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. ©Adimaja/Greenpeace

[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 International[2] 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 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]

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 systematically to 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. As a result, 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. See 'The issue of transparency' and Annex 1 below for further discussion.

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[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 suspended[4]

	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 palm (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 below 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 on 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 (ie 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 Greenpeace[8] 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 groups[9] 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.

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5 Consumer Goods Forum website 'Towards zero net deforestation'
6 New York Declaration on Forests website 'Home'
7 NYDF Assessment Partners (2019) p14
8 Se 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 pollution[11] – 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 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 instead 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.

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[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 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) CO_2 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]

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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 & Ristianto 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 CO_2 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 CO_2e 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 Sumatra[22] 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

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 explanation of 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.

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
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.[26] 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 concessions[27]

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

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

[27] 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.[28] 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.[29]

President Joko Widodo's flagship Palm Oil Moratorium regulation, promised in 2016[30] and issued in 2018,[31] was supposed to initiate a cross-ministerial concession licence review

[28] 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.
[29] Listiyorini E & Rusmana Y (2019) and Winahyu AI (2019)
[30] Satriastanti FE (2016)
[31] Sapiie MA (2018)

coordinated through the Ministry for Economic Affairs, but there is no public evidence that significant progress has been made.[32]

The picture regarding action specifically against companies that have fires on their land gives no greater grounds for optimism. In September 2019, Greenpeace Southeast Asia exposed the failure of the country'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.[33]

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.[34]

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.[35]

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

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[32] Nugraha I & Arumingtyas L (2019)
[33] Greenpeace Southeast Asia (2019)
[34] See Table 5. Documentation held by Greenpeace. One fine has reportedly been paid, but not for palm oil; see BBC News (2019).
[35] Today Online (2019)

the anti–palm oil campaigners.'[36] 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 fires and haze.[37] 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.[38] 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 other 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 fires[39]

Company	**Producer group (where known)**	**Amount owed and/or status**	**Additional information or updates**
Civil cases			
PT Agro Tumbuh Gemilang Abadi		In appeal	Burned again in 2019.[40]
PT Arjuna Utama Sawit		IDR 261.6 billion (US$18.5 million)[41]	Sealed by KLHK in 2019.
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).[42]

[36] Povera A (2019)
[37] See Straits Times (2019) and Channel News Asia (2019).
[38] Document held by Greenpeace.
[39] 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.
[40] Diana E (2019)
[41] Jong HN (2019c)
[42] Wismabrata MH (2018)

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.[43]
PT Kaswari Unggul	Bukit Barisan Indah Prima (BBIP)	Case in process	Sealed by KLHK in 2019.[44]
PT Palmina 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)[45]	
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.
Criminal cases			
PT Adei Plantation and Industry	Kuala Lumpur Kepong (KLK)	IDR 16.6 billion[46] (US$1.4 million)	Sealed by KLHK in 2019.[47] The company, which was also convicted of illegal burning in 2001,[48] received a criminal conviction for fires on its land in 2013[49] but has reportedly still not paid the fine for the rehabilitation of the affected land.[50] Its general manager was also sentenced to a year in prison and fined IDR 2 billion (US$130,000),[51] and the director and

[43] Hanafiah J (2019b)
[44] Diana E (2019)
[45] Hanafiah J (2019a)
[46] 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).
[47] Tirto.id (2019)
[48] Varkkey H (2013) p19
[49] Kuala Lumpur Kepong (2019b)
[50] See Tanjung JW (2019); KLK confirmed to Greenpeace the IDR 15.1 billion fine relating to the 2015 case (Kuala Lumpur Kepong (2019b)).
[51] Widhiarto H (2014)

			two other officials subsequently went on the run, according to media reports.[52] 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.[53] KLK was recently referred to as 'among the most respected oil palm cultivators' by the Malaysian Primary Industry minister.[54]
PT Jatim Jaya Perkasa	Gama	IDR 1 billion (US$75,000)	The company was fined IDR 1 billion in 2017.[55]
PT Kaswari Unggul	Bukit Barisan Indah Prima	In process[56]	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.[57]
PT Surya Agro Palma	Genting	Under investigation	Two managers were reportedly arrested in August 2019.[58] However, in correspondence with Greenpeace Genting has denied this and stated that 'our managers had cooperated and facilitated the investigations being conducted'.[59]
PT Surya Panen Subur II	Rachmat/Amara	IDR 3 billion (US$210,000)	Three company officials were jailed and the company was fined IDR 3 billion.[60]
PT Triomas FDI		IDR 14 billion (US$930,000)	The company was fined IDR 14 billion in 2018.[61]

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

[52] Tanjung JW (2017
[53] Kuala Lumpur Kepong (2019b)
[54] Povera A (2019)
[55] kumparanNEWS (2017)
[56] Beritajambi.co (2019)
[57] Bahrie S (2018)
[58] Cipta H (2019)
[59] Genting (2109b)
[60] Hanafiah J (2018)
[61] Mongabay (2018)

three licences were revoked.[62] 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.[63]

Table 6: Administrative sanctions imposed on palm oil plantation companies after fires[64]

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
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

[62] KLHK responses to Greenpeace Freedom of Information requests May–July 2019. Documents held by Greenpeace.
[63] KLHK (2019)
[64] 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 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,[65] a list published by the Indonesian newspaper Kompas[66] and a number of media reports.[67] 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)**

[65] Document held by Greenpeace.
[66] Kompas (2019)
[67] Eg CNN Indonesia (2019), Gatra.com (2019) and Putri A (2019).

