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Commitments in-Country: Companies, Palm, & Commitments that Count in Indonesia, 2020

An analysis based upon Supply Change data

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Businesses, investors, and governments are committing to reverse their role in degrading the world's critical ecosystems. But until recently, market information that best supports these efforts has been scarce. Supply-Change.org exists to fill this data gap by providing a platform for news, data, and analysis that catalogs and contextualizes global progress toward environmental targets.

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Glossary

Certification

Company commits to purchasing commodities certified by an independent third party, applying specified and unspecified standards. In certain cases, company commitments are considered to adhere to proprietary internal certification systems.

Certified Sustainable Palm Oil (CSPO)

Palm oil produced on oil palm plantations that has been independently audited and certified against the Roundtable for Sustainable Palm Oil (RSPO) standard.

Commitment

Any publicly-available corporate statement related to a particular commodity, certified commodities or credits; supply chain traceability; supplier certification; bilateral purchase agreements; and any other targets for low/zero deforestation or ecological degradation.

No Deforestation, No Peat, No Exploitation (NDPE)

A type of policy that many companies (both upstream and downstream) have, which states that the production of palm oil (by the company or in its supply chain) will involve no deforestation, development on peatland, and/or the exploitation of workers or local communities.

Traceability

A company's ability to determine the origin or intermediate source of a commodity within its supply chain (e.g., 100% of palm oil is traceable to the plantation).

Zero Deforestation

A company commits to "zero deforestation," "no-deforestation," "deforestation free" or similar language that implies "no deforestation anywhere," whether the company has defined the term or not.

Zero Net Deforestation

In its commitment, a company "acknowledges that some forest loss could be offset by forest restoration and afforestation on degraded land." This can be achieved through direct restoration or the purchase of forest carbon offsets, biodiversity offsets, or other environmental currencies.

Company Supply Chain Levels

- **Producer:** An oil palm plantation owner/manager, independent smallholder, or cooperative member.
- **Processor:** A palm oil mill or refinery operator.
- **Trader:** An importer, exporter, and/or seller of non-finished palm products within the country of production.
- **Manufacturer:** A manufacturer of products containing palm derivatives for consumption.
- **Retailer:** A retailer, wholesaler, grocery, co-op, supermarket, restaurant or other type of organization where consumers can buy products containing palm directly from the company.

Key Commitment Goals and Procurement Policies for Palm Commitments:

- **High Conservation Value:** High Conservation Value (HCV) areas are natural habitats that possess inherent

conservation values, such as the presence of rare or endemic species, the provision of ecosystem services, sacred cultural sites, or resources harvested by local residents.

- **High Carbon Stock:** High Carbon Stock (HCS) areas of viable natural forest with high carbon and biodiversity storage identified using the HCS approach.
- **Peatland:** Wetlands that contain peat soil. Peatlands store large amounts of carbon, support high levels of biodiversity, and provide essential ecosystem services such as flood prevention.
- **Wildlife, Biodiversity:** Protection of wildlife and biodiversity in the vicinity of production activities in forest landscapes.
- **Greenhouse Gas Emissions Management:** Reduction of greenhouse gas (GHG) emissions from producer operations in forest landscapes.
- **Legality:** Compliance with environmental laws at the site of production globally (which would include Indonesian law, unless otherwise specified).
- **Free, Prior and Informed Consent (FPIC):** Outlined in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), it is a specific right that belongs to indigenous peoples, which is It allows them to give or withhold consent to a project that may affect them or their territories, especially actions affecting their lands, territories and natural resources. As part of our methodology, *Supply Change* only counts company aspirations to adhere to this if they specifically use the term FPIC (FAO 2016).
- **Fire Prevention/ Control:** Measures that reduce the risk of fire for production in forest landscapes, including prohibiting burning as a means of clearing land, prohibiting peatland drainage, supporting firefighting activities, etc.
- **Grievance Mechanism:** Formal process that individuals, communities, workers, and/or civil society organizations can use to voice complaints about company activities that they perceive as problematic, usually with regards to human rights.
- **Supporting Smallholders:** *Supply Change* defines this as any financial, technical, logistical, or other assistance companies report providing smallholder producers (i.e., small family farms less than 50 hectares).
- **Independent Smallholders:** Are generally self-managed and not bound by a contract. These groups often receive funding from government services but are otherwise highly self-sufficient.
- **Schemed/ Associated Smallholders:** Often managed by a particular mill and bound by a contract. These smallholders are required to follow a certain set of operating procedures outlined by the processor company group for which the mill is associated.

Introduction to Supply Change

Forest Trends' *Supply Change* Initiative draws from publicly available data to track a global set of companies, representing all levels of the supply chain from producers to retailers, and their commitments to address commodity-driven deforestation related to the "big four" commodities – palm, soy, timber & pulp, and cattle. In an effort to support stakeholders' decision-making and, ultimately, to drive transformational change, this tracking also includes associated commitment goals and procurement policies, as well as the progress companies have made in achieving their commitments over time.

The role of *Supply Change* is to catalog, organize, and compare this data in a meaningful way. Keeping pace as a centralized, free, and publicly available information center is essential to ensure that all stakeholders may make use of *Supply Change* as a tool for learning about and evaluating the impacts of corporations addressing deforestation in their supply chains.

How do we do this?

1. *Supply Change* compiles all research in a sophisticated database management system that enables the generation of insights and publications such as this report.
2. *Supply Change* makes available company-specific commitment goals and procurement criteria along with any related progress information on the free-to-use and publicly accessible web platform www.supply-change.org.



About this Report

***Supply Change* and the United Nations Environment Programme Finance Initiative (UNEP-FI) teamed up to examine the state of corporate reporting on deforestation linked to palm oil production in Indonesia.** *Supply Change's* database contains over 870 companies, which are tracked by their involvement in one of the "big four" commodity supply chains. For this report, *Supply Change* tracked 108 companies that are believed to produce and/or source palm products from Indonesia. For each company, the team gathered more than 200 metrics and reviewed public documents from a variety of channels, managed

either directly by the company or by external parties for companies with commitments to addressing deforestation in supply chains. Through identifying trends in corporate reporting around management practices, supplier selection, and other important factors, this report can provide context for investors around financial decision-making regarding the 108 companies and others involved in Indonesian palm oil supply chains. A list of relevant initiatives at the end of the report can provide support to companies and financial institutions interested in engaging further on these issues.

SECTION 1: Country Context

Palm-Driven Deforestation in Indonesia

Tropical forests contain 80% of the world's documented species, sequester globally significant stores of carbon, and initiate regional precipitation patterns vital for agricultural production (WWF 2019). These vibrant ecosystems also provide sustenance and economic livelihoods for millions of indigenous people in addition to bolstering the global economy. In 2018, deforestation cost the tropics 12 million hectares (ha) of which almost a third was primary rainforest (Weisse and Goldman 2019).

Palm oil production is one of the top four global drivers of tropical deforestation, generating as much as 9% of worldwide greenhouse gas emissions, much of it from the draining and burning of carbon-rich peat for cropland (Carlson and Curran 2013). In Indonesia, forest clearance for oil palm plantations is the largest driver of deforestation.¹ Since 2001, Indonesia lost 16% of its tree cover (25.6 million ha), a quarter of which was converted into oil palm plantations (Austin et al 2017; Austin et al 2019; GFW 2019). Most concerning is the loss of Indonesia's primary

forests, which are some of the most ecologically diverse areas in the world and capture globally-significant amounts of carbon dioxide (RAN 2019). In 2018, Indonesia suffered the third largest loss of primary tropical forest (339,888 ha), behind Brazil and the Democratic Republic of Congo (Weisse and Goldman, 2019).

However, deforestation trends in Indonesia may be shifting. Though Indonesia had the highest rate of deforestation in the world in 2014, the rate of primary forest loss in the country dropped considerably in 2017 and 2018 while deforestation rates rose in other forested tropical regions (Brazil, Colombia, West Africa, etc.). This recent decline in Indonesian forest loss may be due in part to less favorable fire conditions in these years, strengthening government restrictions on burning and deforestation (see Box 2), and influence from corporate commitments (Ruiz and Putraditama 2019; Hurowitz 2019). Further and continued action is needed from both government and the private sector if these trends are to continue.

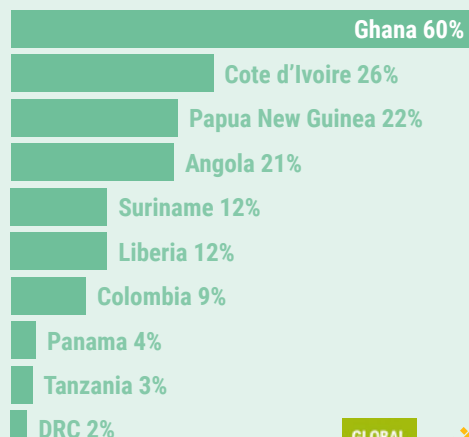
Figure 1: Top 10 Countries Losing the Most Tropical Primary Rainforest in 2018

By total area



*Only countries with more than 100,000 hectares of primary forest included

By percent increase from 2017



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¹ While palm oil is the largest driver of deforestation in Indonesia, the percent of deforestation attributable to palm oil production has declined in the last few years. Other significant drivers include conversion to grassland due to drought and wildfires (20%), small-scale agriculture (including oil palm grown by smallholder farmers) (15%) and timber plantations (14%).

Drivers of Palm Oil Production and Consumption

Palm oil is the most widely-used vegetable oil in the world and is highly versatile. It is used to make food, animal feed, oleochemicals, and biodiesel. Compared with other oil crops (soy, coconut, etc.) oil palms are significantly more productive and can yield up to ten times more volumes on the same amount of land (GreenPalm 2019). Corporate efforts to reduce deforestation by replacing palm oil-based ingredients with other vegetable oils (soy, coconut, etc.) could lead to conversion of other larger areas of native ecosystems for producing equivalent volumes. For that reason, many consider improving the sustainability of palm oil production to be a more effective means of reducing deforestation than eliminating palm oil use (RSPO 2018c). The popularity of palm oil use as a preservative in food products compared with other vegetable oils surged when health-conscious consumers fixated on the unhealthy trans fats in other vegetable oils (as a result of the hydrogenation process), but this popularity has been tempered by recent awareness around its high levels of saturated fats. Nevertheless, the demand for palm oil remains strong, particularly because palm oil maintains a price advantage over other vegetable oils (Tullis 2019).

