although it conceded that fires within the concession had been subject to an investigation – it may be that the author of the letter misconstrued the implications of the term 'sealed'. First Resources further denied that the compliance order issued to PT Priatama Riau in 2016 related to occurrence of fire on its land, stating that the order in fact concerned inadequate on-site fire equipment and waste management.

First Resources also thanked Greenpeace for excluding from the present report, in light of information supplied by the company, the concession of PT Surya Dumai Agrindo, which had been attributed to First Resources in Greenpeace Southeast Asia's September 2019 briefing. Finally, First Resources stated that 'we disagree that we had deliberately used fire to clear forests and peatlands, as suggested by the report'. However, the present report does not assert that First Resources has engaged in deliberate use of fire.

First Resources' response did not contain evidence that changes Greenpeace's analysis of the Fangiono family group.

Gagah Putera Satria

The group did not respond to Greenpeace's provision of an opportunity to comment on the evidence presented in this report.

Gama

The group did not respond to Greenpeace's provision of an opportunity to comment on the evidence presented in this report.

Genting

In response to Greenpeace Southeast Asia's September 2019 briefing, which referred to a burned area of approximately 8,100 ha across Genting's concessions between 2015 and 2018,²²¹ Genting stated that 'Based on KLHK maps of burnscar 2016–2018 there was no

²¹⁹ First Resources (2018c)

²²⁰ First Resources (2019)

²²¹ Greenpeace Southeast Asia (2019)

significant burning. Burned areas are normally outside concessions. Comparison with company data for PT [Globalindo Agung Lestari] shows that in the last three years an area of 6.8 ha burned in a community owned area. From investigations the cause is not clear/based on opening land for food crops.²²²

However, it should be noted that the concession maps and analysis supplied by the company to journalists following publication of the September briefing are different from those that the company has shared with the RSPO as part of its membership requirements.²²³ The PT GAL map shared with journalists also differs from the HGU (*Hak Guna Usaha*) map held by Indonesia's Ministry of Agrarian Reform/Spatial Planning and from records held at a provincial level. The results the company obtained could not be replicated using the same concession boundaries as those Genting has supplied to the RSPO.

Greenpeace's provision of an opportunity to comment on the evidence presented in the present report explicitly referenced the company's response to Greenpeace Southeast Asia and noted that it did not address findings for 2015. It requested that the group include its position on Greenpeace's findings regarding fires in 2015 (the year which saw the largest area burn across Indonesia during the 2015–2018 period). In addition, it urged the group to provide maps that would enable verification of its claim that burning usually occurs outside its concession areas or in community-managed areas. Among the documents included with Greenpeace's letter to Genting was a table that referred to the arrest of two managers at Genting's PT Surya Agro Palma plantation in August 2019.

Genting replied, 'We are unable to comment on the accuracy of Greenpeace's data but based on our monitoring team's record, the area of fire is grossly overstated. This matter had previously been explained vide our letter to Greenpeace in September 2019. Further, we would also like to clarify that none of Genting Plantations' subsidiaries managers were arrested, but on the contrary, our managers had cooperated and facilitated the investigations being conducted.'²²⁴

The group's response did not contain evidence that changes Greenpeace's analysis.

IOI

In response to Greenpeace's provision of an opportunity to comment on the evidence presented in this report, IOI acknowledged that its PT Sukses Karya Sawit concession was investigated by the KLHK in September 2019 but stated that it was not sealed.²²⁵ As in the case of First Resources' PT Limpah Sejahtera concession (see above), it may be that the author of the letter misconstrued the term 'sealed' as implying permanent closure.

The group's response did not contain evidence that changes Greenpeace's analysis.

²²² Genting (2019a)

²²³ Documents held by Greenpeace Southeast Asia.

²²⁴ Genting Plantations Berhad (2019)

²²⁵ IOI (2019)

Jaya Agra Wattie

The group did not respond to Greenpeace's provision of an opportunity to comment on the evidence presented in this report.

