

An Investor Brief on Impacts
That Drive Business Risks

PALM OIL



This brief provides a summary of the main environmental and social factors that affect palm oil production worldwide; however, it spotlights key players in the U.S. value chain.

KEY TAKEAWAYS

- Palm oil production has more than tripled during the past two decades. It is used in many goods that people use regularly, from processed foods and cosmetics, to detergents, chocolate, and biofuel.
- Palm oil sourcing has attracted significant and growing attention and debate by NGOs, investors, companies, and consumers due to the commodity's significant environmental and social challenges.
- The palm oil sector employs millions, and a large proportion are smallholders. While the industry is creating economic opportunity, the rapid and poorly managed expansion of production is linked to human rights challenges, large scale deforestation, and significant greenhouse gas emissions from the clearcutting and burning of tropical forests.
- About 85 percent of palm oil is grown in Indonesia and Malaysia², where production is the leading driver of habitat and biodiversity loss — notably for endangered animals, such as orangutans and Sumatran tigers.
- Investors should address business risks in the palm oil supply chain through direct engagement with their portfolio companies and support of relevant policies and multi-stakeholder collaborations. Effective implementation of a company's policies requires promoting commodity traceability and having a clear approach to supplier engagement, verification, and disclosure of progress.

COMMODITY OVERVIEW

The Global Food Sector Uses around 65 Percent of All Palm Oil²

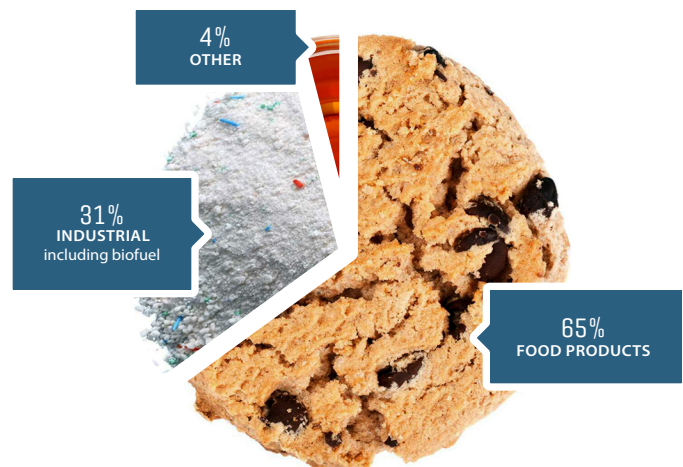
Used in food, household products, and for biofuel, palm oil is the world's most widely used vegetable oil.²

The fruit of the oil palm tree produces seven to ten times more vegetable oil than any other leading oil crop.²

Palm oil's high yield and relatively low labor costs make it one of the lowest cost vegetable oils.² It therefore **accounts for about a third of all vegetable oil produced globally.**²

Palm oil can be found in a wide range of food products including frozen pizzas, biscuits, chocolate, and margarine, as well as in non-food products, including animal feed, body creams, soaps, makeup, candles, and detergents.² In developing countries, palm oil is commonly used for cooking oil.

Indonesia and India together account for about 25 percent of global consumption of palm oil; Indonesia and Malaysia (the top producing countries), account for 20 percent,² while the **U.S. and E.U. markets account for only about 13 percent.**

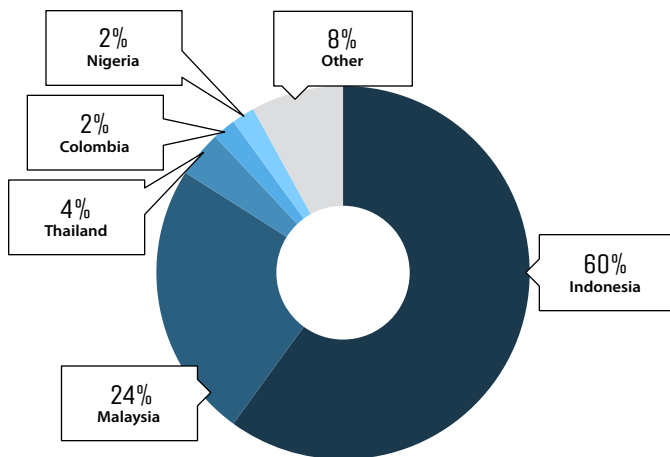


Global Palm Oil Use²

GLOBAL PRODUCTION DATA

Indonesia and Malaysia are the Leading Palm Oil Producers with 90 Percent of Global Production