Indonesia is the world's largest producer of palm oil. In 2017, Indonesia exported over 30 million tonnes of palm oil, which generated over US\$18.2 billion in export revenues, and accounted for 51% of global palm oil exports (UNDP 2017). The Indonesian government recognizes palm oil to be a strategically important cash crop, which provides 16 million jobs and accounts for 3% of gross domestic

product (UNDP 2017; OEC 2017). Around a third of the palm oil produced in Indonesia is used domestically, while the remaining two-thirds is exported (USDA 2019).

Palm oil production in Indonesia is driven by strong global and domestic demand for palm oil products, with the largest demand for Indonesian palm oil stemming from Indonesia (32%), India (24%), European Union (14%), and China (12%). As the demand for palm oil continues to grow, Indonesia's production volume (41.5 million tonnes in 2018) is projected to increase by almost four percent between 2018 and 2019, while production is estimated to reach over 50 million tonnes by 2025 (USDA 2019; International Council on Clean Transportation 2019; Khatiwada et al. 2018). At current yields (3.8 tonnes crude palm oil per hectare), the projected increase in production volume will require an additional six million ha of land (Khatiwada et al. 2018). To protect the remaining forests in Indonesia, companies will need to protect forests within and around their concessions while producing palm on previously cleared and degraded lands instead of converting additional forested lands for production. Large investments in education, training, and general upfront support for producers and especially smallholders will be needed to ensure widespread adoption of sustainable production practices. However, while demand for sustainable palm oil is growing, it is unclear if it will be strong enough to drive the necessary changes. In the short-term, the market lacks positive incentives for palm oil price and global palm oil demand has not reached the tipping point because its price is still low (Simadiputra et al. 2018).

Potential Drivers

Mixed Signals: Domestic Demands for Indonesian Palm Oil

Almost one third (32%) of palm oil production in Indonesia – 13.1 million tonnes – is consumed within domestic markets, mainly for use in cooking oil, foods, and biodiesel (USDA 2019). In just the last two years, demand for palm oil across Indonesia has grown by 18% (Mundi 2018), with much of this increase driven by the use of palm oil in biodiesel production (International Council on Clean Transportation 2019). The Indonesian government has blending targets to increase the use of palm oil for biodiesel (30% by 2025) and demand for palm oil-based biodiesel in Indonesia is projected to grow by over five percent annually through 2025 (Khatiwada et al. 2018). Demand for sustainably produced palm oil in Indonesia is small, but the Roundtable for Sustainable Palm Oil (RSPO) is trying to encourage domestic use of Certified Sustainable Palm Oil (CSPO) in Indonesia and is aiming to have 50% of palm oil consumed

in Indonesia be RSPO-certified by 2020 (RSPO 2018a). Further, Indonesian President Joko Widodo's administration aims to simultaneously ramp up oil palm production, increase blending of domestic palm oil into biodiesel by up to 50% by 2025, reduce greenhouse gas emissions up to 41% by 2030, and halt the destruction of peatland and primary forests by making permanent the moratorium on peatland and primary forest development for existing land concessions (WRI 2019). Achieving widespread sustainable palm oil production will be key to addressing all four goals. However, corporate sector efforts to produce sustainable palm on degraded land and to protect forests are often discouraged by complicated and narrow forest protection laws, poor legal enforcement, and conflicting land use designations.

Export Market Demand for Sustainable Indonesian Palm Oil

Overall, global demand for palm oil exports from Indonesia is expected to grow. In 2018, India was the leading importer of Indonesian palm oil at approximately 6 million tonnes (US\$3.7 billion), followed by the European Union (EU) with

3.3 million tonnes (US\$2.3 billion), and China with 3.6 million tonnes (US\$2.10 billion) (UN COMTRADE 2019). Although demand trends vary between countries, renewable fuel policies, tariffs, and competition with alternative vege-

lution, the [New York Declaration on Forests](#), and related multilateral initiatives like the [Tropical Forest Alliance](#). Supply Change has tracked participation of hundreds of companies in other related initiatives (e.g., RSPO and CDP). These frameworks can provide companies with templates for their individual commitment creation, collaborative implementation and reporting work streams, and collective enforcement of participant pledges (Donofrio, Rothrock, and Leonard 2017).

With 2020 around the corner, many large member companies are under pressure by several global coalitions of investors to report on and/or address hidden climate and deforestation risks within their commodity supply chains. Two such coalitions, CDP and Ceres, have attracted participation by investor members collectively managing \$87 trillion and \$26 trillion in assets, respectively (CDP 2019, Ceres 2016). Companies disclosing to CDP through its annual Forests questionnaire identified considerable financial risks from inaction on deforestation, largely stemming from reputational, regulatory, and market risks, but also from the physical risks to the supply chain, such as from worsening climate change impacts (CDP 2019). Overall, more than 70% of companies identify reputational risk as a larger concern than regulatory and physical risks.

In addition to, or in the absence of, country policies regarding sustainable palm legislation, traceability, or other criteria, companies are creating their own policies and commitments for producing and sourcing sustainable palm. These commitments often seek to address palm-driven deforestation in a way that is transparent and accountable. Companies may be motivated to make commitments in a response to regulatory changes (e.g., EU RED) or requirements in trade deals. The increasingly competitive space has resulted in a growing concerns over reputational risks and limits to market access. Five company groups (Wilmar, Musim Mas, Golden Agri-Resources, Apical, and Best Group), which together account for 66% of Indonesian palm oil refining capacity, have NDPE requirements for their suppliers (Steinweg et al. 2017).

Pressure for Sustainability in Finance Sector

Financial intuitions face significant financial risks from the palm oil sector, which possessed roughly US\$11.4 billion in outstanding loans in 2018. Almost two-thirds of funding came from banks which were headquartered in Southeast Asia (Indonesia, Malaysia, and Singapore) and 13% was provided by European banks (Chain Reaction Research 2018b). Indonesian producers typically need a least US\$50 million to establish a plantation of 10,000 ha from previously forested lands (Svatoňová et al. 2015). Bank loans often cover up to 15%³ of this high upfront cost, which can dictate whether companies can afford to expand their operations (Toumbourou 2018). Major global banks and pension funds are also linked indirectly to potential risks, having invested more than US\$2 billion in six Southeast Asian banks, which finance more than 50% of Indonesia's oil palm operations (Aidenvironment 2017). This highlights the significant value of assets at risk from deforestation.

This also presents an opportunity for financial institutions to exert pressure by incenting other financial institutions and companies active in Indonesian palm oil supply chains to set commitments, take action, and demonstrate progress toward producing and/or sourcing sustainable palm oil and protect forests (e.g., incorporating sustainability actions within loan agreements, linking sustainability performance to lower interest rates). Financial institutions directly and indirectly lending to companies active within Indonesian palm supply chains face reputational risks because of monitoring from journalists and nonprofits. For instance, the online tracking system, Forest and Finance, which scores and ranks numerous banks for their investments in palm oil companies engaged in deforestation in South East Asia (Chain Reaction Research 2018b).

Amidst growing awareness that commodity supply chains drive deforestation, banks and investors are also under increasing pressure to develop and implement policies to address commodity-driven deforestation. The deforestation risk associated with palm oil is increasingly recognized as a significant reputational and financial risk for companies and their financiers. In 2017, of the 21 million ha of concession area in designated for oil palm production in Indonesia, 6.1 million ha (29%) are "stranded assets": these peatland and forested lands owned by palm producers cannot be developed without violating NDPE requirements from buyers (Chain Reaction Research 2017). For example, 150 of the most influential financial institutions (with US\$2.8 trillion in shares, loans, and bond holdings) are scored and ranked by Forest 500, a project of Global Canopy, and a small but growing number of these institutions have policies on palm oil sustainability that their clients must adhere to in order to access financial services. How can financial institutions manage these risks? Financial institutions are increasingly recognizing the risks they face by investing in businesses involved directly or indirectly in deforestation. A number of financial institutions, for example, consulted with the World Resources Institute in the development of Global Forest Watch (GFW) Pro, which allows companies to better monitor and track deforestation in commodity supply chains (WRI 2019). A handful of financial institutions are also members of the RSPO Financial Institutions Task Force, which requires task force members to implement internal policies to encourage those receiving financial services to source or produce RSPO-certified palm oil (RSPO 2016). Additionally, organizations such as Ceres, PRI, and the Asian Sustainable Finance Initiative are supporting investors to identify and compare deforestation risks among investments within their portfolios and identify the most promising opportunities for engaging with companies to drive change.

3 This varies from business group to business group.

SECTION 2:

Corporate Ambition to Address Palm-Driven Deforestation in Indonesia

Indonesia in Focus

In this report, *Supply Change* analyzed 108 companies believed to produce and/or source palm oil from Indonesia.⁴ This subset of companies was selected for this analysis out of the 591 companies in the *Supply Change* database that produce or source palm oil, because they were believed to source from or operate within palm oil supply chains in Indonesia (including producers, processors, traders, manuf-

acturers and/or retailers), and had previously disclosed information for several key implementation metrics.⁵ *Supply Change* expected companies that had previously disclosed information on these metrics would be more likely to disclose information on the additional metrics added to the research collection process for this report.

Figure 2: Business Information Summary of 108 Supply Change Companies Active in Indonesian Palm Supply Chains, 2019

By Supply Chain Level



⁴ Out of all 870 companies *Supply Change* tracks, 591 companies are active in palm oil supply chains.

⁵ *Supply Change* selected companies that had disclosed the following metrics: Supply chain operation sourcing locations, the number of ha owned and/or managed, and the names of suppliers and/or customers.

Overview of Company Analysis

In this report, *Supply Change* analyzes the subset of 108 companies to identify the number with commitments, the number reporting progress against commitments, and the number of palm producers disclosing protected land areas in Indonesia. Due to the weakness of legally enforced forest protections, *Supply Change* also highlights the number of companies with key procurement policies and commitments that go above and beyond the current legal standards, comparing minimum forest

protection measures required by Indonesian law with RSPO certification standards. This report explores company approaches for implementation and verification of commitment compliance through supply chain transparency, smallholder support, and satellite monitoring. The report concludes by identifying emerging trends around private sector engagement with the Indonesian palm oil sector and a series of recommendations for the various palm oil supply chain stakeholders, including financial institutions.

Geographic Location

A little less than half of all the companies with palm commitments are headquartered in Europe and North America and are part of a food-related sector including food producers, restaurants, retailers, and wholesalers (47/108). More than a quarter (28/108) are producers of palm oil and are based in Southeast Asian countries (i.e., Indonesia, Malaysia, or Singapore).

