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PROGRESS ON CORPORATE COMMITMENTS AND THEIR IMPLEMENTATION

Authors: Franziska Haupt, Haseebullah Bakhtary, Ingrid Schulte, Hilda Galt, Charlotte Streck
Contributors: Rafel Servent and Morgan Gillespy (CDP), Michael Guindon and Helen Bellfield (Global Canopy, Jeff Milder (Rainforest Alliance).
Progress on Corporate Commitments and their Implementation

For the Tropical Forest Alliance 2020

26 June 2018

Authors:
Franziska Haupt
Haseebullah Bakhtary
Ingrid Schulte
Hilda Galt
Charlotte Streck

Contributors:
Rafel Servent and Morgan Gillespy (CDP)
Michael Guindon and Helen Bellfield (Global Canopy)
Jeff Milder (Rainforest Alliance)

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Climate Focus
Sarphatikade 13,
1017 WV Amsterdam,
The Netherlands
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Executive Summary

As deforestation continues and milestones for individual and collective forest pledges are fast approaching, insight remains limited into the uptake, coverage, quality, and implementation of corporate commitments. This study seeks to assess progress based on new analyses and data from several tracking initiatives, including CDP (formerly the Carbon Disclosure Project), the Sustainability Policy Transparency Toolkit (SPOTT), and Global Canopy’s company actions on deforestation and Forest 500 initiatives.

Is the number of commitments still growing? Over the past decade, the number of corporate commitments to address deforestation driven by agricultural commodities grew rapidly to 785, but is now beginning to plateau. New companies are still joining the movement, but the growth rate of new commitments shrank from 132 percent between 2013 and 2015 to 22 percent between 2015 and 2017. More specifically, hardly any new commitments were made in the cattle and soy sectors in 2017 and only a few were made in the palm sector. While many international companies that embrace sustainability have already made one or more commitments, others might be reluctant to endorse efforts such as the New York Declaration on Forests and the Consumer Goods Forum’s Deforestation Resolution, which give 2020 as the target year for achieving the goal of deforestation-free supply chains.

Have commitments reached sufficient scale to send a strong market signal? The answer is yes for international palm oil markets in Southeast Asia, for the largest pulp and paper players operating in tropical regions, and for beef and soy export markets from Brazil. Overall, of the 250 companies with the greatest exposure to forest-risk commodities identified in Global Canopy’s Forest 500 ranking, 58 percent (144 companies) have at least one forest-related commitment.

- Commitments to deforestation-free palm oil cover roughly 65 percent of global palm oil and kernel production. However, a closer look at Malaysia and Indonesia reveals that in these countries only a third of the production area is covered by commitments. This indicates that while large-scale producers may have made commitments, significant land area – at least partly managed by smallholders – is not covered by corporate commitments.

- The share of the production of cattle, soy, and pulp and paper covered by deforestation-related commitments by individual companies remains small (7–11 percent) at the global level. It is much higher, however, in high-risk regions and with sectoral agreements included. In Brazil, a global deforestation hotspot and major producer of beef and soy, more than 85 percent of beef and 60 percent of soy exports are covered under a commitment or sectoral agreement. In the pulp and paper sector, a sample of 20 of the largest companies operating in Asia and Latin America indicates that more than 70 percent of production volume is under a forest-related commitment.

What is the quality of commitments? There is a strong correlation between the quality of a commitment and the likelihood of it being implemented. A good commitment is concrete and actionable, and defines a clear scope. Companies that refer to specific implementation strategies and adopt a timebound target are more likely to have compliance and traceability systems, and to engage with their suppliers or smallholders.

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1 Supply Change. [http://www.supply-change.org/](http://www.supply-change.org/)
3 CDP analysis of company responses to their forest questionnaire.
4 CDP analysis of company responses to their forest questionnaire.
5 Climate Focus analysis based on SPOTT data. SPOTT, [https://www.spott.org/palm-oil/](https://www.spott.org/palm-oil/).
6 For soy and cattle: CDP analysis of company responses to their forest questionnaire. For pulp and paper: Climate Focus analysis based on publicly available information on companies’ webpages and data published by RISI.
8 Climate Focus analysis based on publicly available information on companies’ webpages and data published by RISI.
The quality of commitments is highest in the palm oil sector, where 60 percent of the largest producers and traders operating in Southeast Asia have committed to sourcing sustainable and certified palm oil. The availability and wide acceptance of certification systems (e.g. through the Roundtable on Sustainable Palm Oil [RSPO]) makes such commitments unambiguous and comparatively easy to implement.