TOP FIVE PRODUCTION REGIONS²



75 MILLION METRIC TONS

Global palm oil production, 2021–2022²

\$48.1 BILLION

Global production value, 2020²

65 PERCENT

Proportion of global production exported in metric tons, 2020²

U.S. PALM OIL CONSUMPTION

The global market for palm oil is expected to grow by nearly 6 percent annually between 2019 and 2024, driven by demand for an alternative to trans fats.² Palm oil is a minor ingredient in many American food products, however; over half of all packaged products consumed in the United States contain it.² The U.S. consumed over 1.5 million tons of palm oil in 2018 due to its competitive cost and abundance compared to other oil alternatives. Meanwhile, the E.U. consumed closer to 8 million tons in 2018 to promote their biofuel initiatives.²



Global Production of Palm Oil Doubled Over the Last Decade, Driven by Population Demands and Income Growth

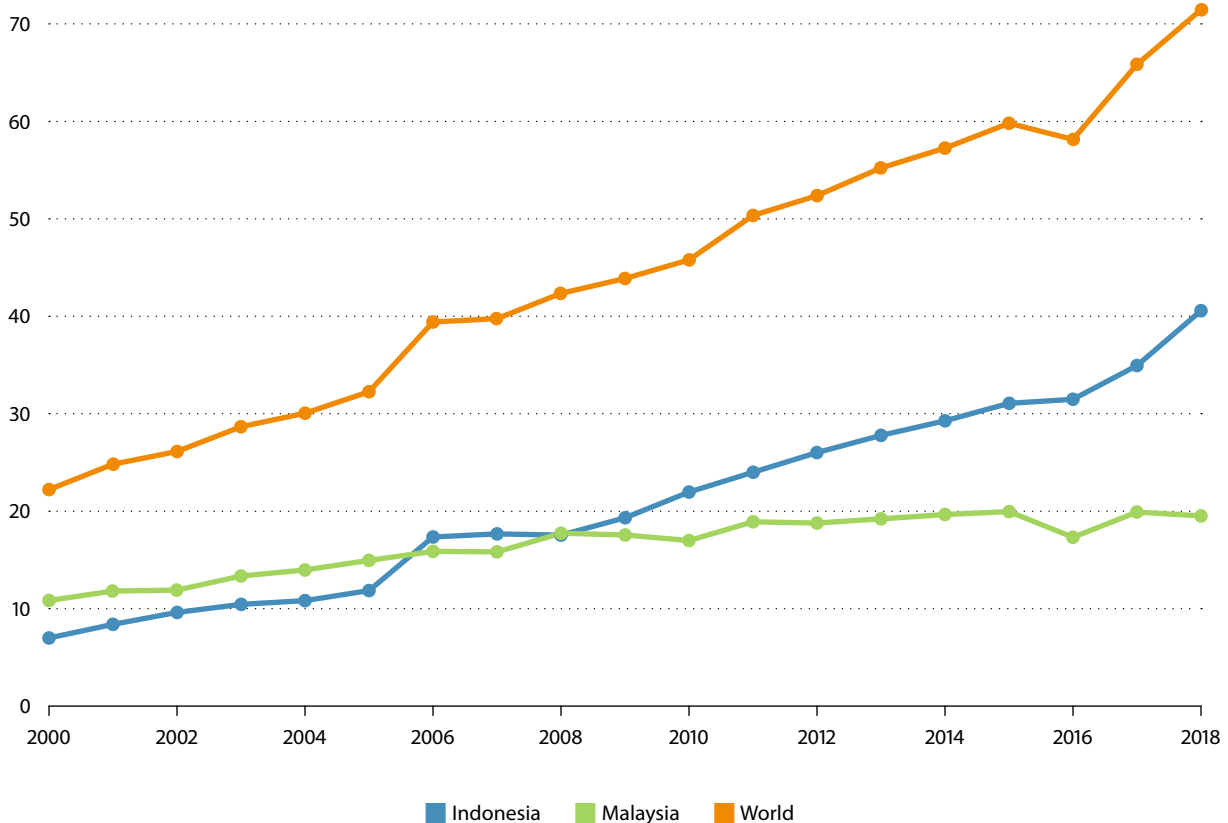
Over the last two decades, oil palm plantations expanded more rapidly than almost any other agricultural commodity.