PT Adei Plantation and Industry	Kuala Lumpur Kepong (KLK)	4.25
PT Agro Sejahtera Manunggal[68]	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
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[69]	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

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

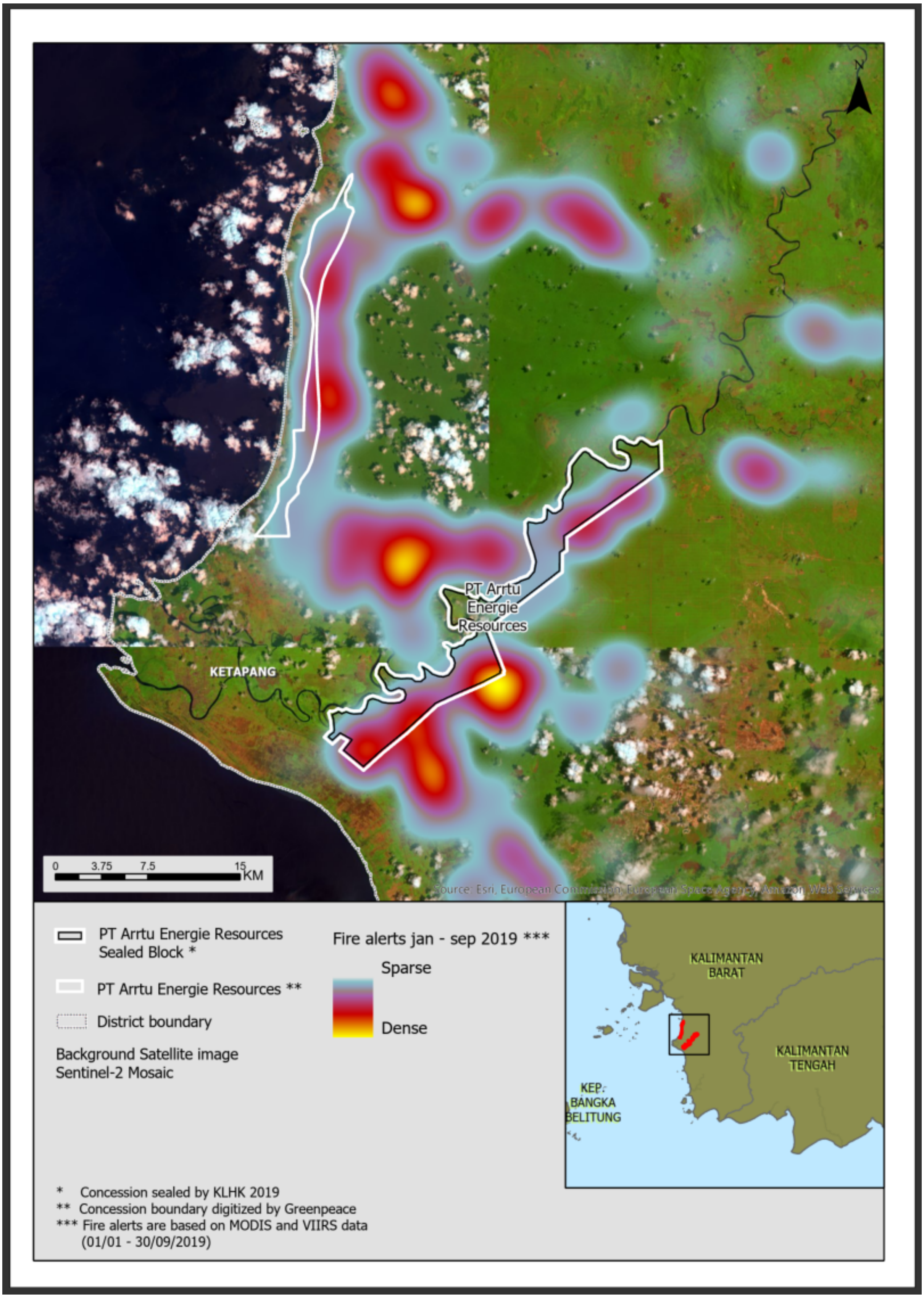
PT Putra Lirik Domas	Gama	30
PT Rafi Kamajaya Abadi		600
PT Rezeki Kencana	Tianjin Julong	
PT Ricky Kurniawan Kertapersada	Makin	
PT Rimbun Sawit Sejahtera		
PT Safari Riau	Kuala Lumpur Kepong (KLK)	
PT Sawit Mitra Abadi	Genting	10
PT Sawit Sumbermas Sarana	Citra Borneo Indah	
PT Sime Indo Agro	Sime 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	

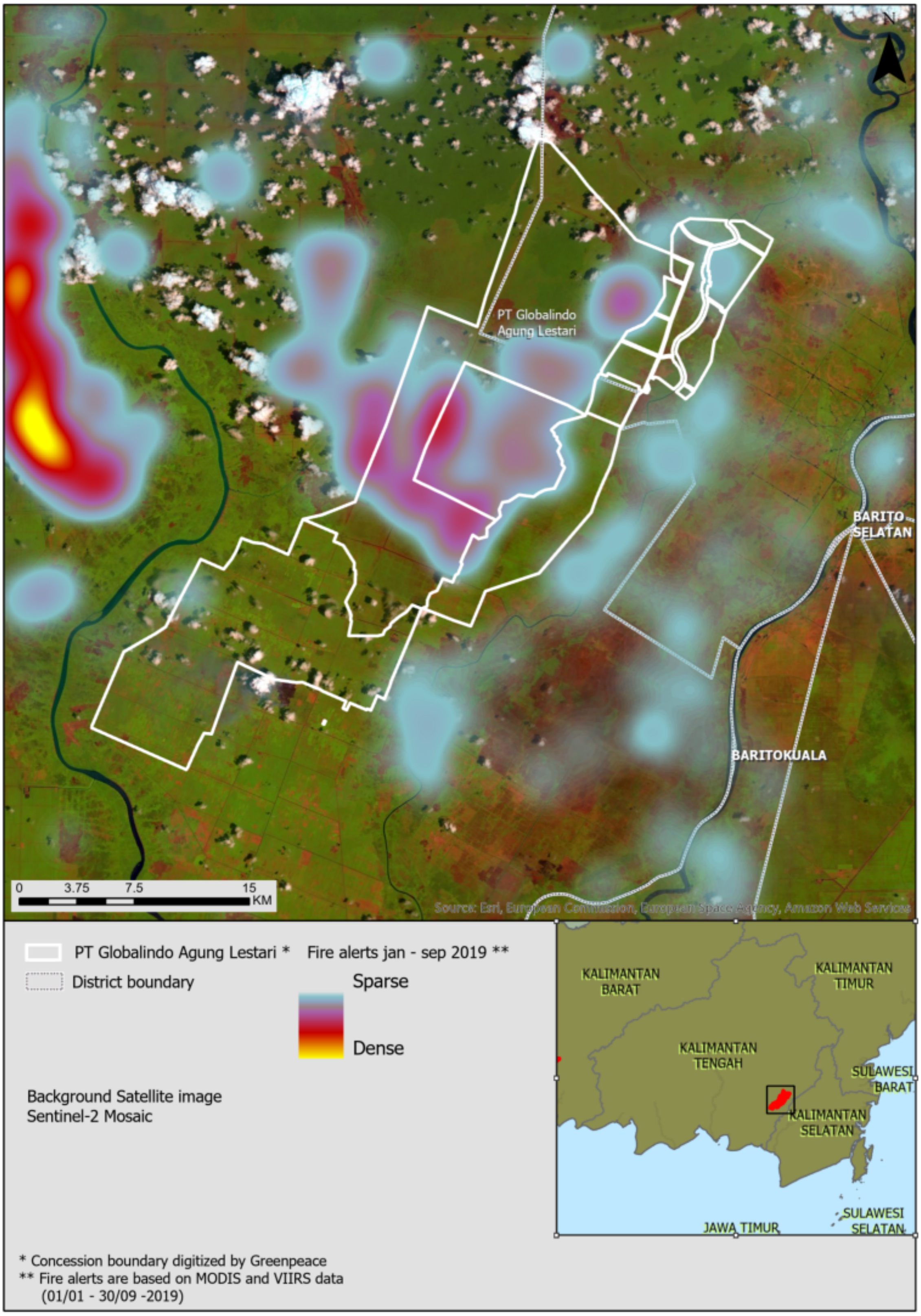
Table 8: summary of palm oil producer groups most strongly linked to fires