Kuala Lumpur Kepong (KLK)

In response to Greenpeace's provision of an opportunity to comment on the evidence presented in this report, with regard to the court action against plantation companies owned by the group, KLK stated: 'In PT Adei's situation, we were found negligent for not able to prevent the real perpetrators from slipping into a plasma area to start fire... As for the directors, their sentence were not related to the fire. As the area developed was for plasma purpose, the individuals were given the sentence and fine for operating without *Izin Usaha Perkebunan* (IUP) even though it was a joint community project and owners of the land were the community themselves.'²²⁶ KLK did not provide comment on the 2019 cases, noting that 'as investigations are still on-going, we would not be commenting anything on the matter'.

The group's response did not contain evidence that changes Greenpeace's analysis.

Korindo

In relation to Greenpeace's analysis of official burn scar data finding 11,461 ha of burn scar in Korindo's concessions, the group acknowledged that there had been fires in its concessions in 2015 but stated that they had been found not to have been started deliberately: 'In 2015, after repetitive dry seasons, there were fire damages throughout Indonesia. The fires at the Korindo Group's concession were investigated by the Indonesian government in February and August 2016, and were found not to have been arsons. They were exogenous natural fires that we neither started nor could control.'²²⁷

Korindo also questioned the figures presented: 'We are at a loss as to how you came up with 11,461 ha of burn scar. You should not list us in the report unless there is other evidence. If there is any evidence, please share with us.'²²⁸ The company's response stated that the KLHK burn scar data used for the analysis shows that 'In 2016, 7,000 ha is claimed as burnscar, it is in fact land clearing that took place between 2015 and 2016.'

Korindo's response went on to deny the presence in its concessions of burn scars in 2017 and 2018 – though Greenpeace had not alleged that there was any evidence of burn scars for those years – and to reject the possibility that the group was deliberately using fire.

Regarding the burn scar analysis, Greenpeace notes that areas that suffered from significant fire outbreaks in the region in the second half of 2015 were only identified as burn scars by the KLHK in 2016, likely as a consequence of previous heavy cloud cover. As a result, the date the burn scar was recorded does not necessarily correspond to the date of the fire event. The vast majority of the KLHK-identified burn scar area that falls within Korindo's concessions corresponds with fire hotspot data covering the January 2015 to February 2016

²²⁶ Kuala Lumpur Kepong (2019b)

²²⁷ Korindo Group (2019)

²²⁸ Korindo Group (2019)

period – and satellite imagery reveals markings consistent with extensive burning. However, a few blocks show no fire hotspot clusters and arguably may be false positives, notably in the northeastern area of PT Papua Agro Lestari and the central and western areas of PT Dongin Prabhawa. False positives (classification errors) in the 2016 KLHK burn scar data may cover approximately 1,800 ha in PT Papua Agro Lestari and 930 ha in PT Dongin Prabhawa (a total area of 2,730 ha), as these large blocks did not show any fire hotspots in the 2015–2016 period, nor could the classification be confirmed through the interpretation of a series of satellite images. Assuming this 2,730 ha area does represent a false positive, Korindo would still be left with burn scars covering 8,731 ha.

Within the other areas of Korindo's concessions classified as burn scar by the KLHK, Greenpeace has observed clear evidence of the presence of fires, both directly through satellite imagery and through the presence of fire hotspots.

The burn scar area figures in this report have all been calculated on the basis of the government's burn scar data. While satellite imagery suggests that the government map may significantly overestimate burning in Korindo's concessions, Greenpeace's calculations have not been altered, for reasons of methodological consistency. Further, despite Korindo's assertions, the evidence remains that there has been extensive burning within Korindo concessions, with strong indications of deliberate use of fire.



26 March 2013, PT Dongin Prabhawa, 7°20'9.79"S 139°45'30.946"E: Smoke rises from long rows of smoldering debris from forest clearance in Korindo's PT Dongin Prabhawa oil palm concession in Papua. Such woodrows and the proliferation of fires within them are strong indicators of deliberate use of fire. Nestlé's and Unilever's mill lists continue to show exposure to Korindo. ©Rante/Greenpeace

Matahari Kahuripan Indonesia (Makin)

The group did not respond to Greenpeace's provision of an opportunity to comment on the evidence presented in this report.

