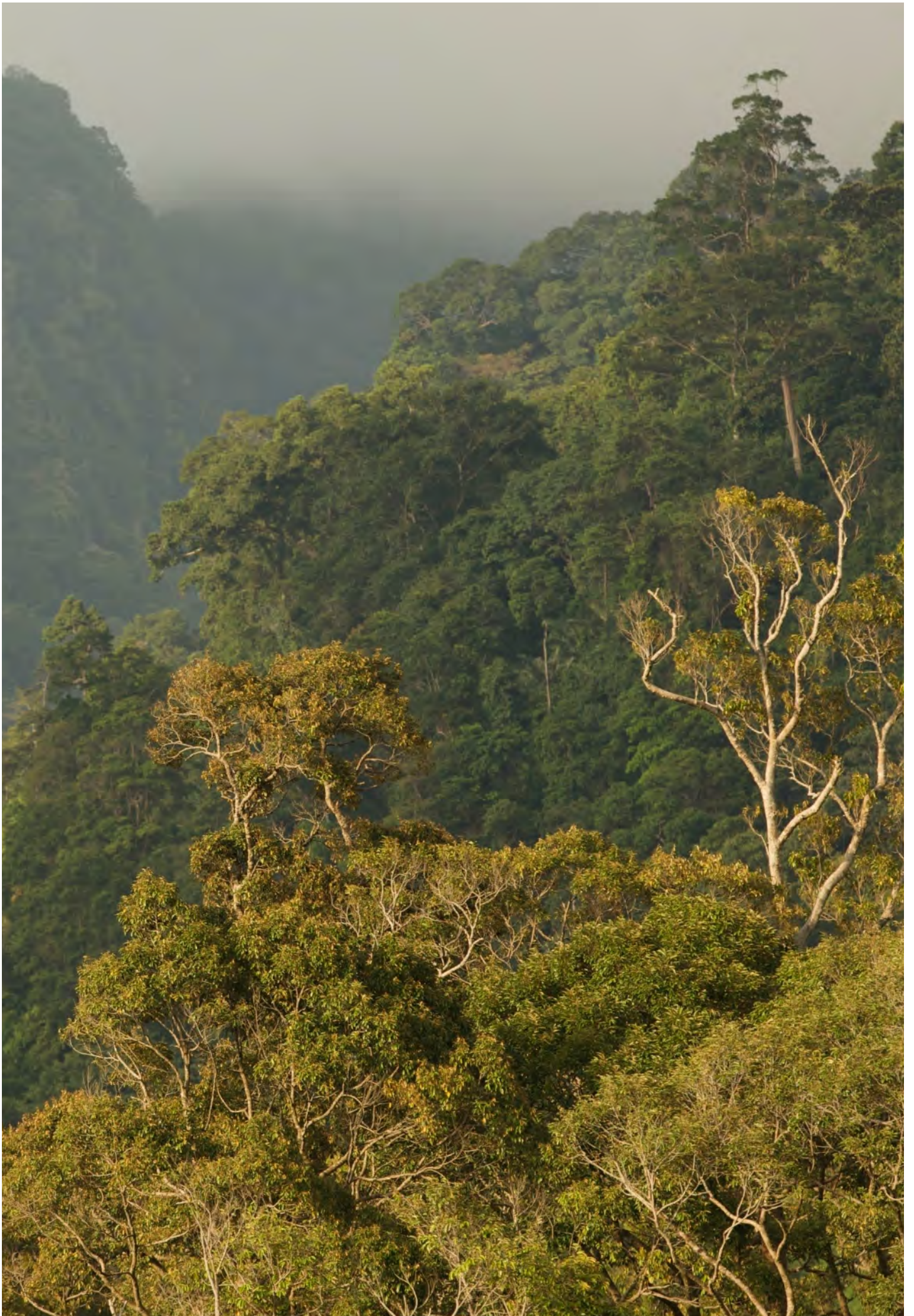


# THE MONEY TREES

**The role of corporate action in the fight against deforestation**







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# ABOUT THIS REPORT

**This report focuses on 306 high impact forests risk companies that reported via CDP's disclosure platform in 2018. Companies disclosed to either investor shareholders or purchasing organizations on one or more of four critical forest risk commodities: cattle, soy, palm oil or timber and derivative products.**

It includes 104 companies within the food, beverage and agriculture sectors; 89 of the world's largest manufacturers; and more than 65 companies participating in the retail, services and materials sectors. Of these, 202 companies are publicly listed, worth in excess of US\$4 trillion.

This report focuses on a critical assessment of corporate awareness of deforestation risk and the action these companies are taking to remove deforestation from commodity supply chains.



# KEY FINDINGS

- 1 Disclosure and transparency on the topic of deforestation from the largest brands in the world is poor.**
  - ▼ 70% of invited companies failed to report critical forests related information requested by investor shareholders or purchasing organizations in 2018, and more than 350 companies have consistently failed to report over the last three years. A full list can be found on CDP's website<sup>1</sup>.
- 2 Despite global commitments and mounting public pressure, companies are still unaware of deforestation risk.**
  - ▼ Almost a third (29%) of reporting companies do not include forest-related issues in their risk assessments - but nearly all that do (92%) identify substantial risks.
- 3 Companies that understand the risk report US\$30.4 billion in potential losses due to the impacts of deforestation.**
  - ▼ As the vast majority of companies (75%) did not report the potential financial impact, the figure is likely to be much greater. Typically, 15% of revenue for the companies analyzed is dependent on commodities driving deforestation.
- 4 Despite this risk, a quarter (24%) of reporting companies have yet to begin removing deforestation from identified commodities within supply chains.**
  - ▼ Further analysis identifies an execution gap. While 90% of retailers and manufacturers have begun implementation, we find more than a quarter (28%) of suppliers have yet to do so - perhaps preventing companies from achieving public commitments.
- 5 There is significant opportunity for companies willing to lead the way.**
  - ▼ 76 companies reported business opportunities valued at US\$26.8 billion, more than half (55%) of which are highly likely or virtually certain to transpire.

1. <https://www.cdp.net/en/research/global-reports/the-money-trees>

# INTRODUCTION



Forests are central in developing solutions both to mitigate and adapt to climate change...These terrestrial ecosystems have already removed nearly one third of human-produced carbon dioxide emissions from the atmosphere. Through sustainable forest management, they could remove much more.

– Liu Zhenmin, UN DESA's Under-Secretary-General<sup>5</sup>



**Deforestation is the second largest source of anthropogenic greenhouse gas emissions<sup>2</sup> on the planet. Protecting forests is not only part of the solution to stop rising greenhouse gas emissions, but as forests also remove CO<sub>2</sub> from the atmosphere, halting deforestation is critical to reducing emissions in line with a 1.5 degrees Celsius world. Tropical forests are more greatly impacted by these commodities, as they cause more than 60% of the forest loss in Latin America and Southeast Asia and this is a usually a permanent loss.**

The recent Intergovernmental Panel on Climate Change (IPCC) report highlights that action to reduce emissions must be immediate. **In less than 12 years, emissions need to be 45% below 2010 levels and science shows emissions need to be net zero by 2050<sup>3</sup> if warming is to be limited to 1.5 degrees Celsius.** Research also shows that if deforestation continues in a “business as usual” manner we could have phased out the use of fossil fuels in 2015 and still see 1.5 or potentially 2 degrees warming relative to the pre-industrial era by 2100<sup>4</sup>.

By 2018, at least 450 companies had made a public commitment to remove deforestation from supply chains by 2020<sup>6</sup>. As this deadline approaches, it is clear that companies will not meet this critical ambition. While the private sector cannot solve this problem alone, our research suggests that the companies that produce, source and market products containing critical commodities have also not done enough to make meaningful progress – and are facing greater scrutiny by investors and consumers as

the impact of deforestation becomes ever more apparent.