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 palm (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 Energie Resources
KETAPANG
0 3.75 7.5 15 KM
PT Arrtu Energie Resources Sealed Block *
PT Arrtu Energie Resources **
District boundary
Background Satellite image Sentinel-2 Mosaic
Fire alerts jan - sep 2019 ***
Sparse
Dense
KALIMANTAN BARAT
KALIMANTAN TENGAH
KEP. BANGKA BELITUNG
* Concession sealed by KLHK 2019
** Concession boundary digitized by Greenpeace
*** Fire alerts are based on MODIS and VIIRS data (01/01 - 30/09/2019)


N
PT Globalindo Agung Lestari
BARITO SELATAN
BARITOKUALA
0 3.75 7.5 15 KM
Source: Esri, European Commission, European Space Agency, Amazon Web Services
PT Globalindo Agung Lestari *
District boundary
Fire alerts jan - sep 2019 **
Sparse
Dense
Background Satellite image
Sentinel-2 Mosaic
KALIMANTAN BARAT
KALIMANTAN TIMUR
KALIMANTAN TENGAH
SULAWESI BARAT
KALIMANTAN SELATAN
JAWA TIMUR
SULAWESI SELATAN
* 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, PT 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 Wilmar[70]) and consumer goods companies (Mondelēz, Nestlé, P&G and Unilever[71]) 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.[72] 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.[73] 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'.[74] Under RSPO rules, a group should be a member at a level which covers all of its palm oil operations,[75] meaning partial membership

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[70] See Kusumaningtyas R & van Gelder JW (2017) p7.
[71] 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).
[72] 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').
[73] 21 of 30 groups. Details in Annex 2.
[74] See RSPO website 'About'.
[75] 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 fires[76]

	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.[77] 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.

			Traders:				Consumer goods companies:			
Plantation company	**Producer group**	**Action/sanction type**	**Cargill**	**GAR**	**Musim Mas**	**Wilmar**	**Mondelēz**	**Nestlé**	**P&G**	**Unilever**
PT Adei Plantation and Industry	Kuala Lumpur Kepong (KLK)	Criminal	X			X	X	X	X	X
PT Arjuna Utama Sawit		Civil	X	X	X	O	X	X		
PT Bahana Karya Semesta	Sinar Mas/GAR	Administrative		X				X	X	X

[76] The RSPO itself claimed in mid-September that less than 0.5% of all 2019 fires (not just those on palm oil concessions) in Malaysia and Indonesia were on its members' concessions (see RSPO (2019)). However, this information is based on the incomplete concession data in the RSPO's own Geo-RSPO platform (https://www.rspo.org/members/georspo). It also fails to take into account the widespread flouting of the RSPO's 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.
[77] Copies of company responses are available at https://drive.google.com/drive/folders/1XadmdtXMzT_Xg8vQM7tigywjF6MjBKyb?usp=sharing.

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 Palmina 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

		Traders				Consumer goods companies:			
Plantation company	**Group**	**Cargill**	**GAR**	**Musim Mas**	**Wilmar**	**Mondelēz**	**Nestlé**	**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 Ichtiar Gusti Pudi		X			X	X	X	X	X
PT Kayung Agro Lestari	Austindo Nusantara Jaya (ANJ)						X		X
PT Limpah Sejahtera	Fangiono Family/First	X				X	X	X	X

	Resources								
PT Mitra Austral Sejahtera	Sime Darby/ Inti Nusa Sejahtera[78]	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

[78] 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.'[79]

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

[79] 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),[80] the RSPO[81] and the CGF[82] (as well as the FSC[83] 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 that, despite the fundamental importance of such information, the mill ownership information in the companies' disclosures was in many cases incomplete and inconsistent.[84]

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[80] See corporate group definition at Accountability Framework website 'Definitions'.
[81] RSPO (2017) pp6–7, clause 5.2
[82] Consumer Goods Forum (2015)
[83] FSC (2015)
[84] See Greenpeace (2018b).

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 Mondelēz 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, Mondelēz 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 identity 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 government to release this data, progress has been extremely limited. However, Greenpeace and other NGOs have been able to compile 'best available' nationwide concession data from a variety of sources, and despite the lack of cooperation from companies and government. Critically, Indonesia and other governments 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 no deforestation 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 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 the companies’ links to fires, deforestation, and human exploitation. However, 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 location of **fire hotspots** and **burned areas** (annual burn scars) in oil palm growing areas of Indonesia;
- for the location, boundaries and immediate ownership of fire-affected oil palm **concessions**;
- for the identity, location and immediate ownership of **mills** processing oil palm fresh fruit bunches (FFB) from these concessions;
- for **enforcement actions** of various kinds taken against companies in whose concessions fire has occurred;
- for the identity 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 else through networks of informal – and often clandestine – ownership, management and other links; and
- for the presence in the **supply chains** of downstream companies (traders and consumer goods companies) of palm oil either originating directly in mills that process FFB from fire-affected concessions, or else 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 Ministry of Forests and Environment (KLHK), has published official annual burn scar[85] 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

Whilst 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.