Musim Mas

In relation to Greenpeace's analysis of official burn scar data finding 6,066 ha of burn scar in Musim Mas's concessions between 2015 and 2018, the group responded that 'we want to make it clear that this figure is inaccurate. Our records indicate that for the period of 2015–2018 there were accumulatively [sic] 1,632.7 ha of unintentional burnt area, and we

have published this figure in our Sustainability Report.²²⁹ Conversely, the group gave a figure of 92 hotspots detected '[a]cross all of our operations' between January and September 2019, significantly higher than the 61 reported by Greenpeace, although it claimed that only 13 of these proved to be actual fires.

As for Greenpeace's evidence of the sealing of PT Musim Mas, the group's response accepted that there was a fire in an HCV area, but contended that the fire was probably started by outsiders and stated that the group 'reported the case to the police immediately'.

The response did not contain evidence that changes Greenpeace's analysis.

Comments on supply chain issues are addressed in Annex 3.

NPC Resources

The group did not respond to Greenpeace's provision of an opportunity to comment on the evidence presented in this report.

Pasifik Agro Sentosa

The group did not respond to Greenpeace's provision of an opportunity to comment on the evidence presented in this report.

Perkebunan Nusantara

The group did not respond to Greenpeace's provision of an opportunity to comment on the evidence presented in this report.

Rachmat (Amara/Dharma Satya Nusantara/Triputra Agro Persada [including Union Sampoerna Triputra Persada])

Beyond an initial email of clarification from one of its divisions,²³⁰ the group did not respond to Greenpeace's provision of an opportunity to comment on the evidence presented in this report.

Rajawali/Eagle High

Eagle High's response to Greenpeace's provision of an opportunity to comment on the evidence presented in this report declined to comment on Greenpeace's fire hotspot data 'as we are not sure of the actual maps used and the method of measuring hot spot in your assessment'.²³¹ Otherwise, it confined itself to noting that the group has a 'No Open Burning Policy' and a moratorium on new planting. It did not contain evidence that changes Greenpeace's analysis.

²²⁹ Musim Mas (2019)

²³⁰ Triputra Agro Plantation (2019)

²³¹ Eagle High Plantations (2019b)

Salim (IndoAgri, Indofood and IndoGunta)

IndoAgri's response declined to address Greenpeace's fire hotspot and burn scar data on the grounds that 'your information and data is neither specific nor detailed'.²³² It did include some documents pertaining to the group's sealed concession PT Kebun Ganda Prima, indicating that the investigation of the concession found that fires took place on community land but not demonstrating that the investigation itself did not take place within the concession's permit area. Its response to a follow-up letter failed to address this point.²³³ The responses did not contain evidence that changes Greenpeace's analysis.

Sime Darby

Sime Darby Plantations' response did not comment on or challenge Greenpeace's burn scar and fire hotspot data, but merely noted that it conducts its own publicly accessible hotspot monitoring to determine 'the number of actual fire incidents that occur within or outside of our global concession areas and the cause of these fire incidents based on our investigation', and remarked that 'We... look forward to understand the basis and evidence upon which Greenpeace produces the hotspot data that will be presented in its upcoming report.'²³⁴

In relation to Greenpeace's analysis of sealed concessions and group links, Sime Darby responded: 'Please be informed that as at 25 June 2019, PT [Mitra Austral Sejahtera] has ceased to be a subsidiary of SDP as we have effectively disposed our interest in the company to PT Inti Nusa Sejahtera.' Regarding PT Sime Indo Agro, Sime Darby stated: 'We can confirm that an area occupied by the local communities where fire has occurred, which is outside of the operational area of PT SIA, has been sealed by the Ministry of Environment and Forestry to prohibit further activity pending completion of investigation.'²³⁵ It is unclear from the company's response whether the sealed area is within or outside its concession boundaries (as distinct from its active plantation area).