Consumers are increasingly aware of the environmental impact of their purchases and are increasingly demanding action by large retailers to ensure their production practices and supply chains are not driving environmental destruction.

Social movements are increasing in frequency and urgency. In the first half of 2019 alone there were large numbers of demonstrations globally calling for governments to act to protect the earth from impending climate disaster. The school strikes for climate action saw more than 1.4 million young people in 2,233 cities and towns in 128 countries from Australia, Argentina to India, the UK and the US walk out of school and demonstrate for action on climate change<sup>7</sup>. Governments and firms in 28 countries spanning Colombia, Indonesia, Norway, Pakistan, South Africa, and the US have been sued over the climate crisis with 1,300 legal actions brought since 1990<sup>8</sup>.

2. Pendrill, F., et al. (2019) Agricultural and forestry trade drives large share of tropical deforestation emissions. <https://doi.org/10.1016/j.gloenvcha.2019.03.002>

3. IPCC. (2018) Summary for Policymakers. In: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. [https://report.ipcc.ch/sr15/pdf/sr15\\_spm\\_final.pdf](https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf)

4. Mahowald, N. et al (2017) Are the impacts of land use on warming underestimated in climate policy? <https://doi.org/10.1088/1748-9326/aa836d>

5. <https://www.un.org/development/desa/en/news/forest/forum-on-forests-14th-session.html>

6. Donofrio S., Rothrock P., Leonard, J. Forest Trends for Supply Change. (2017). Tracking Corporate Commitments to Deforestation-Free Supply Chains. Available at: [www.foresttrends.org/documents/files/doc\\_5521.pdf](http://www.foresttrends.org/documents/files/doc_5521.pdf)

7. <https://www.fridaysforfuture.org/events/list>

8. <http://www.lse.ac.uk/GranthamInstitute/news/climate-change-lawsuits-expand-to-at-least-28-countries-around-the-world/>



Policymakers are taking heed. In the UK, a climate emergency was called<sup>9</sup>. In the United States, hundreds of Mayors called for the introduction of a carbon tax, the passage of ambitious Green New Deal<sup>10</sup> climate action, and allowance for fossil fuel companies to be held liable for climate-related costs and damages. Meanwhile, the Asian Development Bank earmarked US\$80 billion for climate change impacts in Asia<sup>11</sup>.

Today, deforestation continues, ecosystems are deteriorating more rapidly than ever, and climate change is still progressing at pace. Transformative change is needed if we are to successfully halt negative trends in nature, ecosystem functions and the projected impacts of increasing climate and land-use change.

Forests play a central role in the solution. Avoiding deforestation could help provide over one-third of the cost-effective climate mitigation necessary<sup>12</sup> and will help to secure a long-term stable economy<sup>13</sup>. Business as usual on forests is no longer an option.

Action on deforestation needs to be renewed and gaps in awareness and execution addressed. Leading companies must drive greater change at scale to secure the future for their customers, employees and society. Companies not engaged on this topic can no longer sit passively. Science dictates we have twelve years to save the forests – now is the time to act.



9. <https://www.bbc.co.uk/news/uk-politics-48126677>

10. [http://legacy.usmayors.org/resolutions/87th\\_Conference/proposedcommittee-preview.asp?committee=Environment](http://legacy.usmayors.org/resolutions/87th_Conference/proposedcommittee-preview.asp?committee=Environment)

11. <https://asia.nikkei.com/Politics/International-relations/Asian-Development-Bank-to-earmark-80bn-for-climate-change-impact>

12. Griscom, B., et al. (2017) Natural climate solutions. <http://www.pnas.org/cgi/doi/10.1073/pnas.1710465114>

13. Gaffney, O. (2018) Sleeping financial giants – Opportunities in financial leadership for climate stability. <http://doi.org/10.17045/sthlmuni.7105748>

# THE AWARENESS GAP



Deforestation is a major contributor to climate change... Eliminating deforestation will also have positive impacts on biodiversity, ecosystem services and the lives of local people dependent on forests for their livelihoods.

– Unilever<sup>19</sup>

**Just over a quarter of global forest loss is due to deforestation through permanent land use change to produce agricultural commodities, including beef, soy, palm oil, and wood fiber<sup>14</sup>, the four commodities included in CDP's forests questionnaire.**

Global consumers are increasingly demanding companies provide transparency on the production and sourcing of these and other products<sup>15</sup>. Recent research commissioned in part by the Environmental Investigation Agency found that 87% of European consumers are demanding deforestation-free products<sup>16</sup>. Another poll, of more than a million Brazilian voters, found that 51% support stricter environmental laws even if it means paying more for goods and services<sup>17</sup>.

From conflict-free diamonds to tracking produce from farm to table, technological advances are enabling companies to quickly and efficiently respond to these consumer demands<sup>18</sup>. As consumers become even more aware of the impacts their purchasing behavior has on the planet, it will become increasingly difficult for companies to continue to claim that they are not aware of their use of key commodities driving deforestation.

Surprisingly, our analysis finds some companies still report that they are unaware of the presence of the four main forest risk commodities in their supply chain or operations - or they are unaware of their importance or impact. While 3% of companies report that they do not know if they produce, use or sell materials or products that contain one of the four forest risk commodities, a further 11% do not report revenue linked to a commodity, including **Associated British Foods, The Kraft Heinz Company and Avon**. Investors demand this information to understand their exposure to risk related to these highly

scrutinized commodities and expect companies to understand their financial exposure as well.

## Value of disclosure?

While forests gain ever more recognition for their role in supporting livelihoods, averting climate change and biodiversity loss -- and while forests were recognized in the 2015 Paris Agreement -- corporate awareness on deforestation continues to lag climate change and water security.

CDP's disclosure process incentivizes companies to measure, manage and reduce their impacts on the environment. We track key performance indicators such as board level oversight, risk assessment, and corporate governance as well as implementation measures including certification, traceability and supplier engagement to provide critical data to investor shareholders and purchasing organizations and to highlight how companies are progressing in their efforts to halt deforestation.

Despite the benefits disclosure offers, reporting on forests is still poor. **In 2018, 70% of more than 1,500 companies requested to provide this information to investors, shareholders or purchasing organizations failed to do so.** This lack of transparency should be of equal concern to consumers, who trust that known brands are acting to implement publicly made commitments yet have little access to information to assess their progress.