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

[85] 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 these figures using this government mapping data, available at http://geoportal.menlhk.go.id/arcgis/rest/services/KLHK/.

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,[86] 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)[87] and includes data from the MODIS Aqua and Terra and VIIRS SNPP satellites[88] from all confidence values.[89] By combining the alert data from these different satellites, passing over at different times during the day, we increased the chance of capturing fires within the concession areas. The fire hotspot count for each concession was retrieved by spatial analysis within GIS. The Government of Indonesia is applying the same satellite sensor data for its monitoring system as 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).'[90] Similarly, peat fires are likely to be excluded from fire hotspot data limited to confidence levels above 80%. Use of all fire hotspots will miss fewer true fires.

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[86] 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).

[87] The data is available via the online platform at http://modis-catalog.lapan.go.id/monitoring/.

[88] 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 https://earthdata.nasa.gov/faq/firms-faq and http://pusfatja.lapan.go.id/files_uploads_ebook/publikasi/Panduan_hotspot_2016%20versi%20draft%201_LAPAN.pdf

[89] See https://earthdata.nasa.gov/faq/firms-faq#ed-confidence for a discussion of confidence values. For MODIS these range from 0% to 100%; for VIIRS these 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 trrue fires missed.

[90] https://www.wri.org/blog/2013/06/peering-through-haze-what-data-can-tell-us-about-fires-indonesia

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 surface to be detected (a problem with peatland fires). Conversely, the use of all confidence levels may [or "will inevitably"] lead to the inclusion of some false positives. There is no perfect single 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 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.

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.[91] The identities of the plantation companies that are the immediate owners of each concession come from permit documents.

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[91] These include, but are not limited to the following:

- State Forest Release for Plantation map, Ministry of Environment and Forestry (MoEF), 2018 http://geoportal.menlhk.go.id/arcgis/rest/services/KLHK_EN/Releasing_Forest_Area_for_Plantation/MapServer
- RSPO Oil Palm Concession map, Roundtable Sustainable Palm Oil (RSPO), 2017 https://rspo.org/geo-rspo
- Hak Guna Usaha (HGU (Right to Cultivate the land)) Map, Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (Kemen ATR/BPN) 2018 http://peta.bpn.go.id/
- Plantation business Permit (Ijin Usaha Perkebunan (IUP)), Plantation Agency at district (Kabupaten) level (only certain districts and years were available)
- Indicative Moratorium Map Revision 13, MoEF, 2017 http://geoportal.menlhk.go.id/arcgis/rest/services/KLHK_EN/Moratorium_13th_Revision/MapServer
- State Forest Map, MoEF, 2018, http://geoportal.menlhk.go.id/arcgis/rest/services/KLHK_EN/Forest_Area_/MapServer
- Land cover Map, MoEF, 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://awasmifee.potager.org/uploads/2015/04/atlas-low-resolution-Final-id.pdf

Limitations

Accurate and detailed maps showing the location and boundaries of concessions, and data on the ownership of plantation companies, are not readily available in Indonesia, and despite ongoing efforts by Greenpeace and other NGOs to press companies and government to release this data, progress has been extremely limited. As a result, the best available data, while correct as far as we can be 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 prior to publication. Only one has done so.

Mill ownership

Determination of the immediate ownership of mills starts from the working assumption that mills located within or adjacent to concessions probably belong to the concession company. However, this is not always the case, and moreover in some cases Greenpeace may have no information about any concession with which a mill may be associated, or a mill may not even be located in or near a concession. Mills may, but often do not, share the name of a plantation company. 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 now may provide some useful ownership information.

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 to 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.[92] However, the response 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 sources.

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

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- Sawit, Fire, Deforestation and Conflict, Sawitwatch, 2018 http://sharedlandscapes.maps.arcgis.com/apps/Styler/index.html?appid=b7504de0d147495b9f8c9aec74c4e572
- Palm Oil Plantation Concessions Map, WWF Indonesia, 2009 https://www.wwf.or.id/?13020/Peta-Konsesi-Perkebunan-Sawit
- Area of work Jikalahari, Jikalahari, 2018, http://jikalahari.or.id/category/database/peta/blok-kerja-jikalahari/

[92] Document held by Greenpeace. A summary version of this information is available here https://drive.google.com/drive/folders/1VXIHnAJkj2J7MB0jQENoBeYygACqUBqA

of official and unofficial sources, including a leaked KLHK list,[93] a list published by the Indonesian newspaper Kompas[94] and a number of other media reports.[95]

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, as 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 (from 2015).[96] Moreover, the data provided to Greenpeace by the government did not include the names of companies that had received the commonest and least serious type of administrative sanction (the warning letter), so that, in the absence of an alternative data source, this type of sanction had to be omitted from our analysis.The concession sealings may also be understated for similar reasons to the civil and criminal cases.

Producer groups

There is no publicly available, standardised database of Indonesia's oil palm concessions, mills and the producer groups that control them. Many concessions and 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, forming part of complex networks of companies owned by individuals or families and 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 in order to avoid losing market access for their products.

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 (2018b). The work is ongoing, made more challenging by the failure of the sector and end-users to cooperate.

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

[93] Document held by Greenpeace.
[94] Kompas (2019)
[95] Eg CNN Indonesia (2019), Gatra.com (2019) and Putri A (2019).
[96] KLHK (2019)

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; complaints panel minutes
4. Company websites
5. Publications from consultants (eg AidEnvironment)
6. Publications from NGOs (eg Auriga, awasMIFEE/Atlas Sawit Papua)

The following sources are considered indicative if confirmed by at least one other source on this list to provide sufficient evidence of a link. This is because information in such sources is usually second-hand and may be out of date:

1. Mill lists (see below) and traceability dashboards (in those cases where group information is attached to concession/mill company names):
    a. Traders generally update their mill lists/dashboards on a quarterly basis. However, despite the documents being dated, the information they contain is often out-of-date.
    b. Consumer goods companies' mill lists are most often based on information provided by the traders that supply them, but as they are currently disclosing their mill-level data less frequently than traders, their data may be 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 logo, testimonies from workers)
7. Other internet research:
    a. internet investor information (eg Bloomberg; Thompson-Reuters)
    b. 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 Greenpeace (2018b), 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 their 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 the mill lists provided, by reference to a company’s grievance tracker – a list of suppliers known to be non-compliant with ‘no deforestation, no peat, no exploitation’ (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.[97] 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 fresh fruit bunches (FFB) from locations other than the

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[97] 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).

plantation in or near which it is located, while conversely FFB from a plantation 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.