Ownership and Structure

About half of the companies in this sample are publicly traded (53/108), while the remaining 55 companies are privately held.

Sectors

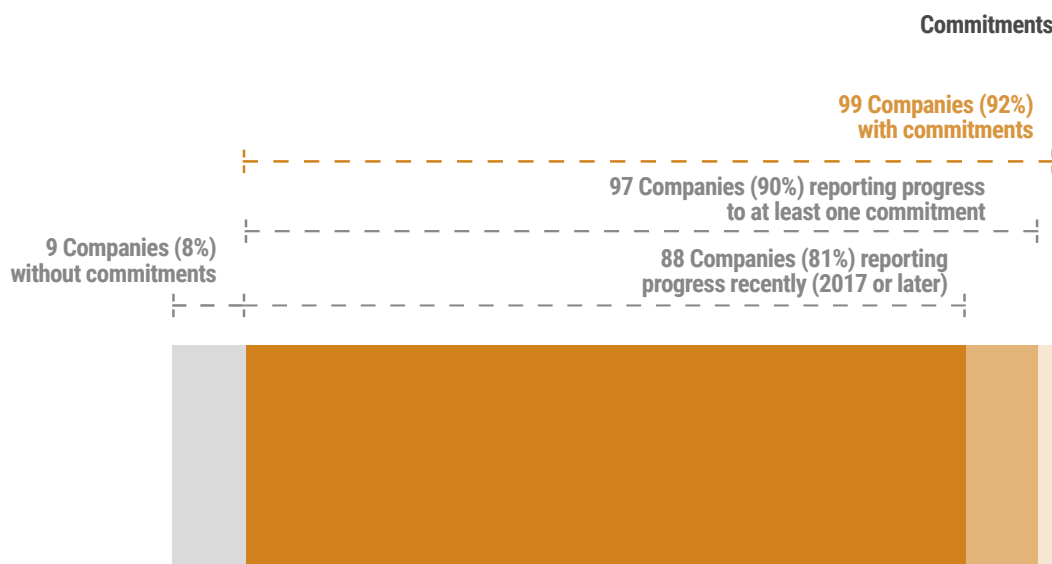
Nearly two-thirds are in the Food Products, Consumer Staples, Farming, or Food Retailers and Wholesalers sectors (79/108).

Companies and Their Commitments to Sustainable Indonesian Palm Oil

The 108 companies chosen for this analysis are highly engaged with palm oil sustainability; around 90% of companies have palm oil commitments and nearly all of them report progress (Figure 3). Most companies had only one commitment, which often covered all

palm oil products, as opposed to crude palm kernel oil or derivatives. Most commitments applied to the whole palm oil supply chain and were not limited to specific geographies.⁶

Figure 3: Number of Companies Active in Indonesian Palm Supply Chains with and without Commitments, 2019



⁶ Some commitments apply only to certain sales markets (e.g., for products sold in European markets) or production areas (e.g., for palm sourced from Malaysia).

Regular reporting on commitment progress can make it easier for financial institutions to assess investment risks among competing companies active within palm supply

chains in Indonesia by comparing the scope and nature of their commitments and the extent of their progress.

Key Findings

Financial institutions need additional information from companies in their portfolio on implementation and monitoring to effectively gauge impacts on forests and manage the resulting risks (e.g., reputational, regulatory, and market access) when making investment decisions.

The key findings from this report are:

- **The Indonesian regulatory environment does not sufficiently address palm-driven deforestation risks, which has prompted many companies to go above and beyond the law.** Over 60% of producers (26/42) disclosed the number of hectares (ha) certified to the Roundtable on Sustainable Palm Oil (RSPO) in their concessions, while none reported the total number of ha certified to the legal standard, the Indonesian Sustainable Palm Oil (ISPO) certification.
- **The RSPO certification has facilitated greater transparency around corporate ambitions and progress reporting.** Of the 108 companies analyzed for their activity in Indonesian palm oil supply chains, three-quarters (81) have at least one commitment to produce or source RSPO-certified supplies, with a total of 2.5 million tonnes of commitment-compliant volumes reported.
- **Ensuring full traceability can be challenging.** Sixty companies (56%) out of 108 aimed to trace their palm oil volumes back through the supply chain to the plantation, mill, or country. In comparison, around half (53/108) of companies reported being able to trace more 75-100% of their palm oil supply to the mill or refinery. Only 14 companies reported being able to trace 75-100% of their palm oil volume to the plantation, and many of these companies operated in upstream supply chain levels (i.e., processors) and/or had vertically integrated operations that included production operations. Full traceability is difficult to achieve, especially for downstream companies, and many opted to rely on certification systems like the RSPO to ensure compliance.
- **Transparency around land ownership and forest protection among producers is important.** The majority of producers—38 companies out of 42—disclosed some amount of information about the land area they own and/or manage,⁷ while only 31 companies disclosed information on their protected areas. Twenty-seven of these companies disclosed HCV-designated ha, and four disclosed HCS-designated ha. In all, 81,053 ha were reported to be under some form of protection, which represent 29% of all ha reported in Indonesia by the 38 disclosing companies. Full disclosure of land ownership, including the number of ha under protection, is crucial to understanding risk.
- **The majority of company commitments do not specify avoidance of producing and/or sourcing palm from protected areas.** While 16 producers aimed to protect biodiversity, only 10% of producer companies (4/42) made public statements in support of not sourcing from or producing in protected areas. Under Principle 7, RSPO-certified supplies should not be produced within protected areas. Nevertheless, there are many documented instances of supplies sourced from protected areas entering supply chains of companies with commitments. As a result, the 81 companies with commitments to RSPO certification may want to explicitly outline their support and actions to ensure this does not happen.
- **Use of satellite monitoring serves as vital measure for verifying commitment compliance.** Seventeen companies reported reliance on satellite monitoring. The companies using satellite technology for tracking deforestation are all major palm oil users at various levels in the supply chain, including AAK AB, Nestlé, Musim Mas, and IOI Group. Media attention and larger budgets for sustainability could help explain this.
- **Smallholder support is an often-overlooked investment needed for success.** More than two-fifths (45/108) of companies made statements that they would support smallholders in their palm oil supply chains. Out of those that made these statements, two-thirds (30/45) disclosed that they were currently providing some kind of support to smallholders somewhere in their supply chain.⁸ This will become increasingly important; smallholders are estimated to control up to 60% of land designated for palm oil production.

⁷ The 38 producer companies disclosed a total of 6.2 million ha owned, managed, or leased globally in 2017. Out of this total, at least 2.1 million ha were confirmed to be in Indonesia.

⁸ This support could be for smallholders anywhere in their supply chain, not just Indonesia.

Companies Going Above and Beyond the Law

When making sourcing and investment decisions, it is valuable for commodity buyers and financial institutions to know when companies producing and/or sourcing palm oil from Indonesia are going above the law to address deforestation, because adherence to the law has been insufficient in protecting forests or preventing the accompanying risks to companies. Despite legal requirements for all lands to

undergo Environmental Impact Assessments to identify and separate forests designated for protection, many forested areas have been incorrectly incorporated into agricultural land designations, for which there are incentives for rapid conversion and no comparable legal protections for forests (Box 2).

Box 2: Legality

Oil palm plantations are designated into two main categories under Indonesian law:

- **Agricultural Land (*Areal Penggunaan Lain - APL*):** designation for palm oil concessions with difficult pathways for protection (Timmons 2017).
- **Forest Estate (*Kawasan Hutan - KH*):** areas zoned as permanent forest and managed by the Ministry of Environment and Forestry (Timmons 2017).
- **Essential Ecosystem Areas (*Kawasan Ekosistem Esensial - KEE*):** an emerging designation for land within APL that is critical for protected species, peatland or ecosystem functions at the landscape level (UNDP 2019a).

Insufficient coordination and decentralization of forest management has allowed inconsistencies in land designations to proliferate. There are many instances of APL and KH designations overlapping and of degraded lands being classified as KH, while some forests, including HCV and HCS areas, are classified as APL land. To set up a plantation, companies must secure a location permit (ILOK) for land designated for APL and a Land Use Rights Permit (HGU) to operate the plantation (Timmons 2017; Lyons et al., 2019; Watts et al, 2019). Despite KEE's informal designation, the legalization process has gained momentum in recent years. With increasing support from the Minister of Environment & Forestry in Indonesia and initiatives like the Good Growth Partnership (GGP), KEE's are likely to

become a crucial component in upholding conservation in production areas (UNDP 2019a).

Indonesian law requires oil palm plantations to comply with the Indonesian Sustainable Palm Oil (ISPO) certification standard. The standard is based on existing legislation and requires producers to comply with certain regulations for palm oil production and environmental management (UNDP 2012). To comply with ISPO, producers must conduct environmental impact assessments (known as an AMDAL) and adhere to certain land use and human rights standards (Efecta 2015).

Additionally, a temporary moratorium that prohibits permits for logging and oil palm operations in primary forest and peatlands was made permanent on August 5, 2019.¹ The decision comes after several provinces on Sumatra and Borneo declared emergencies due to forest fire smoke in 2018 (Euronews 2019). Indonesia has also developed, in collaboration with subnational governments, civil society, and private sector stakeholders a National Action Plan (NAP) for Sustainable Palm Oil, which is currently awaiting presidential approval. The NAP guides improvement in the palm oil sector and issues it targets, including smallholder inclusion, increased awareness of existing regulations, environmental management and monitoring, community engagement, ISPO implementation, and market access (FoKSBI 2019).

¹ Note that the moratorium will not achieve “zero deforestation” as it does not cover all forest types.

With the moratorium and the pending National Action Plan (see Box 2), commodity buyers and financial institutions may desire greater transparency in reporting (i.e., publishing of permits and new planting policies) among producers expanding their production areas and their buyers. Deforestation tied to palm production within company supply chains can lead to higher reputational risks from shareholder actions and targeted campaigns in the media, and to higher regulatory risks from increased forest protection requirements from importing markets (e.g., the EU) and domestically. For example, under Indonesian law, managers

of companies found guilty of setting fires may face up to 10 years in jail and a fine of up to 10 billion rupiah, or US\$ 700,000 which could have serious implications for the profitability and success of the business (Andrew 2019).