14. Curtis, P.G. et al. (2018). Classifying drivers of global forest loss. Science 361:1108-1111. DOI: 10.1126/science.aau3445

15. <https://www.forbes.com/sites/jonquilhackenberg/2019/06/28/traceable-supply-chains-the-new-dinner-party-discussion-part-1/#3ae0834a8c83>

16. [https://d25d2506sfb94s.cloudfront.net/cumulus\\_uploads/document/v3p20mpf8i/YG-Archive-030519-FernDeforestationAllMarkets065.pdf](https://d25d2506sfb94s.cloudfront.net/cumulus_uploads/document/v3p20mpf8i/YG-Archive-030519-FernDeforestationAllMarkets065.pdf)

17. <https://g1.globo.com/politica/eleicoes/2018/noticia/2018/11/01/sintonia-eleitoral-eleitores-apoiam-leis-ambientais-mais-rigorosas-mesmo-que-isso-signifique-pagar-mais-por-bens-e-servicos.ghtml>

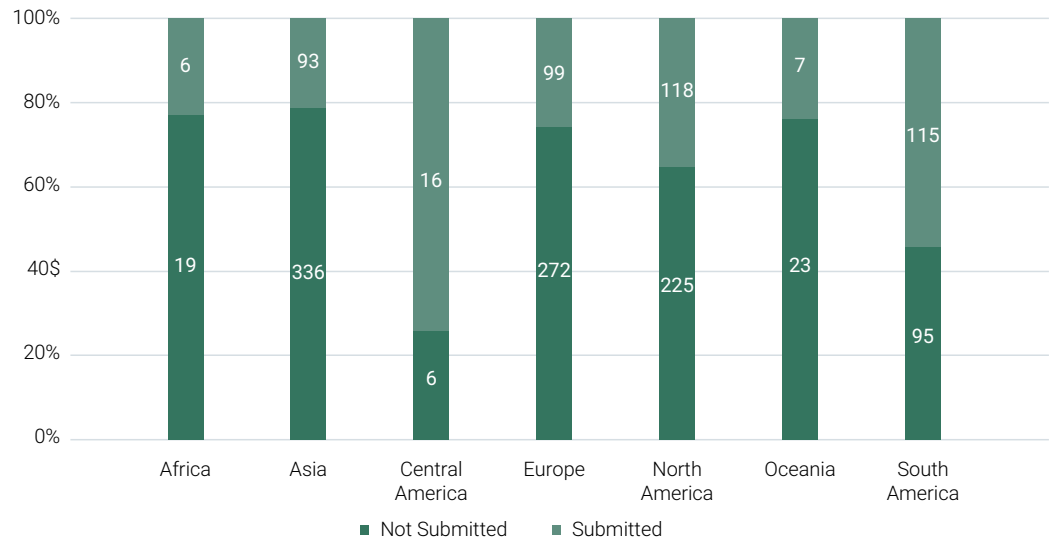
18. <https://www.forbes.com/sites/deborahweinswig/2018/05/25/transparency-is-the-new-normal-top-takeaways-from-the-2018-innovation-series/#114b1f8f1e85>

19. [https://www.unilever.com/Images/eliminating-deforestation-position-statement\\_tcm244-423148\\_en.pdf](https://www.unilever.com/Images/eliminating-deforestation-position-statement_tcm244-423148_en.pdf)

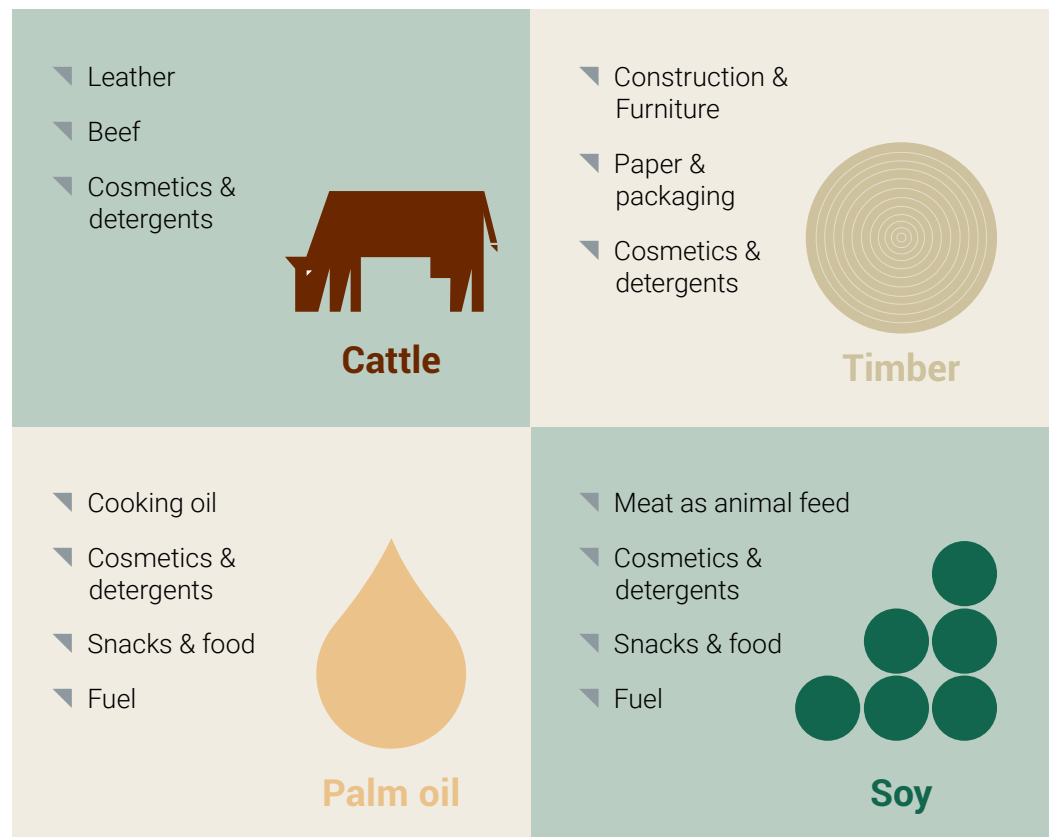


# THE AWARENESS GAP

**Figure 1. Disclosure by region (95% of companies in sample)**





## Commodities and derivative products



# THE AWARENESS GAP

There is an urgent and critical need for all companies engaged with forests risk commodities to act on the topic. For companies to be accountable to their stakeholders, action and progress needs to be reported using simple and robust metrics. This reporting must be comprehensive and consistent, so it can be used to support effective decisions by stakeholders determining which companies to buy from, invest in, or divest from.

Below we list 30 companies that have consistently failed to report forests related information for the last three years (2016 - 2018). We call on these companies to report, and for their shareholders and those purchasing from them to demand transparency on the products they purchase.