Palm oil expansion is greatest in Indonesia and Malaysia, where clearing for plantations is the leading cause of carbon dioxide emissions and human rights challenges. The spike in production is likely to continue, given the commodity's versatility and affordability. Demand is expected to push production to nearly 90 million metric tons by 2030, compared to an average of 76 million metric tons annually between 2018 and 2020.² Another driver of palm oil is biofuel.

While currently only accounting for around 5 percent of palm oil's use annually, this percentage is expected to rise in the coming years. Some countries, like Indonesia, are working to reduce their reliance on fossil fuel consumption by creating mixtures of diesel fuel and biodiesel.² This increase is partly influenced by consumers in developing countries buying more processed food and from palm oil being used for a wider variety of non-food products.²

HISTORICAL PALM OIL PRODUCTION, 2000–2018

in millions of tons



Source: UN Food and Agriculture Organization ²

KEY PLAYERS

The following provides additional information about some of the companies in the U.S. palm oil food value chain. While the focus is on publicly traded companies headquartered in the U.S., some of the companies mentioned are headquartered outside the U.S. and/or are privately held.

REFINERS, TRADERS, AND DISTRIBUTORS

Traders purchase palm oil from the companies that manage palm plantations and produce crude palm oil (CPO) and palm kernel oil (PKO). About half of global refining capacity is controlled by four companies (IOI, Sime Darby Plantation, Wilmar International Limited, and Kuala Lumpur Kepong) all of which are headquartered in Southeast Asia. Additionally, these companies are involved in more than 75 percent of global palm oil supply chain.² There are a number of large companies among the world's palm oil producers and traders. The largest publicly-traded companies (with a market capitalization over \$5 billion) are Archer Daniels Midland (ADM), Wilmar, Sime Darby Plantation, Bunge, IOI, Kuala Lumpur Kepong (KLK), and Olam.²

- Mondelez (Cadbury, Oreo, Ritz, Nutter Butter)
- PepsiCo (Quaker, Frito-Lay)
- Unilever (Ben & Jerry's, Popsicle)

Although U.S. and global packaged food manufacturing companies have a small palm oil footprint compared to their producer/trader counterparts, these companies are still exposed to business risks associated with deforestation. By adopting and implementing robust palm oil no-deforestation policies, packaged food manufacturers can mitigate these environmental and social risks before they impact the company's bottom line. In addition, these companies can influence production practices on the ground with producers and traders.

PACKAGED FOOD MANUFACTURERS

Among food manufacturers, no single company uses a large portion of the world's palm oil in its products.

While the total amount of palm oil used by U.S. companies is relatively low, it is found in many products. In its 2015 report *Fries, Face Wash, Forests*, the Union of Concerned Scientists ranked corporate palm oil policy commitments and highlighted the wide variety of companies and food products using palm oil. Examples include:

- Conagra Brands (Act II Popcorn, Marie Callender's)
- General Mills (Pillsbury, Nature Valley)
- Kellogg Company (Pop-Tarts, Nutri-Grain)
- Kraft Heinz (Ore-Ida, Smart Ones, Cool Whip, Jell-O)