In the Brazilian soy and cattle sectors, all major soy companies support the Soy Moratorium and 70 percent of slaughtering capacity is covered by companies that have signed collective agreements, such as the G4 agreement between the three largest meatpackers and Greenpeace, or the legally binding Terms of Adjustment of Conduct agreements between meatpackers and the Federal Public Prosecutor. Individual company commitments that go beyond these agreements are often vague and lack clear targets.

In the pulp and paper sector in forest-risk areas, most companies that have a commitment define their efforts in relation to product certification. Certification goals are often ambitious and define clear strategies for sustainable forest management, indicating high-quality commitments.

Are commitments implemented? There is progress in the implementation of commitments, with action in all supply chains. As action moves down to the producer level, challenges such as displacement effects (leakage), loopholes, and lack of transparency, are becoming more obvious.

Since 2010 the share of palm oil certified by RSPO has increased from 7 percent to 18 percent. Most upstream companies in Malaysia and Indonesia rely on certification as an implementation strategy, reaching 18 percent of the total palm oil cultivation area in these two countries.

In Latin America, the sectoral commitments – in particular the Soy Moratorium – have contributed to curbing deforestation in the Amazon. However, their limited scope and scale may have pushed deforestation to other regions including the Cerrado and Chaco biomes.

For pulp and paper companies active in Asia and Latin America, most commitments are implemented through certification, with almost all companies assessed reporting at least partial certification. Because certification is often supported by companies’ traceability systems, almost half of companies with a commitment report full traceability of products to the forest of origin.

How transparent are companies about their commitments? A small number of large companies have made great progress in disclosing supply chain information. However, many other companies remain reluctant to share data and the information they provide is often vague, incomplete, or buried in sustainability reports. Thus even where trends indicate progress in the implementation of commitments, it is still not possible to consolidate data on the coverage, quality, and implementation of corporate commitments. Significant data constraints and uncertainties limit researchers’ ability to comprehensively assess the progress of implementation and the impact of corporate commitments. The Accountability Framework, being developed by a coalition of environmental and social nongovernmental organizations (NGOs), will help standardize definitions and concepts, but information gaps cannot be closed without increased transparency from companies.

Are the public sector and civil society helping to support implementation? Governments and NGOs provide a wide range of support to farmers, but efforts remain incipient and subscale. Many forest-risk countries have adopted policies that support sustainable forestry and protect existing forests. However, implementation and enforcement often lag behind policies. There are individual examples of civil society providing support to companies and the larger community engaged in deforestation-free supply chains. Financial support for the development and implementation of strategies to reduce forest emissions remains insufficient. The magnitude of financial offer is highly disproportionate to the investment needs and the mitigation potential of the forest sector. While there are promising developments, total finance to reduce deforestation – roughly US$ 20 billion since 2010 – is insufficient and does not reflect the importance of forests as part of the climate solution. The

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amount is marginal compared to the US$ 777 billion\textsuperscript{11} in “grey finance” for the land sector that influences forests and is not clearly aligned with forest and climate goals.\textsuperscript{12} Collective efforts of the public sector, private sector, and civil society are gaining momentum, but there are no data that link such efforts to reduced deforestation.

**Conclusion.** The majority of the most influential companies in forest-risk commodities have assumed commitments. However, important actors have yet to join the movement to ensure that collective pledges are achieved and “leakage” of deforestation to other areas is avoided. The looming 2020 deadline might act as a disincentive for new companies. Companies with existing commitments are reluctant to take on new commitments as they struggle to implement existing pledges. As the implementation of commitments progresses, the limitations of a supply chain approach relying on individual company pledges becomes obvious. The existing landscape of commitments leaves large areas out, often those where smallholders operate. Even where the coverage is regional as in the case of moratoria, the risk of leakage remains high, particularly where alternative production areas are readily available and unprotected. Public support of supply chain efforts is growing but is not yet evident at scale.

Important steps have been taken, but there is an urgent need to embed existing company efforts in larger-scale regional agreements, involve smallholders, and link efforts to public sector programs. An initiative that embeds existing pledges into a more comprehensive framework could play an important role in transitioning efforts into a longer-term (2030) framework.

\textsuperscript{11} This includes development finance to agriculture in deforestation countries, subsidies in key deforestation drivers in Indonesia and Brazil, and capital stocks in agriculture, forestry, and fisheries in deforestation countries.