| Companies                            | Market capitalization<br>(USD\$ million) | Country HQ               | Commodity used by company                                                                  |                                                                                              |                                                                                         |                                                                                            |
|--------------------------------------|------------------------------------------|--------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
|                                      |                                          |                          |  Timber |  Palm Oil |  Soy |  Cattle |
| British American Tobacco             | 108,600                                  | United Kingdom           | ✓                                                                                          | ✗                                                                                            | ✗                                                                                       | ✗                                                                                          |
| Walgreens Boots Alliance             | 70,342                                   | United States of America | ✓                                                                                          | ✓                                                                                            | ✗                                                                                       | ✓                                                                                          |
| Mondelez International Inc           | 63,751                                   | United States of America | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✓                                                                                          |
| Kroger                               | 23,335                                   | United States of America | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✓                                                                                          |
| Hormel Foods                         | 21,634                                   | United States of America | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✓                                                                                          |
| Kerry Group                          | 19,834                                   | Ireland                  | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✗                                                                                          |
| Inner Mongolia Yili Industrial Group | 17,166                                   | China                    | ✗                                                                                          | ✓                                                                                            | ✓                                                                                       | ✗                                                                                          |
| Domino's Pizza, Inc.                 | 12,844                                   | United States of America | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✓                                                                                          |
| Macy's, Inc.                         | 10,907                                   | United States of America | ✓                                                                                          | ✗                                                                                            | ✗                                                                                       | ✓                                                                                          |
| Gap Inc.                             | 10,383                                   | United States of America | ✓                                                                                          | ✗                                                                                            | ✗                                                                                       | ✓                                                                                          |
| Next                                 | 9,937                                    | United Kingdom           | ✓                                                                                          | ✗                                                                                            | ✗                                                                                       | ✓                                                                                          |
| Persimmon                            | 9,765                                    | United Kingdom           | ✓                                                                                          | ✗                                                                                            | ✗                                                                                       | ✗                                                                                          |
| Cencosud SA                          | 6,637                                    | Chile                    | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✓                                                                                          |
| Lion Corporation                     | 6,372                                    | Japan                    | ✓                                                                                          | ✓                                                                                            | ✗                                                                                       | ✓                                                                                          |
| Lotte Corp                           | 5,666                                    | Republic of Korea        | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✓                                                                                          |
| Foot Locker Inc                      | 5,386                                    | United States of America | ✓                                                                                          | ✗                                                                                            | ✗                                                                                       | ✓                                                                                          |
| Calbee, Inc.                         | 4,281                                    | Japan                    | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✗                                                                                          |
| PT Indofood Sukses Makmur, Tbk       | 3,502                                    | Indonesia                | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✓                                                                                          |
| Sports Direct International          | 2,444                                    | United Kingdom           | ✓                                                                                          | ✗                                                                                            | ✗                                                                                       | ✓                                                                                          |
| Rimbunan Hijau Group                 | N/A                                      | Malaysia                 | ✗                                                                                          | ✓                                                                                            | ✗                                                                                       | ✗                                                                                          |
| Nice Group                           | N/A                                      | China                    | ✓                                                                                          | ✓                                                                                            | ✗                                                                                       | ✓                                                                                          |
| Bright Food Group Co Ltd             | N/A                                      | China                    | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✓                                                                                          |
| Ferrero Spa                          | N/A                                      | Italy                    | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✗                                                                                          |
| Oetker-Gruppe                        | N/A                                      | Germany                  | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✗                                                                                          |
| Louis Dreyfus                        | N/A                                      | Netherlands              | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✓                                                                                          |
| Auchan Holding                       | N/A                                      | France                   | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✓                                                                                          |
| Papa John's International Inc        | N/A                                      | United States of America | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✓                                                                                          |
| IKEA                                 | N/A                                      | Sweden                   | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✓                                                                                          |
| REWE Group                           | N/A                                      | Germany                  | ✓                                                                                          | ✓                                                                                            | ✓                                                                                       | ✓                                                                                          |
| Zhejiang Aokang Shoes Co Ltd         | N/A                                      | China                    | ✓                                                                                          | ✗                                                                                            | ✗                                                                                       | ✓                                                                                          |

**Table 1. A subset of persistent non-responding companies (2016 - 2018) selected based on commodities, market capitalization and brand recognition**

These companies could still disclose in 2019 and this information will be available on CDP's website in Autumn 2019.



# THE COST OF BEING UNAWARE?

Nearly all (92%) reporting companies that integrate forests into their risk assessment go on to identify substantial deforestation risks. However, CDP's analysis finds that almost a third (29%) of reporting companies do not include forests-related issues in their risk assessments. Without assessing risk, it is impossible to implement an appropriate mitigation response, leaving these companies exposed and unaware.

# 15%

of company revenue is typically dependent on forest risk commodities: timber, palm oil, soy or cattle products

# 1/3

of companies do not include forest-related issues into their risk assessments

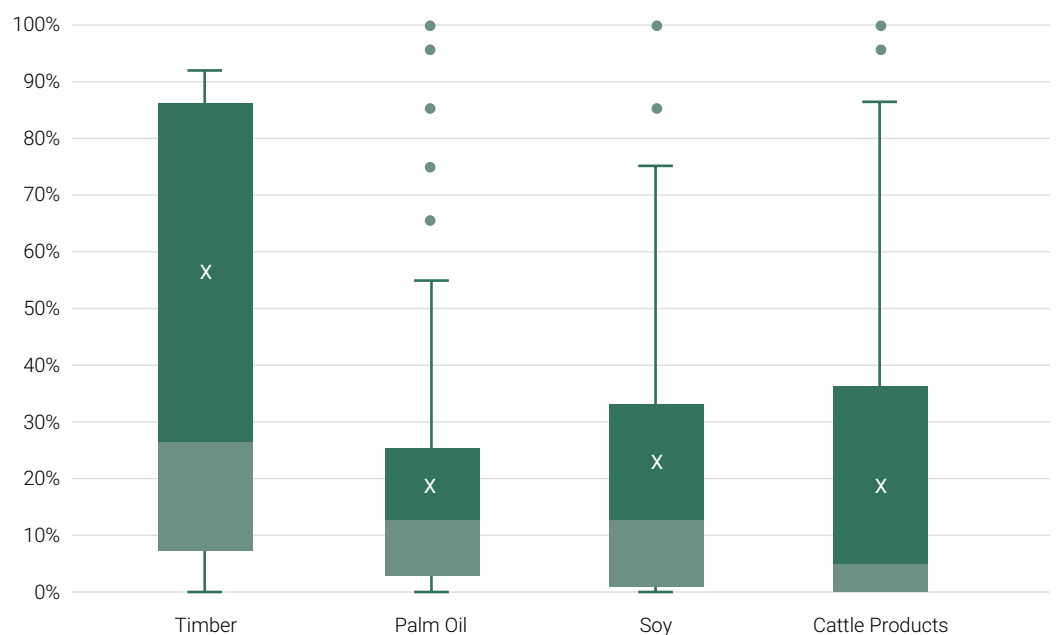
# US \$30.4 billion

the cost of likely deforestation risks likely to impact companies

Forest risk commodities are an integral part of company products and therefore profit. **Companies report to CDP that typically 15% of their revenue is dependent on forest-risk commodities.** With a clear dependence on commodities driving deforestation to generate corporate revenue, including forests in risk assessments is a vital step in building awareness and safeguarding profit.

with identified deforestation risk. Only a third (28%) of reporting companies were able to do so, but given those companies together reported US\$30.4 billion, 16% of which is likely to be accrued in the next three years, this should raise some flags. The low level of reporting on this data point suggests that this figure is significantly underreported – and that companies are perhaps unaware of the potential cost of forest risk.

In 2018, CDP asked companies for the first time to report on the projected losses associated



**Figure 2. Reported % of revenue dependency across commodities – displayed as the range of variation, median, x – average, minimum and maximum, and outliers**

# DEFORESTATION RISKS FACING COMPANIES

**Forests are critical to maintaining global rainfall patterns and climatic conditions<sup>20</sup> - deforestation raises mean temperatures, increases heat extremes and decreases the amount of rainfall and its frequency.**

These physical changes put agricultural production at risk through reduced crop yields, shifts in suitability and declines in pasture productivity<sup>21</sup>. Recent reports suggest that advancing deforestation could eventually hit a tipping point, resulting in a substantial change to the Amazon, ultimately turning it into a large-scale emitter of carbon dioxide which could help cascade us well past 2 degrees Celsius into a "Hothouse Earth"<sup>22</sup>.

Traditionally however, reputational and market risks have been - and continue to be - the most frequently reported risks (45%) for companies when it comes to forests. It is the type of risk reported by the largest number of companies (72%). This is not surprising as most impacts associated with deforestation to date have been from reputational damage and half of all detrimental impacts (50%) experienced by disclosing companies were the result of reputational drivers. For fast-moving consumer goods (FMCG) companies, events that damage a company's reputation can impact its value by up to 30%, including those caused by an association with deforestation<sup>23</sup>.

While the number of reputational risks (45%) reported through CDP in 2018 was higher than both physical (30%) and regulatory risks

(25%) - the financial impact of reported physical risks was highest, as were the response costs. Downstream companies, such as retailers or manufacturers, seem to be less aware of these physical risks despite connected upstream companies reporting them. Only 25% of downstream companies that do not have control over land reported physical risks, while 60% of those upstream that do control land, did so.