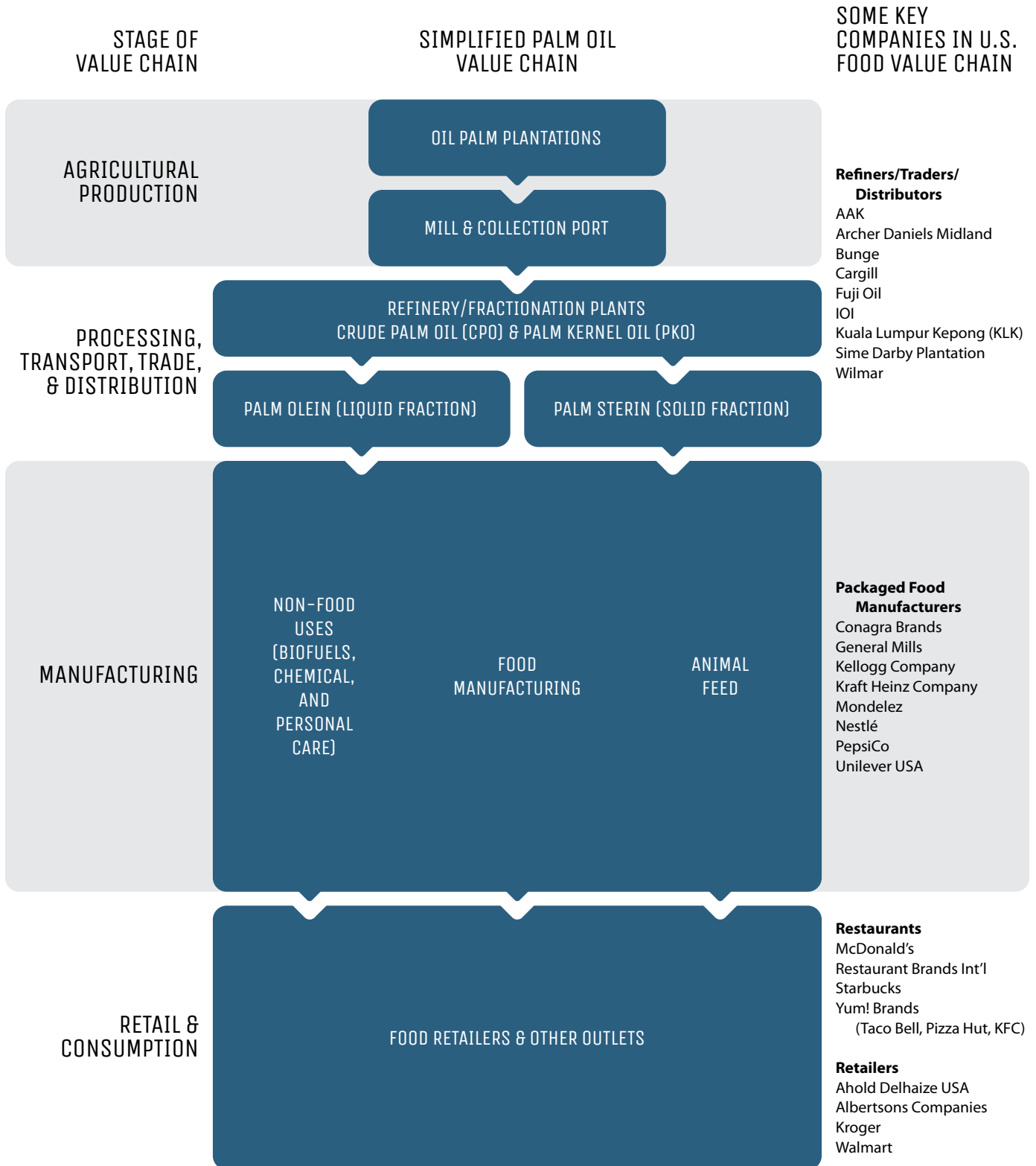
RESTAURANTS AND RETAILERS

Restaurants and retailers play an important role in the palm oil supply chain. These companies can indirectly influence production practices and supplier standards within their supply chain. Moreover, they are sensitive to external pressures as well as responsive to market trends and consumer preferences.