Geographical Information System (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 controlled by particular producer groups (as identified by Greenpeace's analysis described above). The burned areas for each year were summed to give each group's total area of fires 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.

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 been supplied by a number of specific plantation companies that Greenpeace's data show 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 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 into the palm oil sector, prior to publication of this report Greenpeace offered all palm oil producer groups and end users highlighted an opportunity to comment and to provide concession and other relevant data to help ensure the accuracy of all findings. Responses are discussed in Annex 3 and 4. Evidence was requested to support any claims companies made of errors in the mapping. Equally, any changes to alleged errors in chain of custody links was 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

There is a proliferation of satellite-based deforestation online monitoring platforms 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).

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. 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 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.'[98]
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*.[99]

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**[100]	**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.[101]
Astra Agro Lestari Jakarta/IDX	No	None	PT Astra Agro Lestari is a formally constituted, stock-listed group with a formal parent–subsidiary ownership

[98] Minister of Agriculture (2013) p4
[99] Greenpeace (2018b)
[100] The **High Carbon Stock (HCS) Approach** identifies forest areas and High Conservation Value 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'.
[101] 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.

			structure.[102]
Austindo Nusantara Jaya (ANJ) Jakarta/IDX	Yes	RSPO	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.[103] ANJ has a formal parent–subsidiary ownership structure.[104]
Bakrie Jakarta/IDX	No	RSPO (subsidiary PT Bakrie Sumatera Plantations)	Bakrie is a formally constituted conglomerate with interests across a range of industries.[105] Its subsidiary PT Bakrie Sumatera Plantations is a formally constituted, stock-listed group[106] with a formal parent–subsidiary ownership structure.[107]
Best Agro Plantation Jakarta/none	No	Possible RSPO (subsidiary PT Batara Elok Semesta Terpadu)[108]	Best Agro Plantation is a privately held group owned by the Indonesian Tjajadi family; it owns both oil palm concessions and palm oil refineries.[109]
Bumitama Singapore/SGX	Yes	RSPO	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).[110] 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,[111] Bumitama and the Lim Hariyanto family have a long and complex history of concealing their links to concessions engaged in deforestation by selling them temporarily

[102] PT Astra Agro Lestari (2019) pp61–64
[103] ANJ Group website ‘Our profile’, ‘Ownership structure’ and ‘Board of Commissioners’
[104] ANJ Group website ‘Group structure’
[105] Bakrie & Brothers website ‘Our company’
[106] Bakrie & Brothers website ‘Investments’ and Bakrie Sumatera Plantations website ‘Products’
[107] Bakrie Sumatera Plantations website ‘Business group structure’
[108] 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.
[109] Aidenvironment (2017) p26
[110] Bumitama Agri Ltd (2019a) pp41,134–135
[111] Bumitama Agri Ltd (2019a) pp84–86

			to companies set up for the purpose by associates of the group, as detailed in Greenpeace's 2018 report *Final Countdown*.[112]
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.[113] It consists of the privately held PT Citra Borneo Indah[114] and its subsidiaries, including its main palm oil plantation and milling subsidiary, the stock-listed PT Sawit Sumbermas Sarana (PT SSMS).[115] PT SSMS appears to have a formal parent–subsidiary ownership structure.[116] However, as reported in Greenpeace's 2018 report *Final Countdown*, 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.[117]
Fangiono Family *(First Resources, Fangiono Agro Plantation, Ciliandry Anky Abadi)* 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[118]),[119] Fangiono Agro Plantation[120] and Ciliandry Anky Abadi.[121] 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)[122], a joint venture plantation holding company with First Resources until June 2018, when First Resources bought out its partner company's stake.[123] 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 SAJ may have been designed to obscure the family's

112 Greenpeace (2018b) pp38–45
113 PT Sawit Sumbermas Sarana website 'Our business'
114 PT Sawit Sumbermas Sarana (2019a) p65
115 PT Sawit Sumbermas Sarana (2019a) p11
116 PT Sawit Sumbermas Sarana (2019a) pp68–71 and PT Sawit Sumbermas Sarana (2019b) p13
117 Greenpeace (2018b) p48
118 First Resources website 'Stock information'
119 First Resources (2018b)
120 Corporate registry profile.
121 Corporate registry profile. See also Greenpeace (2018b) endnote 5 for sources relating to Fangiono family relationships.
122 See analysis in Greenpeace (2018b) pp60–61.
123 First Resources (2018a)

			links to these companies.[124]
Gagah Putera Satria Banjarmasin, South Kalimantan/none	No	None	PT Gagah Putera Satria has several business units including mining, plantations and wood processing.[125] 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[126])	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.[127] Sitorus, Ganda, Saksti and Darwin Indigo are all closely connected to Wilmar (see below).[128] For the purposes of our analysis, the group was also taken to include S&G Biofuel, Gama's joint venture with Samsung C&T.[129] 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.[130]
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,[131] 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.[132] 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.[133] Genting Berhad and Genting Plantations Berhad are stock-listed, as are subsidiaries Genting Malaysia and Genting Singapore.[134] Genting Berhad and Genting

[124] See analysis in Greenpeace (2018b) pp60–61.
[125] Perusahaan Pertambangan Batu Bara Direktori Online website 'PT Gagah Putera Satria'
[126] Samsung C&T (2008)
[127] Greenpeace analysis of corporate registry profiles. See Greenpeace (2018d) and Greenpeace (2018b) p68.
[128] See Greenpeace (2018b) p68.
[129] Corporate registry profiles of PT Gandaerah Hendana and PT Inecda and their parent companies, and Samsung C&T Corporation and Subsidiaries (2017) p23
[130] See eg KPN Corp website 'Agriculture' and Gama Plantation website 'Home'.
[131] Genting Berhad (2019) pp25,193–211
[132] PT Varita Majutama. See Genting Berhad (2019) p196.
[133] PT Permata Sawit Madiri. See discussion in Greenpeace (2018b) p78.
[134] Genting Berhad (2019) pp24–25