Identifying risks is a critical element in driving action. **CDP's forests data shows a significant relationship between the awareness of substantial risks and the following company implementation of mitigation actions.** If a company identifies substantial risks, it is more likely to be working to address them. The more risks a company identifies, the more actions it is also taking to tackle deforestation such as: setting targets (e.g. to increase traceability), using certification, engaging with their supply chain or taking part in external initiatives to achieve zero deforestation production.

There is a clear need for all companies engaged with forest risks commodities to firstly ensure a minimal level of awareness of commodity use within its supply chain and to include forests issues within existing risk assessment processes and procedures.



Recognizing that forest degradation is a pressing issue requiring urgent action, L'Oréal is strongly committed to achieve zero deforestation by 2020.

In 2018, thanks to CDP's risk assessment framework, we have continued to inform our palm strategy by reinforcing the evaluation of the potential financial impacts of risks identified along our supply chains. Beyond the sustainable certification of 100% of our sources and our efforts to trace back our derivatives, a key pillar of our strategy is working with our suppliers, including the use of CDP data to further engage them, mitigate risks and build resilience.

— Alexandra Palt, Chief Corporate Responsibility Officer, L'Oréal



20. Lawrence, D. & Vandecar, K. (2015) Effects of tropical deforestation on climate and agriculture. Nature Climate Change. Volume 5, pages 27–36 <https://doi.org/10.1038/nclimate2502>

21. Lawrence, D. & Vandecar, K. (2015) Effects of tropical deforestation on climate and agriculture. Nature Climate Change. Volume 5, pages 27–36 <https://doi.org/10.1038/nclimate2502>

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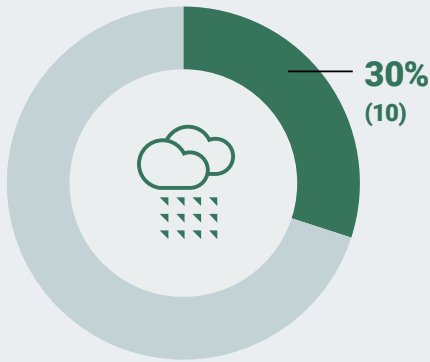
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# DEFORESTATION RISKS FACING COMPANIES

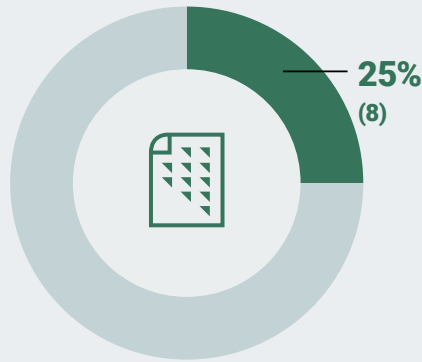
Figure 3. Types of risks reported by companies and % of companies reporting each risk

Yes No



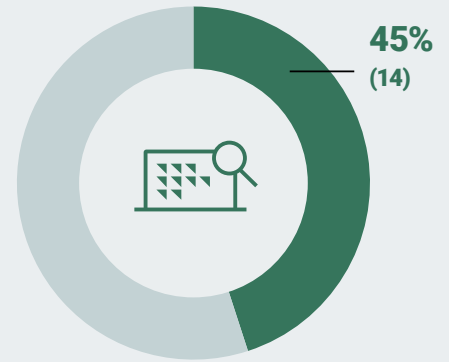
## Physical risks

forest fires and the increased severity of extreme weather events



## Regulatory risks

changes to international law and bilateral agreements



## Reputational and markets risks

increased stakeholder concern or negative stakeholder feedback



Klabin recognized the need to increase the approach against deforestation from our supply chain, through supplier audits, training and technical support to improve sustainable practices and reinforcing the existing partnerships. Additionally, regarding the value of forests in the sourcing region we have invested in recovery of native forest remnants, silviculture and support to conserve the natural heritage.

– Corporate Environmental Engineer, Klabin



# DEFORESTATION RISKS FACING COMPANIES

## Empresas CMPC



Physical impact driver - Forest fires - Impact on company assets

High temperatures increase the risk of fires which strongly threaten CMPC's forest plantations and all production lines, across the three business units (pulp, paper and tissue).

- ▼ **Financial impact:** US\$73 million – around 10% of operating expenses in 2018<sup>24</sup>
- ▼ **Response:** Fire prevention safeguards  
CMPC has put fire prevention safeguards in place and the strengthening of company capabilities in prediction, detection and combating of forest fires, and through closer coordination with CONAF<sup>25</sup> and other forestry enterprises. A fleet of 20 aircraft, including a Chinook mega helicopter, and 1,000 firefighters were presented by CMPC in Chile as part of its plan for preventing and combating forest fires. With this, CMPC now has a firefighting capacity of two million litres of water per day. Innovation has also been introduced in the protection of forest assets against fire and pests, through the development and application of software for the simulation and analysis of fire propagation, and also through the use of technologies such as remote sensors, which allow a more efficient evaluation and coordination in the deployment of resources. In addition to all this and in preparation for the 2017-2018 season of forest fires, CMPC deployed an intensive campaign in the community aimed at creating awareness and knowledge about fire prevention.
- ▼ **Cost of response:** over US\$1.8 billion (estimated at US\$4,000 per hectare)

## L'Oréal



Reputational and markets risk - Increased stakeholder concern or negative stakeholder feedback - Brand damage

A lack of strong management of forest related issues at L'Oréal could lead to accusation of corporate irresponsibility at the expense of the planet ("profit not planet") which would absolutely contravene the business ethos. Companies are less and less able (rightly) to get away with activities that contribute to deforestation and otherwise adversely affect the planet. L'Oréal is aware of the value of its brand for consumers and cannot afford to not manage activities with detrimental impact on forest. L'Oréal expects such forest-related campaigns to remain sensitive topics in the future.

- ▼ **Financial impact:** over US\$180 million – around 1% of operating expenses in 2018<sup>26</sup>
- ▼ **Response:** L'Oréal is managing the risk of stakeholders' concern on forest issues through an ambitious zero deforestation policy. Concrete actions participate proactively to the good reputation of its brands and products. The Group targets Zero Deforestation by 2020, through: an increasing use of certified material, greater traceability, continuous supplier performance monitoring, engagement into stakeholders' dialog, development of fields projects with smallholders and for conservation purpose. To encourage suppliers to manage their forest footprint, in 2016 L'Oréal developed its Sustainable Palm Index, to assess their commitments and achievements in fighting deforestation. In 2017, 355 of the suppliers responded to CDP SC, including the 1st edition of CDP Forest SC. L'Oréal commits to manage its forest impacts in transparent, demonstrable and verifiable ways.
- ▼ **Cost of response:** around US\$110,000

24. <http://apps.indigotools.com/IR/IAC/?Ticker=CMPC&Exchange=SANTIAGO#>

25. The National Forest Corporation or CONAF is a Chilean private, non-profit organization, through which the Chilean state contributes to the development and sustainable management of the country's forest resources. CONAF is overseen and funded by the Ministry of Agriculture of Chile.

26. <https://www.loreal-finance.com/eng/news-release/2018-annual-results-1317.htm>



# DEFORESTATION RISKS FACING COMPANIES

## Charoen Pokphand Foods PCL



Reputational and markets - Increased cost of certified sustainable material - Increased operating costs

Market is demanding supply of certified product, but there exist challenges to certify all suppliers.

- ▼ **Financial impact:** over US\$9 million - around 50% of operating expenses in 2018<sup>27</sup>
- ▼ **Response: Engagement with customers**  
CPF has engaged with customers to explain the status of certification.