Restaurants are heavy users of palm oil as a product ingredient or as a frying oil (though other vegetable oils are used more commonly than palm oil for frying in U.S. outlets). As compared to restaurants, which primarily have exposure to palm oil through the food they sell, retailers have even greater exposure, as palm can be in the food products, personal goods, and cosmetic products they sell.²

THE PALM OIL VALUE CHAIN

Palm oil supplies from different sources are mixed together at multiple stages of the production cycle, making it difficult to trace palm oil.



ENVIRONMENTAL AND SOCIAL FACTORS



BIODIVERSITY



DEFORESTATION &
LAND USE CONVERSION



CLIMATE CHANGE



WATER USE & POLLUTION

Globally, the environmental and social impacts linked to palm oil production include significant greenhouse gas (GHG) emissions, biodiversity loss, and poor working conditions. Factors in some countries, such as fewer resources for law enforcement and instances of corruption, can result in challenges enforcing existing laws.² Because the political landscape and production systems vary significantly across regions and even within countries, the impacts of palm oil production vary in terms of severity, scale, and scope.

1 PLANTATION EXPANSION CONTRIBUTES TO TROPICAL DEFORESTATION & GHG EMISSIONS

The rapid and poorly managed expansion of palm oil production is causing massive, large-scale deforestation. This deforestation is associated with significant GHG emissions² from the clearcutting and burning of tropical forests.² Tropical forests are considered to be carbon sinks, which absorb and store more carbon than is emitted and are therefore critical to keep intact to slow global climate change.

- In Indonesia, the total harvested palm area was 6 million hectares in 2010. By 2018, that number more than doubled to 14 million hectares.² Of this, 500,000 hectares was observed to be from peat swamp deforestation.² The draining and burning of these carbon-rich peat soils can emit up to 30 times more greenhouse gases than simply clearing the forest.²
- The smoke and haze from these blazes contribute to air pollution and cause devastating health and economic consequences throughout Southeast Asia. In Indonesia, a 2019 fire burned at least 1.6 million hectares of forested land, with losses totaling approximately \$5.2 billion.

Additionally, over 168,300 deaths in Indonesia can be linked to complications from outdoor air pollution annually.²

- Between 2015 and 2018, fires related to the palm oil industry in Indonesia emitted 200 megatons of carbon, or the equivalent annual emissions of both the Netherlands and Norway.² This is roughly equal to an entire year's GHG emissions from Brazil or Russia.²
- However, despite challenges, the rate of deforestation in Indonesia has been slowing in recent years. While this reduction in part was due to COVID-19 restrictions and supply chain disruptions, it can also be attributed to the effectiveness of no-deforestation policies. The success of the palm industry's no-deforestation policies reinforces the need to remain engaged with stakeholders to ensure the continuation of positive change.

Companies that fail to understand and manage impacts related to these issues may face market, reputational, litigation, and operational risks.



2 DESTRUCTION OF FORESTS HARMS LOCAL COMMUNITIES AND THREATENS ENDANGERED SPECIES

The natural forests destroyed for oil palm plantations provide many “ecosystem services,” such as water, food and fuel to local indigenous communities, estimated at around 50 to 70 million people in Indonesia alone.² Moreover, large swaths of key habitat area for highly threatened species, including orangutans, tigers, elephants, and rhinos, are being

destroyed at an alarming rate. For example, 75 percent of the area of Tesso Nilo National Park in Sumatra, established to provide habitat for the endangered Sumatran tiger, has been overrun by illegal palm oil plantings.² Companies that fail to understand and manage impacts related to these issues may face market, reputational, and litigation risks.