			Plantations Berhad share a chief executive, Tan Sri Lim Kok Thay.[135]
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.[136] IOI is part-owner of Bumitama (see above).[137]
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.[138]
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,[139] and has a formal parent–subsidiary ownership structure.[140]
Korindo Jakarta/none	Yes	None	Korindo is a privately held company controlled by the South Korean Seung family.[141] It publishes little financial or ownership information.[142]
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.[143]
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.[144] It lists a number of plantation and other subsidiaries on the RSPO website.[145]
NPC Resources Sandakan,	Yes	None	NPS Resources Berhad is a stock-listed investment holding company with subsidiaries involved in palm oil production and other sectors.[146] The group structure

[135] Genting Berhad website ‘Directors & management’ and Genting Plantations website
[136] IOI Group website ‘Group structure’
[137] 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.
[138] See Reuters website ‘Jaya Agra Wattie Tbk PT’ and PT Jaya Agra Wattie website ‘Palm oil profile’.
[139] Kuala Lumpur Kepong website ‘Our company: Overview’
[140] Kuala Lumpur Kepong (2019a) p84
[141] Rainforest Action Network et al (2018) p13
[142] Korindo website ‘Group profile’
[143] Makin Group website ‘About Makin Group’
[144] Musim Mas website ‘About us: Introduction’
[145] RSPO website ‘Members: Musim Mas Holdings Pte. Ltd.’
[146] NPC Resources website ‘Main’

Sabah/Bursa Malaysia			of NPC Resources is not clear – it has (or had as of the end of 2015) a formal parent–subsidiary ownership structure for at least some of its operations.[147]
Pasifik Agro Sentosa Jakarta/none	No	RSPO (subsidiary PT Barumun Agro Sentosa)	Pasifik Agro Sentosa is a privately held company focused on palm oil and sugar.[148] 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.[149]
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.[150]
Rachmat *(Amara, Dharma Satya Nusantara, Triputra Agro Persada [including Union Sampoerna Triputra Persada])* Jakarta/none (Amara, TAP), Indonesia/IDX (PT DSN)	No	RSPO (TAP/DSN)	The Rachmat group is an informal designation for the business empire of Indonesian tycoon Teddy Rachmat and his family. This includes the privately held[151] Triputra Group, with interests in agribusiness, manufacturing and mining.[152] The Triputra Group subsidiary Triputra Agro Persada (TAP)[153] is engaged in palm oil and rubber production and lists three subsidiaries on the RSPO website.[154] Palm oil company PT Agro Maju Raya (Amara) (previously reported on separately by Greenpeace Southeast Asia[155]) is reportedly also a subsidiary of the Triputra Group,[156] although it is also attributed to PT Dharma Satya Nusantara (PT DSN, see below).[157] 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)[158] and PT DSN (established as a joint venture with the late Winarto Oetomo[159]). The latter is a formally constituted, stock-listed group with a formal parent–subsidiary ownership structure;[160] it lists a number of its subsidiaries on the

147 NPC Resources (2015)
148 Artha Graha Network website ‘PT Pasifik Agro Sentosa’
149 Artha Graha Network website ‘About us’
150 Wikipedia website ‘Perkebunan Nusantara’
151 Forbes (2013)
152 Triputra Group website ‘Home’
153 Triputra Group website ‘Agribusiness’
154 RSPO website ‘Members: PT Triputa Agro Persada’
155 Greenpeace Southeast Asia (2019)
156 Chain Reaction Research (2015) p2
157 Forbes (2013)
158 Kulim (Malaysia) Berhad (2007)
159 Forbes (2013)
160 PT Dharma Satya Nusantara (2019) pp20–21,33–35

			RSPO website.[161]
Rajawali/Eagle High Jakarta/IDX (Eagle High), note 37% stake through FELDA	No	RSPO (Eagle High)	PT Eagle High Plantations, a subsidiary of the Indonesian Rajawali Corpora conglomerate,[162] is itself a stock-listed, formally constituted group with a formal parent–subsidiary ownership structure.[163] A stake in Eagle High was acquired in controversial circumstances in 2015 by Malaysian government agency the Federal Land Development Authority (FELDA),[164] which also part-owns the controversial palm oil company Felda Global Ventures, reported on in Greenpeace's 2018 report *Final Countdown*.[165]
Salim *(First Pacific, IndoAgri, Indofood and IndoGunta)* Jakarta/IDX (Indofood), Jakarta/none (IndoGunta), Singapore/SGX (IndoAgri), Hong Kong/SEHK (holding company First Pacific)	Yes	None[166]	The Salim Group has a complex informal structure, with formal segments alongside various informal segments connected by operational, managerial and possibly financial group links.[167]
Sime Darby Petaling Jaya, Malaysia/Bursa Malaysia	No	RSPO, HCSA	Sime Darby Plantation Berhad is a formally constituted, stock-listed corporation with a formal parent–subsidiary ownership structure.[168] 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.[169]

161 RSPO website 'Members: PT. Dharma Satya Nusantara'
162 Eagle High Plantations (2019a) pp67,87 (consolidated statements of financial position p7)
163 Eagle High Plantations (2019a) pp66–73
164 Malaysiakini (2019)
165 Greenpeace (2018b) p63
166 RSPO membership of IndoAgri subsidiaries PT PP London Sumatra (Lonsum) and PT Salim Ivomas Pratama (SIMP) ended in early 2019.
167 Greenpeace (2018b) pp130–131
168 Sime Darby (2019a) pp311–321
169 Sime Darby (2019a) pp140,27

Sinar Mas (Golden Agri-Resources) Jakarta/none (Sinar Mas), Singapore/SGX (GAR), Jakarta/IDX (PT SMART)	No	RSPO (GAR), RSPO board, HCSA	Golden Agri-Resources Ltd is the agribusiness arm of the Sinar Mas group,[170] a loosely structured, privately held group controlled by descendents of the founder, Eka Tjipta Widjaja, who died in January 2019.[171] GAR is a formally constituted, stock-listed corporation (albeit majority-owned by the Widjaja family)[172] with a formal parent–subsidiary ownership structure.[173] Its subsidiary PT SMART is stock-listed in its own right.[174] 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,[175] 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.[176] 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.[177]
Sungai Budi/Tunas Baru Lampung Jakarta/IDX (Tunas Baru Lampung)	Yes	RSPO (Tunas Baru Lampung)	Sungai Bud/ TBL is a family-owned group, controlled by the Widarto Oey family.[178] Known concessions appear to have a formal ownership structure.[179]
Tianjin Julong Tianjin, China/none	No	None	Tianjin Julong is a privately held group[180] with a formal structure about which little information is available.[181] Its Indonesian palm oil operations are run by subsidiary Julong Indonesia.[182]
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.[183]