Since its inception in 2004, the Roundtable for Sustainable Palm Oil (RSPO) has grown to be the most widely used sustainability standard for palm oil. It has more rigorous requirements than the ISPO certification (see Box 2) and provides more assurances to manage risks associated with deforestation. For example, RSPO includes protections for HCV and HCS areas and prohibits deforestation as part

of its New Planting Procedure (see Box 2). Currently, 21% of global supply is RSPO-certified, with over half of palm oil volumes (more than 7.2 million metric tonnes per year) coming from Indonesia (RSPO 2018b).

For producers to become RSPO-certified, accredited third-party auditors visit plantations and mills to assess their compliance with the environmental and social requirements of the RSPO Principles and Criteria (P&C). Provided any major non-compliance are addressed in a timely manner (see Box 3), the producer can obtain certification through an accredited RSPO certification body (RSPO 2019b).

However, despite requiring more-rigorous land use standards, RSPO certification has had limited success in addressing deforestation on oil palm plantations. Though RSPO-certified oil palm plantations did have lower rates of deforestation than uncertified plantations, certified plantations are often older and located on land deforested prior to the RSPO's 2005 cutoff date (Carlson et al. 2018). Nonetheless, a number of financial institutions use the RSPO certification standard as assurance of mitigated risk and require their clients to follow the RSPO standards in order to receive financial services (Forest500 2018a).

Box 3: Roundtable for Sustainable Palm Oil (RSPO)

The 2018 RSPO Principles and Criteria (P&C) include new provisions requiring companies to (1) identify, maintain, and enhance High Carbon Stock (HCS) forests and land areas with High Conservation Values (HCV); (2) respect the rights of workers and communities; and (3) avoid planting on peat of any depth (RSPO 2018c). Companies that have met and exceeded the P&C can receive third-party verification and accreditation of their success through the RSPO NEXT certification standard (RSPO 2019c).

Palm oil supply chains are also audited to ensure a clear chain of custody connecting supplies sourced from certified sites of production with downstream users (e.g., manufacturers and retailers) (RSPO

2019d). RSPO members from all parts of the supply chain are required to disclose progress toward four key supply chain models through the Annual Communications of Progress (ACOP). RSPO-certified palm oil is classified as one of four certification models:

- **Identity Preserved:** palm oil from a single, identifiable source (certified plantations)
- **Segregated:** palm oil from different certified sources (certified plantations)
- **Mass Balance:** a mix of certified and uncertified palm oil
- **Book and Claim:** palm oil is offset through credits that support production of certified supply.

In addition to reducing some costs and improving working conditions, RSPO certification provides producers with greater market access, particularly those selling to the EU and North America, where demand for RSPO is highest (WWF et al. 2013). Though the benefits outweigh the cost of implementation for many producers, the cost remains the main obstacle for smallholders pursuing certification (Hutarabat et al. 2019).

Three-fourths of company commitments aim to produce and/or source RSPO-certified supplies, highlighting the role this certification platform has played in shaping company commitments. Fewer companies (18) made

commitments for which the primary goal was zero or zero net deforestation in their palm oil supply chains, likely due to the significant financial, technical, and logistical challenges associated with managing and monitoring zero deforestation commitments, and a lack of consensus on how to define and report progress towards these commitments. The release of the Accountability Framework (AFi), launched in June 2019, provides consensus on definitions and guidance to help the growing number of (mostly) large European manufacturers with zero/zero net deforestation commitments to strengthen their commitments, procurement policies, and to monitor and verify compliance.

Table 1: Key Commitment Goals and Procurement Policies of Companies Believed to Be Sourcing or Producing Palm Products from Indonesia*

Commitment objective	Number of companies with commitments	Total compliant volume ⁹ (metric tonnes)	Total volume ¹⁰ (metric tonnes)
Zero/Zero Net Deforestation	18	872,077	6,167,416
Segregated (or better)	28	319,723	1,005,343
Mass Balance (or better) ¹¹	38	2,029,519	5,781,129
Unclear (Book & Claim, or better)	15	179,843	428,559

Supply Change analyzed the sample of companies to compare their practices with those required by Indonesian law and with industry best practices required by the

Roundtable for Sustainable Palm Oil (RSPO) and practices suggested under the Accountability Framework initiative (AFI) (Table 2).

Table 2. Company Disclosure of Adherence to Legal and Voluntary Sustainability Standards

Policies	ISPO Requirements	RSPO Requirements	AFI Requirements	Companies with Related Policy	Producers with Evidence of Impacts
HCV and Protected Areas¹²	Protected areas assessed under the Environmental Impact Assessment (AMDAL).	Protection assessed under High Conservation Value (HCV) Resource Network approach.	Core Principle 1: Requires assessment and planning process during land acquisition.	49% (53/108) companies with HCV policy and 4% (4/108) companies with policy to avoid sourcing from protected areas	74% (31/42 ¹³) of producers disclosing HCV areas and 0 producers disclosing key protected areas
Issues of Non-compliance	Less stringent environmental requirements, but certification not provided if there is any non-compliance.	Certification can still be provided despite minor non-compliance(s).	Core Principle 6: Promotes levels of severity, and time-bound plans to achieve compliance.	28% (30/108) companies with Non-compliance policy	43% (13/30) of companies have policy to engage with non-compliant suppliers
Grievance Mechanisms	Submitted directly to the Secretariat of the ISPO Commission.	Submitted through a certification body or to RSPO Secretariat which publishes them through its grievance log.	Core Principle 11.5: Designated through local stakeholders.	40% (43/108) companies with Grievance Mechanism	16% (7/43) companies disclose grievance reports

Uneven Disclosure Could Hide Risk among Producers

A lack of transparency around public disclosure of assets among palm oil producers can be a major challenge for banks and investors to ascertain risk. Full disclosure of land ownership is particularly important, because designated agricultural land (APL) may harbor forests

in need of protection. The companies analyzed included 42 oil palm producers, which reported information on impacts at the source of production. The majority of producers—38 (90% of producers)—disclosed some

⁹ Volume compliant with commitments to achieve commitment. If a company commits to source only RSPO Mass Balance (or better – as in, or Segregated, or Identity Preserved), this is the volume compliant with the commitment. Volumes are otherwise not additive and the amount compliant with (for example) “RSPO Segregated (or better)” commitments is not factored into the volume compliant with RSPO Mass Balance (or better) commitments.

¹⁰ This refers to the total usage volume by companies that have made commitments to produce or source zero deforestation/Segregated/Mass Balance/Book & Claim palm oil. Supply Change collects information on volumes covered by the commitment, but companies inconsistently disclose this information, resulting in a sum smaller than the compliant volume in several instances.

¹¹ As mass balance is a mix of certified and uncertified palm oil, only the certified volume can be guaranteed as being above the legal baseline.

¹² Including Ramsar wetlands, IUCN-protected areas, UNESCO World Heritage sites and other globally-important landscapes.

¹³ This number is for all producers in the dataset, not just those with production operations in Indonesia.

amount of information about the land area they own and/or manage.¹⁴ In aggregate, these companies reported owning or managing at least 2,793,827 ha,¹⁵ which represents just 20% (2.79/14 million) of the land allocated to palm production in Indonesia.

Most producers disclosed the number of RSPO-certified hectares in their concessions, while hardly any disclosed ISPO-certified hectares. Twenty-six producers (62%) disclosed the number of ha they own and/or manage that are RSPO-certified. Collectively, these 26 companies reported owning and/or managing 411,302 certified ha, which represents 21% of the 1,972,311 RSPO-certified ha in Indonesia (RSPO 2019a).¹⁶ The certified land area disclosed is about 15% of the total 2.8 million ha controlled by these 26 producers. In comparison, hardly any producers disclosed the amount of ISPO-certified ha, despite legal mandates for all large operators to be certified by 2015 (Efeca 2017). The lower rate of reporting for ISPO may be due to the shorter timeframe companies have had to attain certification under the new standard and the absence of a well-used reporting platform. Companies may also be concerned about legal and reputational risks, making them less motivated to call attention to incomplete compliance. In some instances, companies like Wilmar International have begun disclose the numbers of ISPO-certified mills. If banks or commodity buyers are concerned about legal non-compliance, they can check online for a comprehensive list of certified ha and sourcing mills.

Supply Change found that 31 producers (73%) reported 81,053 ha in Indonesia under some form of protection, including 17 that disclosed unspecified protected ha, 27 that disclosed HCV-designated ha, and four that disclosed HCS-designated ha. Consistent reporting on both the total land controlled and protected is critical for buyers and investors to assess the extent of deforestation risks and outcomes. Publicly disclosing the number of HCV and HCS ha promotes accountability and is particularly important for 81% (34/42) of producers that aimed to protect HCV ha and 60% (25/42) that aimed to protect HCS ha. In addition to promoting accountability, disclosure of HCV and HCS protected areas can have implications for market access; over half of retailers and manufacturers made statements to protect HCV areas when sourcing palm oil (41 companies with statements out of 80 downstream companies). In many instances, the management and monitoring of HCV and HCS areas can be costly, which can prompt companies, particularly small- and medium-sized ones, to forgo certification or excise forest areas (Timmins 2017). Accusations of deforestation can become significant reputational risks for both producers deforesting and

their downstream buyers. As a result, providing consistent reporting on both the total land controlled and protected is critical for buyers and investors to assess the extent of deforestation risks and outcomes.

While 25 producers (60%) aimed to protect biodiversity, only four producer companies (10%) made statements specifically in support of not producing in protected areas. Avoidance of areas protected under local laws is included in RSPO Principles & Criteria, but no companies specifically stated that they would not produce in and/or source from Key Biodiversity Areas (KBAs), UNESCO World Heritage Sites, Ramsar Sites, IUCN-protected areas or other biodiversity priority areas, and only some of these designations have legal protection.

Illegal palm production in protected areas is a documented problem in Indonesia. In 2018, reports indicated that Wilmar, Musim Mas and Golden Agri Resources among others, were directly implicated with purchasing palm oil from mills operating illegally within the bounds of Tesso Nilo National Park in Sumatra. Despite these companies' commitments, there are still many gaps in effective traceability, supplier compliance, and legal enforcement (WWF 2018). Avoiding protected areas is a requirement to access investment from many financial institutions (see Box 4), companies will have to demonstrate that they are avoiding sourcing or producing in protected areas to access financial services. Greater transparency will be essential for financial institutions to accurately assess whether companies are appropriately accounting for this risk.