Greenpeace has signalled the change of ownership of PT Mitra Austral Sejahtera towards the end of the period under analysis in this report. Beyond this note, the response did not contain evidence that changes Greenpeace's analysis.

Sinar Mas/Golden Agri-Resources

In response to evidence of sanctions against plantation companies owned by the group, GAR responded²³⁶ acknowledging administrative sanctions against PT Bahana Karya Semesta in 2015 as a result of 106 ha burning. It claimed to have installed a new management team and stated that reforestation has started.

The response did not contain evidence that changes Greenpeace's analysis.

²³² Indofood Agri Resources (2019a)

²³³ Indofood Agri Resources (2019b)

²³⁴ Sime Darby (2019b)

²³⁵ Sime Darby (2019b)

²³⁶ GAR (2019a)

SIPEF

In response to Greenpeace's provision of an opportunity to comment on the evidence presented in this report, SIPEF provided shapefiles of its concessions and transparent discussion of the issues it is addressing.²³⁷

SIPEF stated, in relation to PT Dendymarker Indah Lestari, that it only acquired the concession in August 2017 and that 'therefore SIPEF management should not be held responsible for any fires before that time. We do acknowledge that there are ongoing reports of fires at PT Dendy Marker [sic] this year.' It claimed that most fires are lit by land squatters as a result of ongoing conflict with the company.

An earlier reply from SIPEF²³⁸ in response to Greenpeace Southeast Asia's September 2019 report noted that its own records suggest PT Dendymarker Indah Lestari saw 4,817 ha burn in 2015, slightly less than the 5,544 ha apparent from Greenpeace's analysis of government data.

Neither response contained evidence that changes Greenpeace's analysis.

Sungai Budi/Tunas Baru Lampung

In response to Greenpeace Southeast Asia's September 2019 briefing on the forest fires crisis, Sungai Budi claimed that the land affected by fires which Greenpeace has mapped as PT Samora Usaha Jaya on the basis of a 2012 Forest Release Letter was not in the location of its plantation (Sungai Budi did not provide its own map of the concession or other evidence for its claim).

A document on the company's website dated January 2019, relating to a third-party review of previous monitoring of this concession by Chain Reaction Research (CRR), includes an outline map of the concession as published by CRR.²³⁹ This outline matches the area that Greenpeace Southeast Asia's analysis of government burn scar data identified as affected by fires. In this document, Sungai Budi does not offer an alternative map of the concession.

The response did not contain evidence that changes Greenpeace's analysis.

Tianjin Julong

The group did not respond to Greenpeace's provision of an opportunity to comment on the evidence presented in this report.

TSH Resources

The group did not respond to Greenpeace's provision of an opportunity to comment on the evidence presented in this report.

²³⁷ SIPEF (2019b)

²³⁸ SIPEF (2019c)

²³⁹ PT Tunas Baru Lampung (2019) p2

Wilmar

Wilmar's response to Greenpeace's findings concerning fires in its concessions went into some detail about its efforts to monitor and respond to fires, but did not contest the fire hotspot and burn scar figures provided by Greenpeace. It did, however, maintain that all fire alerts relating to its suppliers that it had itself investigated had proved to be either false alarms or fires not started deliberately by the suppliers.²⁴⁰ It stated that as most fires occur outside palm oil concession boundaries, the efforts that the company is making to monitor and extinguish fires within its concessions 'would only be a drop in the bucket to larger development issues'.

The response did not contain evidence that changes Greenpeace's analysis.

Comments on supply chain issues are addressed in Annex 3.

²⁴⁰ Wilmar International (2019b)

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21 September 2019, PT Wira Karya Sakti, 1°19'3.979" S 103°45'30.499" E: A thick red haze surrounds a canal in burned peatland in a Sinar Mas Forestry pulpwood concession in Jambi.
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