[170] Sinar Mas website 'Agribusiness and food'
[171] Tani S (2019)
[172] GAR website 'Ownership structure'
[173] GAR website 'Corporate structure'
[174] Sinar Mas website 'Agribusiness and food'
[175] See RSPO website 'Complaint: Golden Agri-Resources Ltd' and Forest Peoples Programme website '5 new complaints filed against Indonesia's largest palm oil company'.
[176] SIPEF (2019a) pp4,49–71,143
[177] SIPEF (2019a) p98
[178] Tunas Baru Lampung website 'Management'
[179] Tunas Baru Lampung website 'Head office / factories / subsidiaries'
[180] Forest 500 website 'Tianjin Julong Group Co.' and Julong Group website 'Our history'
[181] Julong Group website 'Organizational structure'
[182] Julong Indonesia website 'About us'
[183] TSH Resources (2019) pp36–37

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,[184] 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 exposed by Greenpeace in its 2018 report *Rogue Trader*.[185] It remains to be seen whether Wilmar will bring a new transparency to its operations in the future.

[184] Wilmar International (2019a) pp184–188
[185] Greenpeace International (2018d)

Annex 3: Supply chain exclusions

Cargill

Cargill's grievance tracker[186] 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 supply chain disclosure[187] (Q1 2019) 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 supply chain disclosure shows a supply chain link to PT Gandaerah Hendana – a plantation company owned by S&G Biofuel, Gama's joint venture with Samsung C&T[188] – and Wilmar's grievance list shows that it resumed trade relations with Gama in March 2019.[189] 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 supply chain disclosure (which reflects Q1 2019 and thus should reflect the exclusion) reveals purchases from 'Gunta Samba' mills, which are part of the Salim group but not classified as such by Cargill.

Further, in providing Cargill with an opportunity to comment on the findings of this report, Greenpeace requested that any changes to 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 unattributed mills. Therefore, in Table 1, based on publicly available information as of 1 October 2019, Greenpeace has listed Cargill is exposed to Fangiono, Gama and Salim through its supply chain..

Cargill's grievance tracker states that **PT Surya Panen Subur** is no longer in its supply chain as of October 2018, and that **PT Tunas Baru Lampung** is no longer in its supply chain.

Musim Mas

Musim Mas's grievance tracker states 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 disclosures show 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.[190]
In providing Musim Mas with an opportunity to comment on the findings of this report, Greenpeace requested that any changes to 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 unattributed mills.

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186 Cargill website 'Managing grievances'
187 Cargill (2019a)
188 Corporate registry profiles of PT Gandaerah Hendana and PT Inecda and their parent companies, and Samsung C&T Corporation and Subsidiaries (2017) p23
189 Wilmar International website 'Grievance procedure'
190 Corporate registry profiles of PT Gandaerah Hendana and PT Inecda and their parent companies, and Samsung C&T Corporation and Subsidiaries (2017) p23

Therefore, in Table 1, based on publicly available information as of 1 October 2019, Greenpeace has listed Musim Mas is exposed to Gama in its supply chain.

Wilmar

Provided an opportunity to comment on Greenpeace's current assessment of its supply chain,[191] Wilmar stated that PT Arjuna Sawit Utama [sic – the company is **PT Arjuna Utama Sawit**] is no longer part of its supply chain, although PT AUS does not appear on Wilmar's public grievance list. 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,[192] Mondelēz stated that eight groups have been suspended, but did not indicate which ones. It also noted that 12 additional groups do not appear in its mill list under names its suppliers associated with groups identified by Greenpeace. Greenpeace notes that the company's public mill list does not include group names as a field of information.

Nestlé

Nestlé does not have a grievance tracker, but does include some information about groups it has excluded from the supply chain on its website. Provided an opportunity to comment on Greenpeace's current assessment of its supply chain,[193] 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.'[194]

However, Nestlé's supply chain disclosure shows a supply chain link to PT Mitra Indo Cemerlang without correctly linking this company to Korindo. Nestlé's supply chain disclosure also shows Salim Ivomas Pratama mills not attributed to Salim Group.

Further, in providing Nestlé with an opportunity to comment on the findings of this report, Greenpeace requested that any changes to 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 unattributed mills. 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,[195] P&G noted that since publication of the mill list used for Greenpeace's analysis (data for 2017), three producer groups have been excluded from its supply chain for noncompliance, and stated that this will be reflected in its latest mill list data to be published

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[191] Wilmar International (2019b)
[192] Mondelēz (2019a)
[193] Nestlé (2019a)
[194] Nestlé (2019a)
[195] P&G (2019)

in November 2019. The three excluded producer groups are **Austindo Nusantara Jaya** (ANJ), **Gama** and **Salim Group**.[196] This information is not in the public domain.[197]

P&G's public supply chain disclosure shows a supply chain link to PT Gandaerah Hendana – a plantation company owned by S&G Biofuel, Gama's joint venture with Samsung C&T[198] – and attributes this company to Samsung. P&G's supply chain disclosure for calendar year 2018, which is not in the public domain but has been shared with Greenpeace USA,[199] 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 one of a series of emails sent to Greenpeace USA about its supply chain, P&G stated 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.'

In providing P&G with an opportunity to comment on the findings of this report, Greenpeace requested that any changes to findings concerning the producer groups in its supply chain be confirmed by listing mills/concessions that had been excluded.

In this case, P&G has not excluded mills associated with Gama (and given Wilmar's resumed trade with this company, the 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 appears to be the main exposure to Salim visible in P&G's disclosure.

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 tracker 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,[200] 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.'

However, Unilever's supply chain disclosure 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 2017); PT Kintap Jaya Wattindo – which is linked to JA Wattie but not attributed; PT Mitra Indo Cemerlang and Dimex Selaras,

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196 P&G (2019)
197 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).
198 Corporate registry profiles of PT Gandaerah Hendana and PT Inecda and their parent companies, and Samsung C&T Corporation and Subsidiaries (2017) p23
199 Document shared in May 2019.
200 Unilever (2019a)

which are part of Korindo, but not attributed as such; and Salim Ivomas Pratama mills not attributed to Salim Group.