Box 4. Biodiversity Protection Requirements for Investment

An assessment by Forest500 of the largest 150 financial institutions in forest-risk commodities found that 41 (27%) had some kind of lending or investment policy that required palm oil operations not negatively impact legally protected or internationally recognized areas (Forest500 2018a; Forest500 2018c). Additionally, the International Finance Corporation's (IFC) Performance Standard 6, requires its clients ensure that proposed projects in these areas, are legally permitted, and do not negatively impact biodiversity or local communities (IFC 2012).

14 In their disclosures, some producers disclose one aggregate figure for the number of total, certified, or protected ha without providing sufficient details to disaggregate by region. In contrast, others share multiple disaggregated ha figures without indicating their relative scale, so these are summed to form the largest reported areas.

15 All hectare data is from 2017. During the research period, this was the most recent year for which companies disclosed comprehensive ha data, as the most recent CDP and RSPO ACOP disclosures were for 2017.

16 In total, these companies reported owning and/or managing 2,405,911 certified ha globally (out of 6.2 million total ha globally and 2.7 million in Indonesia) reported as owned/managed globally.

Supply Chain Mapping and Achieving Traceability Limits Risk

Traceability and supply chain mapping are essential for companies and investors to accurately assess and mitigate risk in palm oil supply chains. Traceability links product volumes to specific suppliers and geographies, while supply chain mapping is the identification of **actors** (suppliers or customers) in a company's supply chain. Supply chain mapping provide insights about suppliers that are useful to assess risk, such as supplier location, workforce characteristics, certification status, and audits (AFi 2019). Traceability and supply chain mapping are often complementary tools to achieve supply chain transparency, and supply chain management is often a necessary precursor to achieving greater traceability. Though some companies do achieve full traceability back to the source of production, many other companies rely on other tools and approaches to achieve a level of traceability sufficient to verify compliance and assess deforestation risk.

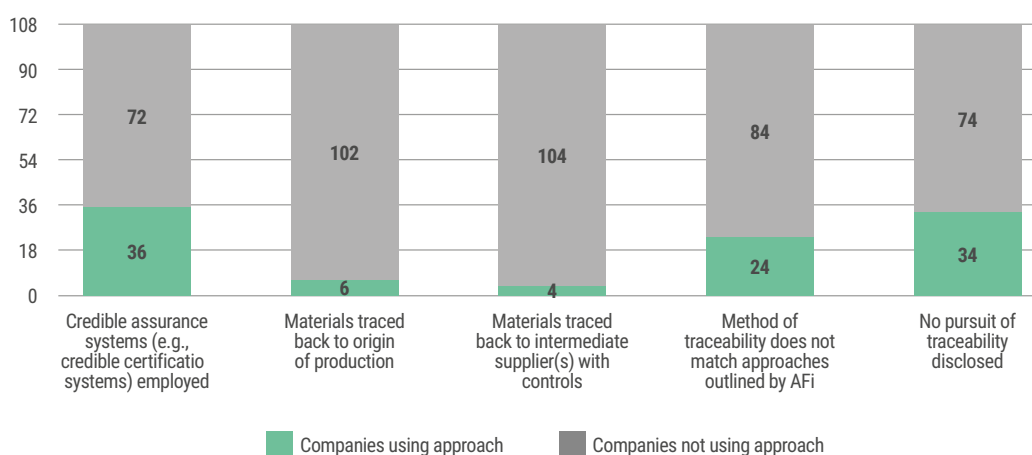
Sixty companies (56%) out of 108 made some kind of statement that they would trace their palm oil volume back through the supply chain to the plantation, mill, or country. Out of this total, 23 companies (38%) aimed to trace the supply back to the plantation and 19 (32%) aimed to trace the supply back to the mill or refinery. In the last two years, 14 companies (23%), many of which were Indonesian palm oil processors, claimed they were able to trace more than three-quarters of their palm oil supply back to the plantation, while 53 companies¹⁷ (88%) were able to trace more than three-quarters (75-100%) their palm oil supply to the mill or refinery. These findings suggest that although

a greater number of companies are committed to ensuring traceability to the plantation level, achieving traceability to the mill was generally more attainable.

Seven companies (6%) specifically stated that they were developing a supply chain mapping tool, but most companies, even if they did not use the term, embraced the concept by disclosing information about their supply chain. More than half (55/108) of companies disclosed the names of their palm oil suppliers and/or customers and 17% (18/108) disclosed lists of palm oil mills in their supply chain.

Tracing the entirety of a company's palm oil supply to the plantation where it was grown and identifying all suppliers can be an enormous undertaking, especially if the company operates exclusively in downstream supply chain levels (manufacturer, retailer) and/or has a large number of direct and indirect suppliers. However, full traceability back to the source of production is not always necessary to determine compliance and manage deforestation risk. In fact, only six companies analyzed were aiming to trace their palm oil supply back to the origin of production themselves. Fifty-five companies used other strategies recommended by the Accountability Framework (AFi) (AFi 2019), including 36 companies that relied on credible assurance systems (such as RSPO Segregated or Identity Preserved) and four that were tracing the palm supply back to intermediate suppliers with effective control mechanisms in place mechanisms in place and trusted the suppliers' ability to trace the commodity back to the source of production.

Figure 4: Comparison of Company Uptake of AFi Methods to Ensure Supplies are Known or Controlled to Assure Commitment Compliance



¹⁷ The number of companies that can trace more than three-fourths of their palm oil volume to the mill refinery includes the 14 companies that can trace more than three-fourths to the plantation. Accordingly, companies able trace to the mill or refinery level presumably can trace at least that amount to the country level (in the absence of a specific percentage given for this level).

Palm Oil Buyers Include Limited Policy Provisions for Deforestation Risk

When faced with uncertainty about sourcing risks, many companies in the sample incorporated different strategies into their production and procurement policies, but few actually disclosed the policies in place to assess and manage the sourcing risks.

Fourteen companies had policies that required additional scrutiny¹⁸ when sourcing palm oil. One company (IKEA) required certification for palm oil products from areas with high deforestation risk,¹⁹ while seven companies did not differentiate between products sourced from locations with higher or lower deforestation risk, but instead required *all* palm oil products be certified. Eleven companies (some in addition to those requiring comprehensive certification) required additional scrutiny for palm oil sourced from areas with a higher deforestation risk. Meanwhile, seven companies, including AAK AB, IKEA, L'Oréal, Nestlé, and Royal Dutch Shell claimed they aim to only source palm oil from low deforestation risk areas. Only one company disclosed additional scrutiny when sourcing palm oil from particular areas as part of the scope of their palm oil commitment. In this case, the company was AAK AB and the area was Borneo. The rarity of this requirement may be particular to palm oil supply chains, as eight of the companies researched made commitments that included additional scrutiny requirements when sourcing timber and pulp products from particular countries.

Only 4% of companies (4/108) specified that they were aiming to source from jurisdictions that demonstrated improvement on deforestation. Nestlé, for example, reported its efforts to trace its palm oil supply back to mills and plantations in jurisdictions not associated with deforestation (Nestlé 2017).

Additionally, when sourcing from areas with high deforestation, two companies (Rema 1000, Wilmar International) (2/108) stated they were prioritizing working with their suppliers to ensure the suppliers' compliance when sourcing from areas with high deforestation risk.

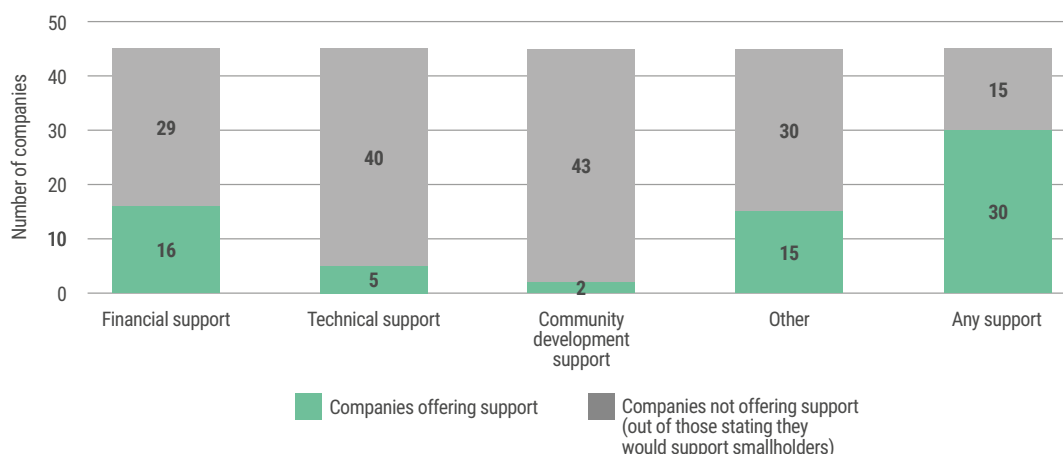
These initiatives signal a nascent but growing effort by large corporations towards regional approaches to monitor deforestation. In recent years, TFA 2020 and IDH have both provided significant support to companies implementing jurisdictional sourcing in the provinces of Aceh, South Sumatra and West Kalimantan. Through working closely with provincial governments, nonprofits and companies, these initiatives have begun exploring solutions to sustainable production while protecting forests across Indonesia. Although long-term planning is still in development, the approach is recognized as an increasingly valuable tool to mitigate risk and drive sustainable production.

Investing in Solutions: Smallholder Support

In 2017, over 40% of the 12 million ha of land designated for palm production in Indonesia was controlled by smallholders and some analysts predict that this portion will

grow to 60% by 2030, highlighting the importance of smallholder involvement in eliminating deforestation (WRI 2018).

Figure 5: Proportion of 108 Companies with Indonesian Palm Supply Chains Providing Support to Smallholders, 2019



18 Additional scrutiny refers to a type of geographic focus or specification a company might place on its commitment, in which a company requires that commodities sourced from certain geographic locations meet some kind of additional criteria. For example, a company might require palm oil sourced from Indonesia be RSPO-certified.

19 High or low deforestation risk according to the stated perception of companies disclosing the information.

Supply Change found that more than two-fifths (45/108) of companies stated that they would support smallholders in their palm oil supply chains. Out of those pledging support, two-thirds (30/45) actively provided some kind of support to smallholders. Of those providing support, 53% (16/30) offered financial support (Payment for Ecosystem Services schemes, loans, financial certification support, premiums paid, etc.), 17% (5/30) offered technical support (workshops, training, etc.), 7% (2/30) offered community development support (provision of education facilities, health facilities, banking services, etc.) and half (15/30) offered other kinds of support (joint projects, resettlement assistance, incentive strategies, etc.). Many of these companies were upstream companies headquartered in Southeast Asia, signaling that there could be a growing recognition of the importance of supporting smallholders to achieve commitments.