1. Introduction

Governments, companies, and civil society have recognized the need to decouple agricultural production from deforestation and, with the 2014 signing of the New York Declaration on Forests, have set an ambitious goal to end global forest loss. Based on data from Supply Change – a Forest Trends initiative that tracks corporate commitments and their implementation in palm oil, soy, cattle, and paper and pulp – more than 473 companies active in these sectors have adopted commitments to reduce or completely remove deforestation from their commodity supply chains. As deforestation continues and milestones for several individual and collective forest pledges are approaching, insight remains limited into the coverage, quality, and progress of corporate commitments. The following questions persist:

- Has the uptake of commitments slowed?
- Have efforts reached sufficient scale to send a strong market signal?
- Are commitments well defined and actionable?
- Is there evidence that company commitments are being implemented?
- To what extent are the public sector and civil society helping to support implementation?

This paper seeks to address these questions by exploring the commitments from companies operating in the palm oil, soy, cattle, and paper and pulp supply chains, the four commodities with the largest deforestation footprint. Following the introduction in Chapter 1, Chapter 2 presents an overview of data sources and limitations, followed by an assessment of recent growth in commitments in Chapter 3 and the market share of commitments in Chapter 4. Chapter 5 assesses the quality of commitments, and Chapter 6 offers findings on commitment implementation. Chapter 7 presents progress made on support to companies from the public sector and civil society. The methodology, including the various limitations and caveats of this assessment, is explained in the Annex.

2. Data sources and limitations

This study relies on data from four tracking initiatives and frameworks that monitor the progress of corporate supply chain commitments (Box 1) complemented with analysis of company-disclosed information and datasets. To form as complete a picture as possible, data was used from CDP (formerly the Carbon Disclosure Project), the Sustainability Policy Transparency Toolkit (SPOTT), and two Global Canopy initiatives: Forest 500 and Company action on deforestation. For the analysis of paper and pulp supply chains, the team conducted new analysis of data from the research company RISI and self-disclosed information on company websites or tracking platforms.

Box 1. Data Sources Used to Assess Company Commitments (see Annex for more detail)

CDP, formerly the Carbon Disclosure Project, annually collects information on company action on deforestation risk through a standardized, credible, and widely recognized self-reporting system. In 2017, 272 companies responded to CDP’s information request. This report analyzes those companies with operations in palm oil, soy, and cattle, of where there are 112. Most of these companies have above US$1 billion in adjusted market capital in relevant sectors and/or were assessed as part of Global Canopy’s Forest 500 ranking. Companies reporting to CDP represent just under one fourth of the powerbrokers identified by Forest 500 in their respective commodities (see Global Canopy, below). CDP data is used to estimate the market share (Chapter 2) captured by corporate commitments in the palm oil, soy, and cattle commodities. This relies on companies that positively respond to CDP and disclose their production volumes. In total, over two thirds of companies responding to CDP report on their production volumes in the palm oil sector, and around half report in the soy and cattle sectors.


15 Had all CDP companies reported on their production volume, the market coverage outlined here would be higher.
Global Canopy – Forest 500. A project of Global Canopy, Forest 500 identifies and ranks the most influential companies, financial institutions, and governments in forest-risk commodity supply chains. It objectively identifies and annually ranks 500 “powerbrokers” based on publicly available data. The list currently includes 250 corporations, of which 165 are active in palm oil, 133 in soy, and 86 in cattle. Almost all of them use paper (e.g., for packaging), but only 7 are active in the production, processing, or manufacturing of paper products.

Global Canopy – Company action on deforestation. Global Canopy has designed a methodology under the Company action on deforestation project that builds on the Forest 500 methodology, incorporating indicators on self-reported progress and company influence in their assessments. Global Canopy analyzed information from 137 companies (102 assessed for soy and 98 for cattle) operating in Brazil, Argentina, and Paraguay. The dataset represents 38 percent of Forest 500 companies active in the soy sector and and 33 percent active in the cattle sector.

Sustainability Policy Transparency Toolkit (SPOTT) tracks transparency in the world’s 50 largest palm oil producers and traders by assessing their public disclosure of policies, operations, and commitments. Companies are scored annually based on sector-specific indicators. Companies included reflect just over a tenth of the Forest 500 companies with operations in palm oil.

Supply Change is a Forest Trends initiative that tracks corporate commitments and implementation in the palm, soy, cattle, and paper and pulp supply chains. As of 2017, Supply Change tracked 473 companies with 785 commitments. Data from Supply Change were used to assess commitments in the paper and pulp supply chain.