## BillerudKorsnäs



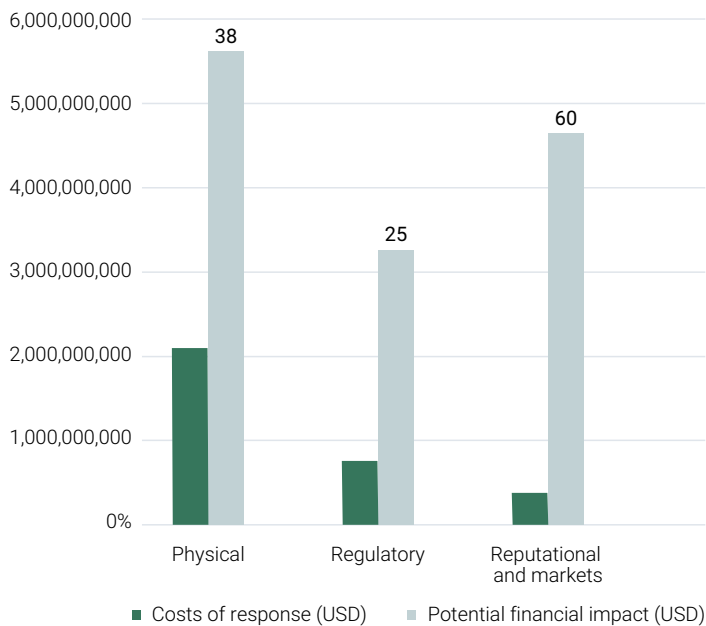
Physical - Changes in precipitation patterns- Supply chain disruption

During the autumn of 2017 the precipitation was unusually high combined with warm weather resulting in non-frozen soils with low carrying capacity. The bad carrying capacity together with the thick snow layer resulted in problems transporting wood out from the forests. The problem occurred in Sweden, Finland and the Baltics simultaneously leading to a lack of raw materials to the whole forest industry in the region.

- ▼ **Financial impact:** over US\$22 million - around 1% of operating expenses in 2018<sup>28</sup>

### ▼ Response: Implementation of environmental best practices in direct operations

For BillerudKorsnäs the high precipitation meant a loss of 50,000 cubic meter of pulp wood resulting in the organization closing down one of the paper machines in Grevön for a couple of weeks. The forestry department of BillerudKorsnäs Forestry worked closely with the harvest contractors to re-organize the harvesters to areas with dryer soils or less snow and to choose lighter forest machines than planned. At the same time the Wood department of BillerudKorsnäs Forestry was able to import extra volumes of wood chips covering the needs of hard wood. Parallel, the Wood department was working closely with the mill organizations to minimize the harm of the pulp wood shortage by reallocating the pulp wood to the mills needing it the most and to change the mixture of hard wood and soft wood in the mills resulting in changed consumption and needs of the specific lack of material. Thanks to these efforts and a warm spring, the wood shortage problem was minimized to affect just one paper machine over a short time span. Overall, the loss of 50,000 cubic meter of pulp wood that results to the close of one paper machines for a couples of weeks was assessed to have a substantive financial impact to our company with a real loss of 200,000,000 SEK (US\$21,306,000<sup>29</sup>).



**Figure 4. Comparison of potential financial impact vs. costs of response across different types of risks with number of companies reporting each type of risk (data from 61 companies that reported both financial figures for impacts & cost of responses).**

27. <https://www.cpfworldwide.com/en/investors/financial-statements>

28. <https://www.billerudkorsnas.com/globalassets/billerudkorsnas/sustainability/our-sustainability-report/billerudkorsnas-annual-and-sustainability-report-2018.pdf>

29. 1 SEK = 0.11USD as of 03.07.2019





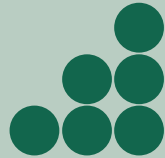


# DEFORESTATION – MORE THAN JUST A REPUTATIONAL RISK



One of the major operational risks the Company is encountering is the volatility of commodity prices, strongly influenced by changes in temperature or temperature extremes that lead to the insufficiency of commodities.

– Charoen Pokphand Foods PC



Soy



Deforestation of native forests, associated with climate change, can change agricultural conditions unpredictably. A significant change in weather patterns could affect the supply of raw material.

– JBS S/A



Change in precipitation patterns and increased occurrence of weather extremes such as drought and flooding will cause a drop in the productivity of oil palm. Some studies found that drought and flood may cause 10 - 30% drop in oil palm productivity. This has two substantive impacts on us: it reduce our plantations (upstream) production and revenue and it increase the production cost of our refineries (downstream).

– PT Musim Mas



Palm oil



Changing weather patterns or natural disasters (which may be driven by climate change) could lead to price increases and/or supply shortages for important raw materials and packaging materials. For example: droughts in Southeast Asia and El Nino weather conditions lead to reduced rainfall. This causes lower yields of palm oil / palm kernel oil.

– Henkel AG & Co. KGaA



Particular to timber, PepsiCo recognizes that severe weather events, losses of ecosystem services, and an unsteady supply of certified sustainable material have the potential to adversely impact our supply chain over the next 1-3 years.

– PepsiCo, Inc.



Timber



Gross profit margin of tissue paper business was affected by the persistent increase in the prices of wood pulp, a raw material for tissue paper production.

– Hengan Intl Group



A drought or excessive rainfall impacts on pasture productivity and therefore animal feed, since it is the main source of cattle food, affecting its entire production cycle.

– PT Musim Mas



Cattle



Due to systemic physical changes of climate (temperature and precipitations), arable land available for cattle farming might become exhausted at country level with negative impact on volume of high-quality hides available and potential threat to deforestation and local ecosystems. This will impact the availability of natural resources and on a long-term perspective, this might impact the price of these resources and thereby increasing their cost, which could in turn impact negatively Kering's operating costs as leather represent 58% of the Group's total procurement spend.

– Kering



# THE EXECUTION GAP

43%

of companies with soy and

29%

of companies with cattle products are not taking any action to address their exposure to deforestation within these commodity supply chains

2020, one of the milestones for corporate action on deforestation, is fast approaching. However, around a quarter (24%) of reporting companies show no or limited action on deforestation, for example not acting on all identified deforestation commodities in their supply chain.

Eight companies even go as far as identifying risks from deforestation that could have a substantial impact on their business yet take no measures to mitigate against them. **For companies that are taking some action, 83% of their targets on deforestation end in 2020 and only 14% extend beyond, posing the risk of corporate action on deforestation falling off a cliff next year.**

This report defines action as setting targets (for example, to increase traceability), using certification, engaging with supply chains, or taking part in external initiatives to achieve zero deforestation production. Our analysis focuses on the number of actions each company has taken, the degree to which they have been implemented and on which commodities companies are engaging.

Disclosure and action on timber and palm oil continues to be more advanced than that on cattle products and soy. For example, 43% of companies with soy and a third (29%) of companies with cattle products in their operations fail to act to address exposure to deforestation within these commodity supply chains. This drops to 15% of companies reporting on timber and 12% of companies with palm oil.

One potential explanation for this difference is the increased awareness in the consumer market as to the negative impacts of palm production on the environment, thus driving more urgent action by companies engaged with this commodity to avoid reputational smears associated with destructive palm oil supplies.