A number of consumer-facing manufacturers headquartered in North America and Europe have also reached back within their supply chains to provide support to smallholders, indicating a desire to work directly within sourcing regions to assure compliance (Sjauw et al. 2016). A number of committed companies have banded together to support cross-sector initiatives targeting smallholders in Indonesia. For example, IKEA, Johnson & Johnson, and

Mondelēz joined the Indonesian government and other stakeholders to support the Sustainable Palm Oil Initiative, which aims to provide support to smallholders for training on productivity, adherence to ISPO certification, and reduction in deforestation among other support (UNDP 2019b). Another multi-stakeholder smallholder support initiative is the Coalition for Sustainable Livelihoods (CSL), which launched in 2018 and is supported by more than 130 representatives from the private sector, government, financial institutions and civil society, including IDH, the Livelihoods Funds, Mars, Mondelēz International, Pepsico and Earthworm Foundation. The initiative aims to capture the value of diverse collaborations at the landscape level, to help advance government programs and policies, and to contribute to supply chain sustainability for companies operating in North Sumatra and Aceh (Conservation International, 2019). Indonesia's NAP for Sustainable Palm Oil (see Box 2) has a significant smallholder support component, which indicates growing pressure from government and civil society for companies in all supply chain levels to engage with smallholders in their supply chains (FoKSBI 2019). Working effectively with smallholders will be essential to mitigating risks at the production level, especially given that they are often more constrained by tight budgets, fewer skills, and less awareness of sustainability concerns.

Trust, but Verify: The Role of Satellite-based Monitoring

The Accountability Framework posits that monitoring compliance is essential to assess whether companies are demonstrating progress toward their commitments. Despite growing expectations within civil society, *Supply Change* found that only a third of companies (35/108) disclosed the methods they use to monitor commitment compliance within their palm supply chain with just 17 reporting reliance on satellite monitoring. This year, Nestlé began publishing data online from their Starling satellite system, while Unilever, Cargill, Mondelēz, and Wilmar reported to be on track to certify their bulk purchases

through a satellite tracking tool called Global Forest Watch (GFW) Pro, which launched for broader use in June 2019 (WRI 2019). Large amounts of media attention and larger budgets for sustainability could help explain why all of the companies using satellite technology for tracking deforestation are major big-name palm oil users. A number of financial institutions contributed to the development of GFW Pro, which suggests that the ability to monitor and respond to deforestation is an emerging priority for institutions investing in companies with potential deforestation risk.

From Talk to Action: Companies Take on Non-Compliance

Across the supply chain, non-compliance poses a serious risk to commodity buyers and banks alike. *Supply Change* found that transparency around how companies were addressing non-compliance was generally low. When disclosing policies about non-compliant suppliers, only 27% (30/108) of companies provided specific details. In determining whether to suspend, exclude, or retain non-compliant suppliers, 13 companies disclosed a policy to engage with suppliers and only two had a clear policy for exclusion. Only a handful (6/108) of companies indicated that they had excluded non-compliant suppliers from their supply chains by releasing the number and/or names of excluded non-compliant suppliers. Furthermore, only 40% (43/108) of companies had a grievance mechanism to respond to

notifications of non-compliance and of these, only seven companies published reports of grievances. Among companies involved in Indonesian palm oil supply chains, few have disclosed sufficient details for communicating accountability in commitment compliance. Low transparency can lead investors and buyers to overlook hidden risk in company operations and supply chains. However, the new AFi guidance has established clear guidance around how companies can continue to work with suppliers and identify risks in their supply chain, which may encourage greater transparency going forward (Accountability Framework 2019).

SECTION 3:

New Trends and Implications for Implementation of Sustainability Commitments among Companies and Investors

Unsustainable production through expansion of plantations into forested areas could pose increasingly serious risks to palm companies. Peatlands and primary forests are now protected under the Moratorium, and other emerging government initiatives such as the National Action Plan for Sustainable Palm Oil and the KEE land use designation, which may signal increasingly stringent government restrictions around land use and palm oil production. Unsustainable production and conversion of protected ecological areas could lead to legal ramifications. Despite weaknesses in domestic enforcement, increasing domestic regulatory requirements add greater incentives for foreign commodity buyers to be wary of legal transgressions. Emerging foreign government regulations, particularly in Indonesia's second

largest export market, the European Union, combined with growing expectations set by corporate commitments, could easily lead to a cascade of negative consequences. Companies engaged in deforestation could therefore lose customers and market share, which can lead to lower revenues and liquidity (Van Gelder 2017; World Economic Forum 2018). This in turn has serious consequences for financial institutions. An analysis by Chain Reaction Research (2018a) concluded that 6.1 million ha of forests and peatlands within the land bank of palm producers are "stranded" or cannot be developed because of deforestation related commitments. Furthermore, this can lead to inaccurate and reduced valuation of equity and collateral (Van Gelder 2017; World Economic Forum 2018).

Land Use Finance Opportunity

A growing number of funds are providing financial instruments for companies pursuing sustainable palm oil production. These include green loans, which tie interest

rates to sustainability performance. Green loans have been gaining prominence with financial institutions and corporate clients in recent years as rates have become less

expensive, making them more competitive with traditional loans and bonds. Green lending gives companies the opportunity to earn lower interest rates through sustainability performance (Terazono 2018). In the last few years, several prominent palm oil companies—including Olam International and Wilmar International—have received loans of US\$500 million and US\$200 million, respectively, from multiple banks (including ING Group, ABN Amro Group, OCBC Bank, and others) that have interest rates that are tied to the company's sustainability performance against pre-set ESG metrics (Terazono 2018; Straits Times 2018). Additionally, companies may have increased opportunities to receive investment from sustainability-oriented asset managers. Althelia Funds, for example, is investing EUR 5.1 million as part of its Ecosphere+ venture and is working with palm oil producers in order to restore peatland and support community development in South Sumatera (Althelia 2018). The Green Climate Fund (GCF) also works with both the public and private sectors to reduce emissions and mitigate climate risks through funding green projects, some of which target forests and land use. Overall, GCF has approved over US\$200 million in funding to projects across Indonesia with a focus on increasing renewable energy (GCF 2018). The emerging market may present new investment opportunities for those seeking to promote more sustainable commodity production.

Financial institutions have a strategic opportunity to invest in Indonesian palm supply chains. Investing in improved productivity and higher yields per hectare could be a valuable opportunity to leverage land use finance to achieve a higher rate of return, while avoiding risk from deforesting additional land. Indonesia has the largest area dedicated to palm production in the world, but it has relatively low yields (3.8 tonnes CPO per ha) on average compared with its largest competitor, Malaysia (4.5 tonnes per ha) (Khataiwada et al. 2018). The average lifetime of oil palm crops in Indonesia reaches about 25 years, and in many instances, oil

plantations across the country are rapidly aging (Woittiez, et al. 2017). In the coming years, risk of deforestation will remain high as many producers are likely to expand production area rather than continue replanting. As the availability of viable land for planting in Indonesia declines and land use becomes more heavily regulated, it will be increasingly beneficial for companies to pursue strategies for improving yields through more sustainable means (Woittiez, et al. 2017). Financial institutions can focus funding away from companies engaged in forest clearance activities and toward companies pursuing techniques known to improve yield, such as replanting with high-producing seeds, culling low-producing plants, improved crop recovery, and optimized planting density, pruning, and harvesting frequency (Woittiez, et al. 2017).

Seventeen companies out of the subset of 108 have already made statements in favor of increasing yields without additional forest conversion. Therefore, there is potential for a high rate of return for investing in productivity improvements around crop intensification and improved palm oil processing (i.e., conversion of fresh fruit bunches into palm oil and its derivatives). Financial institutions that engage with unsustainable palm oil companies on land use finance issues also have the opportunity to exert greater influence and improve the sustainability of the sector (WWF 2019).

Additionally, in collaboration with the government and local communities, palm producers concerned about recouping lost revenues from stranded assets may pursue potential opportunities to swap and reclassify forested land contained within company concession areas for degraded land classified as APL. A system already exists for timber plantation operators to do this as part of the Indonesian government's push to restore peatland (Jong 2019). However, for this option to be effective, all parties would need to ensure that safeguards are in place so that forest lands are protected.

Incubation of Jurisdictional and Landscape Approaches

Collaborations among companies, regional governments, financial institutions, and other stakeholders to lower overall deforestation at the jurisdictional level could help to address systemic issues linked to deforestation (e.g., governance and land use planning) and reduce costs for implementation and monitoring of individual commitments (e.g., certification and individual company standards). Several companies researched by *Supply Change* are working with regional governments and nonprofits to lay the groundwork for addressing deforestation across a whole jurisdiction or landscape, or whereby companies with palm commitments could eventually verify compliance merely by tracing supplies back to these low-deforestation areas (i.e., jurisdictional or landscape approaches to sourcing). For example, Sime Darby, Olam, Musim Mas, and Procter & Gamble are working as part of the RSPO Jurisdictional Working Group (JWG) to support the development of

jurisdictional programs and guidance around the applicability of jurisdictional approaches in Indonesia and other countries (RSPO 2019a). Organizations like TFA 2020 and IDH have also supported the jurisdictional approach in Indonesia, working with companies that produce and/or source palm oil, including Pepsico, Unilever, Asian Agri, and London Sumatera Indonesia. Benefits to the jurisdictional approach, according to a recent IDH case study, include ensuring price stability and introducing potential for investment (IDH 2018). After Unilever and Marks & Spencer announced plans to pursue jurisdictional sourcing in 2015, a supporting methodology called the Commodities/Jurisdictions Approach was developed under a multi-stakeholder consortium and is now entering its piloting phase (The Commodities/Jurisdiction Approach 2019). This approach provides information to companies on jurisdictions that are reducing deforestation at scale and meeting associated

sustainability criteria, which in turn can inform decisions on procurement and/or other business engagements.