3 ALLEGATIONS OF WORK EXPLOITATION IS PROMPTING CONSUMER CONCERN AND LEGAL ACTION THAT COULD HARM BRANDS

Rapid plantation expansion is creating exploitative working conditions, including child labor, forced labor and trafficking of migrant workers — exposing companies to reputational, market, and litigation risks (see more at *Ceres’ Agricultural Supply Chains as a Driver of Financial Risks*²).

The U.S. Department of Labor identifies palm oil production in Indonesia as high risk for child labor and palm oil production in Malaysia as high risk for child and forced labor.²

For several years, NGOs have been putting the spotlight on human rights challenges and environmental degradation in emerging palm oil growing hotspots such as Guatemala.² While Guatemala exports a small amount of palm oil to the U.S., U.S. traders and others operate in the region and therefore face business risks. In 2018, several companies (e.g., Cargill², Nestlé) suspended business with a supplier accused of violations (Reforestadora de Palmas AC (REPSA)).²

4 SMALLHOLDERS’ LACK OF ACCESS TO RESOURCES AND MARKETS LIMITS THEIR PRODUCTIVITY AND THE SHIFT TO MORE SUSTAINABLE PRODUCTION²

Since smallholders play a key role in the labor-intensive palm oil industry, it is critical to get them involved in driving more sustainable changes in production. Smallholders need help gaining access to markets and may require additional technical and financial resources to support productivity improvements and shifts in cultivation practices. Lack of attention to the issues involved with smallholder production can lower both the quality and quantity of supply for agribusinesses.

- Globally, around three million smallholders are involved in oil palm cultivation.²

- In Indonesia in 2020, smallholders produced up to 40 percent of the country’s palm oil.²
- Since smallholders’ productivity is 35 percent lower than larger plantations, improvements such as Good Agriculture Practices (GAP) and Best Management Practices (BMP) could help meet increasing demand without further expansion of palm plantations.²



5 SOCIAL DISPUTES WITH LOCAL COMMUNITIES AND WORKERS CONTRIBUTE TO OPERATIONAL DISRUPTIONS

Social disputes with local communities and workers can disrupt operations through development delays, demonstrations or employee strikes, and other roadblocks. Though the palm oil sector provides employment for millions and significantly reduces poverty, the current work is often done during long, hard hours at low pay.² The development of

new large-scale oil palm plantations also leads to social conflict when development fails to consider the rights and livelihoods of local communities. These disputes can pose serious operational disruptions for businesses reliant on the work of smallholders.

6 ENVIRONMENTAL AND SOCIAL IMPACTS LEAD TO REPUTATIONAL RISKS

Various NGO groups such as Greenpeace, Rainforest Action Network, Mighty Earth, and Oxfam have targeted consumer brands with deforestation campaigns. In 2018, Greenpeace urged the parent company of Oreo, Mondelez, to stop sourcing palm oil from Wilmar after linking it to the increased and unsustainable destruction of orangutan habitats. Over 1.3 million people signed a petition directed towards the palm oil giant. Wilmar responded by pledging to map and monitor its entire supply chain by 2019.² Kellogg Company was accused in 2013 of rainforest destruction in over 30 prominent media outlets, and as of 2021, was still frequently appearing in the news for similar claims.² In addition to these public campaigns, several organizations have begun

to rank companies' commitments to addressing the impacts of palm oil production. For instance, the Union of Concerned Scientists in April 2015 published a scorecard entitled *Fires, Face Wash, Forests: Scoring America's Top Brands on Their Palm Oil Commitments*.² In 2018 Greenpeace launched *Moment of Truth*, challenging 16 companies to disclose publicly the mills that produced their palm oil and the names of the producer groups that controlled those mills. Deforestation is the second largest source of greenhouse gas emissions. The expansion of croplands for commodities such as palm oil has accelerated the process. In Indonesia, nearly half of emissions come from oilseed production, chiefly palm oil.²



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Ceres is a sustainability nonprofit organization working with the most influential investors and companies to build leadership and drive solutions throughout the economy. Through our powerful networks and advocacy, we tackle the world's biggest sustainability challenges, including climate change, water scarcity and pollution, and human rights abuses.