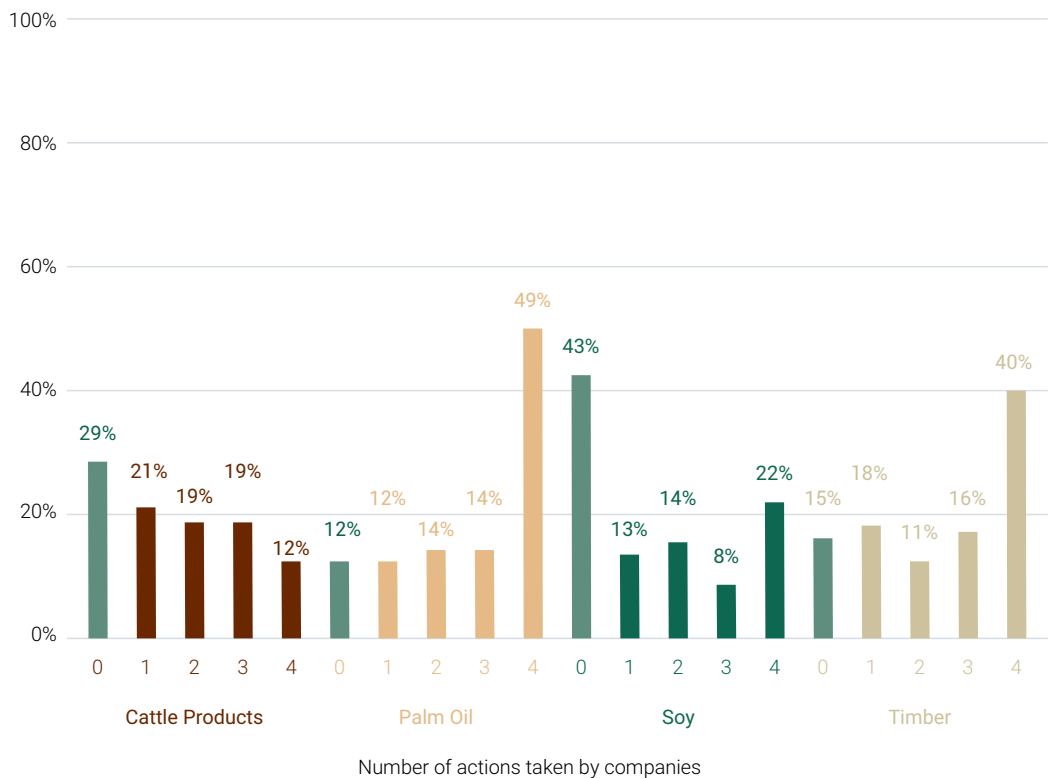


Figure 6. Percentage split of companies taking each number of actions across commodities



# THE EXECUTION GAP

## The missing link?

As well as a gap between companies taking action and not, a split between upstream and downstream companies is visible. **Large-scale agribusiness or consumer goods companies dominate zero-deforestation initiatives<sup>30</sup> but deforestation commitments are not cascading down the supply chain as expected.**

CDP data shows that around a third (36%) of all reporting companies are not yet working with their suppliers to support this transition. It is recognized that implementation throughout the supply chain is key as it is the producers, including local communities and smallholders, that can implement production changes. Engagement within the supply chain is important as private initiatives play a role in raising awareness among producers and contribute to improved production practices<sup>31</sup>.

As we start to break down the different elements assessed, a clear trend emerges:

We find that two-thirds (63%) of suppliers do not have a **policy** on deforestation while this drops to a third (28%) of downstream companies lacking a policy.

The same occurs when looking at deforestation commitments; three quarters (77%) of suppliers do not have a deforestation **commitment** while this figure drops to only 38% of downstream companies.

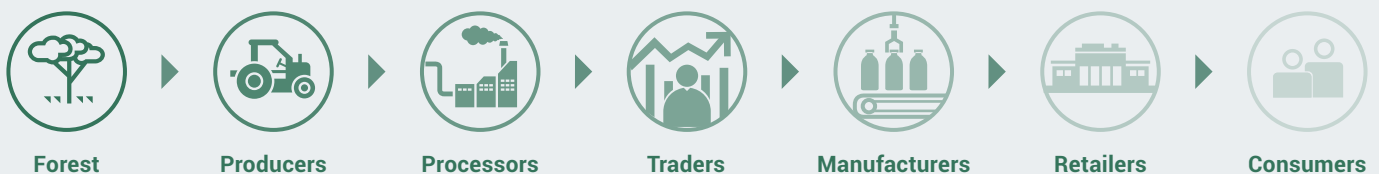
Interestingly, CDP analysis suggests that the largest gap in terms of 2020 commitments still exists with those **closest to production** – the majority of companies with 2020 commitments are those with no control over land (86%) – and only 16% of those that control land, or those closest to the forests, have a 2020 forest commitment.

Finally, a quarter (28%) of suppliers are not yet **implementing actions** to tackle deforestation, while this figure drops to only 10% of downstream companies not doing so.

Our analysis confirms that policies, commitments and implementation are not yet fully distributed through supply chains to companies with closer control of the resources – perhaps a critical reason why companies will not meet their 2020 commitments.

## Commodity supply chain

The commodity supply chain includes a diverse range of entities that have either direct or indirect impacts on forests.



30. FAO (2018) Zero-deforestation commitments A new avenue towards enhanced forest governance? <http://www.fao.org/3/i9927en/i9927EN.pdf>

31. Meijer, K. S. (2015). A comparative analysis of the effectiveness of four supply chain initiatives to reduce deforestation. Tropical Conservation Science Vol.8 (2): 583-597. Available online: <https://journals.sagepub.com/doi/pdf/10.1177/194008291500800219>

# THE EXECUTION GAP

Upstream

Downstream

## Companies that control land:

- ▼ **2020 commitment:** 84% do not have a 2020 forest commitment
- ▼ **Implementation:** 5% have taken limited action



## Companies that do not control land:

- ▼ **2020 commitment:** 86% have a 2020 forest commitment
- ▼ **Implementation:** 28% have taken limited action

## Upstream suppliers:

- ▼ **Forest commitment of any kind:** 77% of suppliers do not have a deforestation commitment of any kind
- ▼ **Policy:** 63% of suppliers also do not have a policy
- ▼ **Implementation:** 28% of suppliers are not implementing actions to tackle deforestation

## Downstream retailers & manufacturers:

- ▼ **Forest commitment of any kind:** 38% of downstream companies do not have a commitment of any kind
- ▼ **Policy:** 28% of downstream companies do not have a policy
- ▼ **Implementation:** 10% of downstream companies are not implementing actions to tackle deforestation

Control land

No control over land



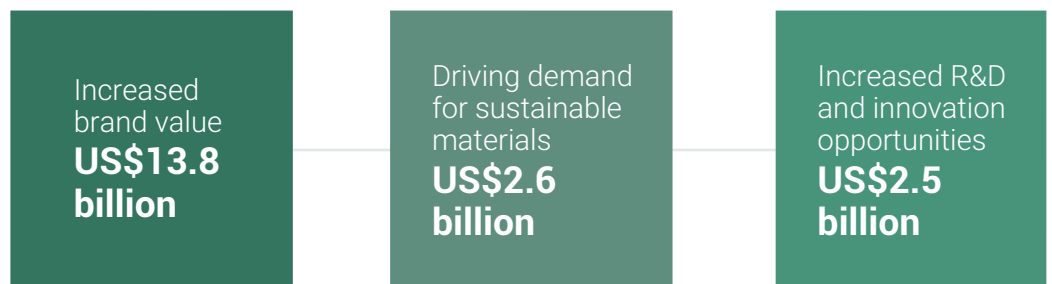
# OPPORTUNITIES RIPE FOR PICKING

**There is significant opportunity for companies leading the way. 76 companies report business opportunities valued at US\$26.8 billion, nearly 55% (US\$14.8 billion) of which are highly likely or virtually certain for those willing to capitalize on them. Highlighting yet again the value of the consumer, we find that the greatest and most frequently reported opportunities from addressing deforestation come from increased brand value with US\$13.8 billion worth of opportunities available.**

The growing demand for sustainable materials, again driven by growing concern from consumers, is the second-best reported opportunity (US\$2.6 billion) closely followed by opportunities linked to increased research & development (R&D) and innovation. Just over a third (37%) of companies have not reported any such opportunities, running the risk of missing out on lucrative financial opportunities.