In 2016, Unilever reached an agreement with the government of Central Kalimantan, Kotawaringin Barat, and non-profit organization INOBU to support preparations for establishing a jurisdictional approach. As of October 2019, the company has not reported further on this process. This initiative represents an important step in promoting more sustainable practices in areas with risk of large-scale deforestation (INOBU 2018). The Siak district government, nongovernmental organizations Daemeter and Proforest, and a number of upstream and downstream companies (including Cargill, Danone, Unilever and Musim Mas, etc.) joined to implement a new landscape program in a district where independent smallholders need support to achieve responsible palm oil production. This alliance commits its members to pursue a balance between environmental conservation and improving the economy of local people (Daemeter and Proforest, 2019). In 2019, the Climate,

Community and Biodiversity Alliance (CCBA), the Rainforest Alliance, and Verra created the LandScale assessment framework to support the development of broad scale sustainable production at a landscape level, including at the jurisdictional level. LandScale provides a holistic metrics framework for assessing sustainability progress at broad spatial scales, which could assist companies in formulating commitment procurement policies and financial institutions in monitoring results (Verra 2019).

Financial institutions looking to minimize risks of large-scale deforestation at a jurisdictional level can support companies involved in jurisdictional initiatives like the RSPO JWG and LandScale pilots. Additionally, there is an opportunity for them to engage companies operating within jurisdictions with sustainability targets (e.g., the Indonesian provinces of Aceh, Central Kalimantan, East Kalimantan, Papua, West Kalimantan and West Papua, which signed the Rio Branco Declaration) and corresponding regional governments to prioritize investment.

Conclusion

Palm oil production is a significant driver of deforestation in Indonesia, propelled by a strong and growing demand, domestically and internationally, for palm oil-containing consumer goods, chemicals, and biodiesel. Almost three-quarters of palm oil imported by the European Union, the second-largest export market for Indonesian palm oil, is certified sustainable palm oil (CSPO). The higher cost of CSPO and the limited awareness and means of consumers in Indonesia and its other largest export markets, India and China, has inhibited demand for CSPO. However, companies that produce and/or source palm oil, and the financial institutions that invest in these companies, are making commitments and other policies that are driving a growing demand for more-sustainably produced palm oil. Unsustainable palm oil production represents considerable risk (reputational, regulatory, financial, market, and physical) to companies involved in the production or procurement of palm oil, and has the potential to lead to loss of buyers, higher financing costs, reduced liquidity and cash flow, and less stable long-term returns on investments (Chain Reaction Research 2017). Companies with high deforestation risk may become less attractive to financiers, and a growing number of financial institutions are incorporating deforestation risk criteria into their investment and lending policies. Future access to financial services could hinge on ensuring sustainable palm oil production.

Overall, *Supply Change's* research found that transparency around many metrics was poor even though many of the companies in the analysis were selected for their disclosure in a few key areas. A minority of companies provided information about their activities regarding risk assessments, traceability approaches, monitoring strategies, avoidance patterns, and non-compliance. *Supply Change* found that companies provided an incomplete picture of key aspects of their palm oil-driven deforestation risk, including forest

monitoring and non-compliance. This could jeopardize access to investment and other financial services from financial institutions concerned about discouraging further investments, given the reputational problems associated with deforestation. Furthermore, the risks of lower profitability, liquidity, and equity among companies associated with palm-driven deforestation could trigger serious risks for financial institutions. The increased likelihood of loan defaults and reduced valuation of collateral could discourage existing and future financial backers. Almost all producer companies, however, did disclose information on the number of ha in their oil palm concessions, and a majority of companies in all supply chain levels disclosed the palm oil volume (total volume and certified volume) they produced or procured, a trend encouraged by the annual reporting requirements by the RSPO.

Both downstream buyers and financial institutions frequently rely on the industry best practices established by the RSPO to ensure compliance and manage risk. As RSPO-certified producers must meet environmental and social standards beyond what is legally required under Indonesian law (e.g., ISPO), reliance on RSPO certification allows financial institutions and downstream buyers to ensure compliance without expending resources on monitoring, traceability, and supply chain mapping. Many buyers and financial institutions already rely on RSPO certification for this purpose; *Supply Change* found that most companies formulated their commitment in terms of producing or sourcing CSPO, while only a small number (18) committed to achieve zero/zero net deforestation in their palm oil supply chain. The new AFi framework guidelines may give companies better tools to make and report progress on zero deforestation commitments and may motivate more companies to go beyond relying on RSPO certification moving forward. The RSPO, through its

ACOP reporting mechanism, has also encouraged greater transparency around company disclosures of volume and hectare information.

Though current trends suggest efforts by the Indonesian government and the private sector are having an impact on reducing deforestation from palm oil production in Indone-

sia, more ambitious action is needed to ensure that these trends continue and accelerate. Strategic leadership from the Indonesian government, provincial governments, the private sector, and from financial institutions will be pivotal for ensuring the country can achieve both its goals to increase global uptake of certified sustainable palm oil and protect primary forests and peatland.

Leadership Opportunities for Companies Producing and/or Sourcing Indonesian Palm

- Companies can draw on guidance from [Accountability Framework initiative \(AFi\)](#) and CDP for establishing and reporting measurable, verifiable commitments to address deforestation as a way to meet expectations of a growing number of corporate buyers, nonprofits, and governments around the world.
- Remote sensing tools like Global Forest Watch Pro can help companies monitor and analyze land use change among their suppliers.
- Companies can turn to a number of initiatives to help with traceability, sustainability, and accessing export markets (Appendix 1). AFi, for example, provides guidance for companies on making and reporting progress on zero deforestation commitments, managing supply chains, assessing risk, improving traceability, identifying and responding to supplier non-compliance (AFi, 2019).

Upstream companies:

- Producers and processors will need to protect forests within and around their concessions, while producing palm on previously cleared and degraded lands instead of converting additional forested lands for production.
- Producers and processors can provide support to smallholders in improving yields and avoiding forest conversion in order to meet production goals without compromising commitments on sustainability. Producers and processors can also encourage and facilitate ISPO or RSPO certification for smallholders, either through financial (e.g., premiums paid) or technical assistance. Investors can also request that companies specifically disclose the amount of financial assistance

they are providing to smallholder programs around forest protection and commitment compliance over specific periods of time.

- Producers and processors can pursue voluntary Palm Oil Innovation Group (POIG) membership, which builds on RSPO certification and obligates members to adhere to an even more rigorous set of standards and process for third party verification ensuring the protection of High Conservation Value and High Carbon Stock areas.

Downstream companies:

- Manufacturers and retailers can increase their purchases of CSPO, certified through a credible chain of custody standard such as RSPO Segregated, Identity Preserved, or NEXT to provide assurance that supplies are produced at a higher sustainability standard.
- Traceability and supply chain mapping are particularly complex for downstream companies, but companies can turn to the AFi for guidance on traceability and supply chain-mapping strategies that ensure commitment compliance.
- Companies can join or initiate multi-sector initiatives with suppliers, buyers, and regional governments to support sustainable palm oil production.
- Manufacturers and retailers can take action beyond their own supply chains, such as by supporting the development and launching of jurisdictional programs like the IDH Verified Sourcing Areas, Tropical Forest Alliance 2020, and the Governor's Task Force on Climate and Forest Jurisdiction and those being piloted by RSPO's Jurisdictional Working Group.

Leadership Opportunities for Investors in Companies Producing and/or Sourcing Indonesian Palm

Financial institutions can look to Ceres' new investor brief '[Out on a Limb](#)' to learn more about the questions and recommendations which can be used to engage companies with forest-risk supply chains. Financial institutions have a number of other clear opportunities for leadership detailed below.

- Investors can mainstream forest risk policies within all portfolios which drive accountability among clients to address deforestation risk.

- Given low yields and deforestation associated with palm production, investors have an opportunity to develop innovative financial instruments that tie interest loan rates to sustainability performance and target improvements in company yields particularly among smallholder farmers.
- When evaluating environmental risks, investors can evaluate companies based on their sustainability activities beyond the legal requirements, as adherence

to ISPO will not be sufficient to address deforestation and other production level issues, so when evaluating environmental risks.

- Investors can evaluate company use of RSPO Segregated, Identity Preserved, and Next supply chain certification models as a proxy for ascertaining if the company is going above and beyond the law.
- Investors can request that companies use free publicly available remote sensing tools like Global Forest Watch Pro or privately available tools (given that only 13 companies publicly noted using them) and provide evidence of monitoring deforestation risks.
- Investors can join coalitions such as PRI's Sustainable Palm Oil Investor working group, or the group of investors behind CDP, to leverage financial influence to pressure companies to set commitments, invest in solutions, and improve disclosure (e.g., through forest risk disclosure).
- Investors can join the RSPO Financial Institutions Task

Force (FITF), which allows investors to play a greater role in shaping sustainable palm oil production, encourage RSPO adherence among their clients, and minimize the environmental and social risks of their investments. Investors can integrate deforestation risk criteria in their lending and investment practices and encourage the adoption of available tools (e.g., RSPO certification). To that end, investors can ensure they have adequate policies and internal management systems in place to assess for risks in palm oil operations and supply chains.

- Investors looking to invest in financial institutions can consider their ESG policies and criteria for investing in companies with deforestation risk embedded in their direct and indirect operations. Investors can use tools such as WWF's Sustainable Banking Assessment (SUSBA), WRI's Green Targets, and/or Forest 500's financial institution rankings to evaluate bank's lending and investment policies.








Leadership Opportunities for Governments Sourcing Indonesian Palm

- Governments can establish laws and accompanying enforcement mechanisms to ensure purchases of palm oil are legally compliant (ISPO-certified) and/or are not associated with deforestation. Such laws can be modeled after the European Union's Timber Regulation and accompanying Forest Law Enforcement, Governance and Trade (FLEGT) initiative.
- Trade deals can be negotiated to include mandatory requirements for enforcement mechanisms, and monitoring and swiftly addressing deforestation-related production risks.
- Government pension funds can establish policies to divest from unsustainable palm oil production with a clear process for engaging around non-compliance and performance thresholds for restarting investments based on AFi guidance.
- Additional countries can consider signing the Amsterdam Declaration, while existing signatories can continue to monitor progress of certified imports and demand greater transparency around monitoring systems and proof of compliance from supplying nations.