Further, in providing Unilever with an opportunity to comment on the findings of this report, Greenpeace requested that any changes to supply chain findings be confirmed by listing mills/ concessions that had been excluded. Given the company's failure to provide any response, Greenpeace cannot confirm the exclusion of unattributed mills.

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.

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

Producer groups

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.[201]

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

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

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 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.'[202]
It also notes that PT Agro Sejahtera Manunggal is not currently sealed and that KLHK's investigation found no violations relating to the fires that occurred in the concession.

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

Citra Borneo Indah

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

[201] Astra Agro Lestari (2019)
[202] Bumitama Agri Ltd (2019b)

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

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

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 report, which referred to a burned area of approximately 8,100ha across Genting's concessions between 2015 and 2018,[203] Genting stated that 'Based on KLHK maps of burnscar 2016–2018 there was no significant burning. Burned areas are normally outside concessions. Comparison with company data for PT GAL 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.'[204] It should be noted that the concession maps and analysis supplied by the company to journalists following publication of that report are different to those that the company has shared to the RSPO as part of its membership requirements.[205]

The PT GAL map shared with journalists is also different from those held by Indonesia's Ministry of Agrarian reform/spatial planning in the form of a HGU map (Hak Guna Usaha). The map shared to journalists also differs from records help at a provincial level in Indonesia. The results could not be replicated using the same concessions boundaries as those it has supplied to the RSPO.

Greenpeace's provision of an opportunity to comment on the evidence presented in the present report explicitly referenced this correspondence and noted that the company's response to Greenpeace Southeast Asia did not address findings for 2015. It requested that the group include its position on Greenpeace's findings regarding the year 2015. 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 the 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 Greenpace'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 [sic] in September 2019. Further, we would also like to clarify that none of Genting Plantations' subsidiaries managers were

[203] Greenpeace Southeast Asia (2019)
[204] Genting (2019a)
[205] Documents held by Greenpeace Southeast Asia.

arrested, but on the contrary, our managers had cooperated and facilitated the investigations being conducted.'[206]

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

IOI

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

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 evidence of court action against plantation companies owned by the group, KLK responded:[207] '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.' 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.'

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.'[208] It 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.

[206] Genting Plantations Berhad (2019)
[207] Kuala Lumpur Kepong (2019b)
[208] Korindo Group (2019)

Regarding the burn scar analysis, Greenpeace notes that areas that suffered from significant fire outbreaks in the second half of 2015 in the region were only identified as burn scars by the KLHK in 2016, likely as a consequence of the heavy cloud cover in the region. Hence, the date of the burn scar does not necessarily correspond to the date of the fire event. The vast majority of the KLHK burn scar area that falls within Korindo's concessions corresponds with fire hotspot data covering the January 2015–February 2016 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 north eastern area of PT Papua Agro Lestari and the central and western area 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 2015–16 period, nor could the classification be confirmed through the interpretation of a series of satellite imagery. Assuming this area of 2,730 ha does represent a false positive, this would still leave Korindo with burn scars covering 8,731 ha.

Within the other areas classified as burn scar by KLHK we have observed clear presence of fires, both directly through the satellite imagery and through the presence of fire hotspots.

The burn scar area figures in this report have all been calculated based on the government's burn scar data. While satellite imagery suggests the government map may meaningfully 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 smouldering 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 supply chain disclosures 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

See below

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 the divisions,[209] 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 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'.[210] 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.

Salim (IndoAgri, Indofood and IndoGunta)

Salim Group's response[211] declined to respond to Greenpeace's fire hotspot and burn scar data on the grounds that 'your information and data is neither specific nor detailed'. 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. The response did not contain evidence that changes Greenpeace's analysis.

Sime Darby[212]

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

[209] Triputra Agro Plantation (2019)
[210] Eagle High Plantations (2019b)
[211] Indofood Agri Resources (2019)
[212] Sime Darby (2019b)

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.'

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 [Mitral 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.' It is unclear from the company 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 Mitral 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)

See below

SIPEF

In response to Greenpeace's provision of an opportunity to comment on the evidence presented in this report, SIPEF responded providing shapefiles of its concessions and transparent discussion of the issues it is addressing.[213]

SIPEF claims, in relation to PT Dendymarker Indah Lestari, that it only acquired the concession in August 2017 and '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 this year'. It claims that most fires are lit by land squatters as a result of ongoing conflict with the company.

An earlier reply from SIPEF in response to Greenpeace Southeast Asia's September 2019 report,[214] notes that its own records suggest PT DIL saw 4,817 ha of fires in 2015, slightly less than the 5,544 apparent from Greenpeace's analysis of government data.

The response did not contain 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,[215] 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 has not provided its own map of the concession or other evidence for its claim).

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[213] SIPEF (2019b)
[214] SIPEF (2019c)
[215] Greenpeace Southeast Asia (2019)

A document on the company's website dated January 2019, relating to 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.[216] This outline matches the area 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.

Wilmar

See below.

Traders

Cargill

Cargill's response to the evidence presented in this report focused on its commitments, zero-burn policies and participation in local and national initiatives, stating: 'Cargill remains committed to our long-standing no-burning policy and will continue to work with our palm suppliers to ensure intentional burning does not occur in our supply chain.'[217]

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

Comments on supply chain issues are addressed in Annex 3.

GAR

In response to evidence of sanctions against plantation companies owned by the group, GAR responded[218] acknowledging administrative sanctions against PT BKS in 2015 as a result of 106 ha burning. It claims to have installed a new management team and states that reforestation has started.

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 'we want to make

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[216] PT Tunas Baru Lampung (2019) p2
[217] Cargill (2019b)
[218] GAR (2019)

it clear that this figure is inaccurate. Our records indicate that for the period of 2015–2018 there were accumulatively 1,632.7 ha of unintentional burnt area, and we have published this figure in our Sustainability Report.'[219] 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.

Wilmar

Wilmar's response to Greenpeace's findings concerning fires on 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 proved to be either false alarms or fires not started deliberately by the suppliers.[220] It stated that as most fires occur outside palm oil concession boundaries 'efforts 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.

[219] Musim Mas (2019)
[220] 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. ©Adimaja/Greenpeace

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