Apart from market or product opportunities nearly two-thirds (60%) of companies recognized environmental opportunities linked to preserving forests, such as decreased greenhouse gas emissions and increased carbon sequestration, recognized by 44% of companies. Surprisingly, half (56%) of the companies seem to have not made the link between deforestation and climate change.

## Total value of top reported opportunities



## Number of companies reporting top environmental opportunities



# OPPORTUNITIES RIPE FOR PICKING

## KAO Corporation

### Increased brand value



The sales of Kao's consumer product business are 1.2 trillion yen. If detergents using palm oil account for 50% of the sales, this means that palm oil sales amount to 600 billion yen. If our reputation related to the procurement of palm oil improves and sales increase by 5%, the impact will be roughly 30 billion yen. Although such an opportunity has yet to appear, we believe that it may do so in one to three years as ethical consumption spreads.

▼ **Potential financial impact of opportunity:**  
over US\$260 million

## Empresas CMPC

### Issuing green bonds



A bond was issued for a total of US\$500 million, making CMPC the first Chilean company to place a bond that satisfies all of the requirements established in the World Bank's "Green Bond Principles". The bond pays a nominal rate of interest of 4.475%. The effective interest rate upon issuance was 4.42% per annum, with a spread over 10-year United States Treasury Bonds of 2.00%.

▼ **Potential financial impact of opportunity:**  
US\$500 million

## FUJI OIL HOLDINGS INC.

### Increased capacity of sustainable commodity markets



Operating income is expected to increase by approximately ¥600 million, taking into consideration the market and our sales and administration system.

▼ **Potential financial impact of opportunity:**  
over US\$5.2 million



Kao sees the financial opportunity in investing in more sustainably sourced palm oil and building capacity within its supply chain as it expects consumers' demand for ethically sourced products to grow. – **Kao Corporation**







## CONCLUSION

Global forest loss continues at a rate of five million hectares a year or 15 football pitches every minute<sup>32</sup>. While a lack of corporate action and transparency on deforestation remains, so too will deforestation. This not only puts corporate revenue at risk and stands in the way of companies capitalizing on significant opportunities, but also hinders successful action on climate change and biodiversity loss. Commitments, actions and engagement need to be present across all companies in the value chain to be effective.

Ultimately, the end to deforestation globally and the success of addressing the current climate crisis and related risks also hinges on the capacity to extend sustainable standards and practices outside individual supply chains<sup>33,34</sup>. Corporations and their suppliers have a vital role to play and can and should do much more to reduce deforestation risk. However, to truly put an end to global deforestation will take collaborative action from all stakeholders in the economy, from companies to investors, governments, international institutions, civil society and individual consumers. With concerted and cooperative action, we can protect the world's vital forests.

32. Calculated from Curtis, P. G. et al. (2018). Classifying drivers of global forest loss. *Science* 361:1108-1111. DOI: 10.1126/science.aau3445





33. Meijer, K. S. (2015). A comparative analysis of the effectiveness of four supply chain initiatives to reduce deforestation. *Tropical Conservation Science* Vol.8 (2): 583-597. Available online: <https://journals.sagepub.com/doi/pdf/10.1177/194008291500800219>

34. Gibbs, H. K. (2016) Did Ranchers and Slaughterhouses Respond to Zero-Deforestation Agreements in the Brazilian Amazon? Available online: <https://onlinelibrary.wiley.com/doi/epdf/10.1111/conl.12175>



# KEY PERFORMANCE INDICATORS

|                                          |     |  |  |  |  |
|------------------------------------------|-----|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                          | All | Timber                                                                             | Palm Oil                                                                            | Soy                                                                                 | Cattle                                                                              |
| All                                      | 306 | 239                                                                                | 118                                                                                 | 86                                                                                  | 68                                                                                  |
| Public disclosure                        | 168 | 141                                                                                | 68                                                                                  | 46                                                                                  | 39                                                                                  |
| Non public disclosure                    | 138 | 98                                                                                 | 50                                                                                  | 40                                                                                  | 29                                                                                  |
| Risk assessment                          |     |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Yes                                      | 217 | 177                                                                                | 85                                                                                  | 53                                                                                  | 48                                                                                  |
| % Yes                                    | 71% | 74%                                                                                | 72%                                                                                 | 62%                                                                                 | 71%                                                                                 |
| Companies recognizing risks              |     |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Total # of companies                     | 200 | 154                                                                                | 77                                                                                  | 34                                                                                  | 27                                                                                  |
| % of disclosing companies reporting risk | 65% | 64%                                                                                | 65%                                                                                 | 40%                                                                                 | 40%                                                                                 |
| % of companies with risk assessment      | 92% | 87%                                                                                | 91%                                                                                 | 64%                                                                                 | 56%                                                                                 |
| Policies                                 |     |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Yes                                      | 200 | 166                                                                                | 79                                                                                  | 49                                                                                  | 43                                                                                  |
| % Yes                                    | 65% | 69%                                                                                | 67%                                                                                 | 57%                                                                                 | 63%                                                                                 |
| Commitments                              |     |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Yes                                      | 167 | 136                                                                                | 75                                                                                  | 48                                                                                  | 39                                                                                  |
| % Yes                                    | 55% | 57%                                                                                | 64%                                                                                 | 56%                                                                                 | 57%                                                                                 |
| Commodity specific commitments           |     |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Yes                                      | 160 | 124                                                                                | 68                                                                                  | 31                                                                                  | 25                                                                                  |
| % Yes                                    | 52% | 52%                                                                                | 58%                                                                                 | 36%                                                                                 | 37%                                                                                 |

|                                                                               |     |  |  |  |  |
|-------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                                               | All | Timber                                                                             | Palm Oil                                                                            | Soy                                                                                 | Cattle                                                                              |
| Board-level oversight/management oversight                                    |     |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Yes                                                                           | 276 | 220                                                                                | 108                                                                                 | 77                                                                                  | 62                                                                                  |
| % Yes                                                                         | 90% | 92%                                                                                | 92%                                                                                 | 90%                                                                                 | 91%                                                                                 |
| Implementation across all identified deforestation commodities                |     |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Yes                                                                           | 73  | 35                                                                                 | 14                                                                                  | 37                                                                                  | 20                                                                                  |
| % Yes                                                                         | 24% | 15%                                                                                | 12%                                                                                 | 43%                                                                                 | 29%                                                                                 |
| Implementation on at least one commodity                                      |     |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Yes                                                                           | 264 | 204                                                                                | 104                                                                                 | 49                                                                                  | 48                                                                                  |
| % Yes                                                                         | 86% | 85%                                                                                | 88%                                                                                 | 57%                                                                                 | 71%                                                                                 |
| Working with suppliers<br>(smallholders/direct suppliers/in-direct suppliers) |     |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Yes                                                                           | 197 | 153                                                                                | 79                                                                                  | 45                                                                                  | 40                                                                                  |
| Not working                                                                   | 109 | 86                                                                                 | 39                                                                                  | 41                                                                                  | 27                                                                                  |
| % Not working                                                                 | 36% | 36%                                                                                | 33%                                                                                 | 48%                                                                                 | 40%                                                                                 |
| Opportunities                                                                 |     |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Companies recognizing opportunities                                           | 191 | 157                                                                                | 73                                                                                  | 35                                                                                  | 30                                                                                  |
| % of disclosing companies reporting risk                                      | 62% | 66%                                                                                | 62%                                                                                 | 41%                                                                                 | 44%                                                                                 |



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