APPENDIX 1:

Relevant Resources on Palm Oil Production in Indonesia

Table 3: Organizations and Initiatives Supporting Cattle Production in Paraguay

Commitment Development and Disclosure	
	Accountability Framework initiative (AFi) AFi is a multi-stakeholder initiative which established a set of common norms and guidance for establishing, implementing, and demonstrating progress on ethical supply chain commitments in agriculture and forestry.
	Roundtable on Sustainable Palm Oil (RSPO) RSPO is a multi-stakeholder membership group with palm oil industry- producers, processors or traders, manufacturers, retailers, banks/investors and NGOs- to develop and implement global standards for sustainable palm oil.
	CDP CDP (formerly the Carbon Disclosure Project) is a non profit that runs a global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. Companies and other actors can disclose impacts on forests, climate, water security, and other environmental areas.
Implementing Sustainability	
	Support Asia for Sustainable Palm Oil (SASPO) SASPO is a multi-stakeholder alliance of government, NGOs, and the private sector that focuses on improving sustainability in palm oil production. SASPO provides capacity building, workshops, and educational resources for businesses in the palm oil sector in order to encourage sustainable sourcing policies.
	Sustainable Trade Initiative (IDH) IDH aims to mainstream the uptake of sustainable palm oil by convening public-private partnerships and developing policy frameworks in Europe that support sustainable procurement. IDH works to strengthening supply chain connections between buyers like Unilever and PepsiCo, and producers in sustainable sourcing areas through the creation of pilot Verified Sourcing Areas in Aceh, Jambi, South Sumatra, and West Kalimantan.
	Global Forest Watch PRO (GFW PRO) GFW Pro is a free platform that allows companies to manage geospatial data through analysis and dashboards designed for commodity companies and banks' day-to-day operations. This platform can be used to track real-time data on tree cover loss and instances of fires within or near company concessions.
	Peat Restoration Agency (BRG) BRG is a government agency that works with local governments to accelerate the recovery and restoration of the hydrological functioning of peatlands damaged due to fires and drying.

Sustainable Investing



Principles for Responsible Investment (PRI) | PRI is UN-supported international network of investors that works to understand and implement the six principles for responsible investment into practice. The six principles are focused on incorporating environmental and social governance issues into various aspects of financial investment.



The Sustainability Policy Transparency Toolkit (SPOTT) | SPOTT is a free, online platform, which supports sustainable commodity production and trade through assessments of public disclosures made by commodity producers and traders. The site includes details on their policies, operations and commitments related to environmental, social, and governance issues.

Government Coordination



Indonesia Palm Oil Platform (FoKSBI) | FoKSBI is an initiative led by the Indonesian Government and facilitated by the United Nations Development Programme's Sustainable Palm Oil initiative (SPOI), which brings together a diverse set of stakeholders in the palm industry. FoKSBI convenes working groups to discuss key challenges in implementing the National Action Plan for Sustainable Palm Oil and monitors its implementation.

Table 4: List of 108 Companies Believed to Be Active in Indonesian Palm Oil Supply Chains

COMPANY REVIEWED	SUPPLY CHAIN LEVEL	INDUSTRY
AAK AB	Processor, Manufacturer	Consumer Goods
Agropalma	Producer, Processor, Trader	Agriculture
Agrowiratama	Producer, Processor, Trader, Manufacturer	Agriculture
Ahold Delhaize	Retailer	Retail/Wholesale
Anglo-Eastern Plantations	Producer, Processor	Agriculture
Apical Group	Processor, Trader	Consumer Goods
Archer Daniels Midland	Producer, Processor, Trader, Manufacturer	Consumer Goods
Arnott's Biscuits	Manufacturer	Consumer Goods
Asian Agri	Producer, Processor	Agriculture
Associated British Foods	Manufacturer, Retailer	Consumer Goods
Astra Agro Lestari	Producer, Processor	Agriculture
Austindo Nusantara Jaya Agri	Producer, Processor, Trader	Agriculture
Ayam Brand	Manufacturer	Consumer Goods
Barry Callebaut Group	Processor, Trader, Manufacturer	Consumer Goods
Bayer	Processor, Trader	Basic Materials/Resources
Boots UK	Retailer	Retail/Wholesale
Cargill	Producer, Processor, Trader, Manufacturer	Consumer Goods
COFCO Limited (China National Cereals, Oils and Foodstuffs Corporation)	Producer, Processor, Trader, Manufacturer	Consumer Goods
Coles Supermarkets	Retailer	Consumer Goods
Colgate-Palmolive	Manufacturer	Consumer Goods
Colruyt Group	Processor, Manufacturer, Retailer	Retail/Wholesale
Coop Switzerland	Manufacturer, Retailer	Retail/Wholesale
Coop UK	Manufacturer, Retailer	Retail/Wholesale
Daabon Group	Producer, Processor, Trader, Manufacturer	Agriculture
Daewoo International Corporation	Producer, Processor, Trader	Basic Materials/Resources
Danone	Manufacturer	Consumer Goods
Delhaize Group	Retailer	Retail/Wholesale
Dharma Satya Nusantara	Producer	Consumer Goods

COMPANY REVIEWED	SUPPLY CHAIN LEVEL	INDUSTRY
Domino's	Manufacturer, Retailer	Gaming, Lodging, & Restaurants
Dunkin' Brands	Manufacturer	Consumer Goods
Dupont	Processor, Manufacturer	Basic Materials/Resources
E. Leclerc	Retailer	Retail/Wholesale
Eagle High Plantations	Producer, Processor, Trader	Agriculture
Edeka Zentrale	Retailer	Retail/Wholesale
Essity	Manufacturer, Retailer	Personal Products
Felda Global Ventures	Producer, Processor, Trader	Consumer Goods
Felda Iffco	Producer, Processor, Manufacturer	Consumer Goods
Felleskjopet	Manufacturer, Retailer	Retail/Wholesale
Feronia	Producer, Processor	Agriculture
Ferrero Trading	Manufacturer	Consumer Goods
Gawi Makmur Kalimantan	Producer, Processor	Agriculture
General Mills	Manufacturer	Consumer Goods
Golden Agri-Resources	Producer, Processor, Trader, Manufacturer, Retailer	Agriculture
Goodhope Asia Holdings	Producer, Processor, Manufacturer	Agriculture
H & M	Retailer	Retail/Wholesale
Harisa Agro Lestari	Producer	Agriculture
Hershey Company	Manufacturer	Consumer Goods
Hilton Duta Lestari	Producer	Agriculture
ICA Gruppen	Manufacturer, Retailer	Retail/Wholesale
Ikea	Retailer	Retail/Wholesale
Indofood Agri Resources	Producer, Processor, Manufacturer	Consumer Goods
IOI Group	Producer, Manufacturer	Agriculture
Itochu Corporation	Producer, Processor, Trader, Manufacturer, Retailer	Retail/Wholesale
Johnson & Johnson	Manufacturer	Health Care/Life Sciences
Kaufland	Retailer	Retail/Wholesale
Kellogg Company	Manufacturer	Consumer Goods
Koninklijke Smilde	Manufacturer	Consumer Goods
Kuala Lumpur Kepong Berhad (KLK)	Producer, Processor, Manufacturer	Agriculture
L'Oréal	Manufacturer	Consumer Goods
Lactalis Group	Manufacturer, Retailer	Consumer Goods

COMPANY REVIEWED	SUPPLY CHAIN LEVEL	INDUSTRY
Lidl Stiftung & Co.	Manufacturer, Retailer	Business/Consumer Services
Loblaw Companies Limited	Retailer	Retail/Wholesale
Louis Dreyfus Company	Processor, Trader	Consumer Goods
Marks & Spencer	Retailer	Retail/Wholesale
Mars	Manufacturer	Consumer Goods
Marubeni	Producer, Processor, Trader, Manufacturer, Retailer	Consumer Goods
McCormick	Manufacturer	Consumer Goods
McDonald's	Retailer	Business/Consumer Services
Mentari Pratama	Producer	Agriculture
Migros	Retailer	Retail/Wholesale
Mondelez	Manufacturer	Consumer Goods
Musim Mas	Producer, Processor, Manufacturer	Agriculture
Neste Oil	Trader, Manufacturer, Retailer	Oil & Gas
Nestlé	Manufacturer, Retailer	Consumer Goods
New Britain Palm Oil	Producer, Processor	Consumer Goods
Nordic Choice Hotels	Manufacturer	Business/Consumer Services
Norges Gruppen	Retailer	Retail/Wholesale
Nutrition et Santé	Manufacturer	Consumer Goods
Office Depot	Retailer	Retail/Wholesale
Olam International	Producer, Processor, Trader, Manufacturer	Consumer Goods
Palsgaard A/S	Trader, Manufacturer	Basic Materials/Resources
PepsiCo	Manufacturer, Retailer	Consumer Goods
Perkebunan Nusantara III	Producer, Processor	Consumer Goods
PP London Sumatra Indonesia Tbk	Producer, Processor	Consumer Goods
Procter & Gamble	Manufacturer	Consumer Goods
Puratos NV	Processor, Trader	Consumer Goods
R&R Ice Cream	Manufacturer	Consumer Goods
Rema 1000	Retailer	Retail/Wholesale
REWE Group	Retailer	Business/Consumer Services
Royal Dutch Shell	Trader, Manufacturer	Oil & Gas
Salim Ivomas Pratama	Producer, Processor, Trader, Manufacturer	Consumer Goods
Sampoerna Agro Tbk	Producer, Processor	Consumer Goods

COMPANY REVIEWED	SUPPLY CHAIN LEVEL	INDUSTRY
Sanggam Harapan Sejahtera	Producer	Agriculture
Sawit Sumbermas Sarana	Producer	Agriculture
SC Johnson and Son	Manufacturer	Consumer Goods
Seven & I Holdings Co.	Retailer	Retail/Wholesale
Sime Darby Plantation	Producer, Processor, Trader	Agriculture
Sinar Mas Agro Resources and Technology (SMART)	Producer, Processor, Trader, Manufacturer	Agriculture
Socfin Group	Producer, Processor, Manufacturer	Agriculture
Solvay	Manufacturer	Basic Materials/Resources
Tesco	Retailer	Retail/Wholesale
Unggul Lestari	Producer, Processor	Agriculture
Unilever	Manufacturer	Consumer Goods
VanDrie Group	Producer, Processor, Trader	Consumer Goods
Waitrose	Retailer	Retail/Wholesale
Walmart	Retailer	Retail/Wholesale
Wendy's	Manufacturer, Retailer	& Restaurants, Gaming, Lodging
Wilmar International	Producer, Processor, Trader	Consumer Goods

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Supply Change data is regularly gathered from a variety of sources, including public disclosures to CDP's forest program, sustainability reports, websites, RSPO Annual Communications of Progress, Roundtable on Responsible Soy annual reports.

See *Supply Change's* full methodology for more information on data sources: <http://www.supply-change.org/pages/full-methodology>



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