Trase. A partnership between the Stockholm Environment Institute and Global Canopy, Trase uses publicly available data to map the links between places of production and consumer countries via trading companies, enabling commodity exports to be linked to areas of deforestation.

While a small number of large corporations have recently pushed for improved transparency, many other companies remain reluctant or unable to share progress updates. Several large consumer companies (e.g., Unilever and Nestlé) have disclosed a list of their suppliers, which allows other stakeholders to make a clear link to deforestation risks upstream in the supply chain.16 However, most companies are still reluctant to share information about their progress in implementing commitments. Even when companies disclose information, the data provided are often vague, incomplete, or buried in sustainability reports, making it difficult for monitoring initiatives to compile and verify information on progress at an aggregate level. As a result, most tracking initiatives focus on different aspects of progress and on groups of companies, which allows for the identification of important data gaps. These information gaps cannot be closed without increased cooperation and transparency from companies.

Major data constraints and uncertainties limit the ability of this study to comprehensively assess the progress of implementation and impact of corporate commitments. The main limitations that lead to significant uncertainties are:

- Limited sample size and representativeness of different datasets
- Limited information on forest risk exposure of companies
- Unclear separation between supply chain stages (e.g. risk of double-counting for volumes under commitment)
- Lack of standardized terminologies and quantitative proxies (e.g., for scope and more granular quality characteristics of commitments or their implementation)
- Lack of verification for self-reported data, which is used by most tracking initiatives
- Limited understanding of the effectiveness of efforts and impact on forests

More specific limitations are detailed in the Annex.

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In response to the need for clear and consistent guidance on definitions, implementation, monitoring, verification, and reporting on supply chain commitments, a coalition of environmental and social nongovernmental organizations (NGOs) is developing the Accountability Framework initiative in close consultation with companies, governments, and other stakeholders. The framework seeks to standardize definitions and concepts. A number of tracking initiatives have recently joined efforts with the initiative (see Box 2).

Box 2. Collaboration between the Accountability Framework and Initiatives that Track Corporate Supply Chain Efforts

Organizations and initiatives that track, report on, and assess private sector commitments related to deforestation-free supply chains identified a need for more aligned approaches that will provide the data needed to answer key questions. These groups intend to work closely with the Accountability Framework initiative to:

- Define a common terminology for characterizing the thematic scope and quality of company commitments.
- Explore a quantitative approach for documenting commitment scope relative to exposure to deforestation-risk commodities (including the nature of any exclusions).
- Document incremental progress against timebound commitments in credible, quantitative terms.
- Incentivize transparency and independent verification regarding risks, actions, and outcomes related to deforestation-risk commodity supply chains.
- Develop outcome-oriented, geographically grounded metrics and indicators and work to incorporate these into their questionnaires and methodologies.

3. Is the number of commitments still growing?

After several years of rapid growth, the number of corporate commitments reached 785 in 2017, but growth has slowed in recent years. New companies are still joining the movement, but growth in the number of commitments has shrunk from 132 percent between 2013 and 2015 to 22 percent between 2015 and 2017, according to Supply Change data.\(^\text{17}\) Both Supply Change and CDP data confirm there were hardly any new commitments in the soy and cattle sectors in 2017 and only a small number of new commitments in the palm sector (see Figure 1).\(^\text{18}\) Growth remains highest for the paper and pulp sector.

Figure 1. Uptake of Forest-Related Commitments in Different Commodity Supply Chains

\(^{17}\) Climate Focus analysis based on Supply Change.

\(^{18}\) CDP data for 2015–17 show a similar development.
This slow-down may indicate market saturation because most companies that actively embrace sustainability concerns or are exposed to reputational risks have already made commitments. Companies that do not yet have a commitment may be reluctant to adopt one given rapidly approaching deadlines for collective implementation. A number of collective pledges for deforestation-free supply chains, such as the New York Declaration on Forests or the Consumer Good Forum’s Deforestation Resolution, set 2020 as their target year, leaving less than two years to reach their goals. Another barrier may be the relative lack of interest from consumers, as sustainability has primarily been a concern in Western markets but has received limited attention in other regions. Nevertheless, despite these barriers and approaching deadlines, 62 companies have recently signed on to a new regional and collective pledge to address deforestation in the Brazilian Cerrado region.19

4. Have commitments reached sufficient scale to send a strong market signal?

Of the 250 Forest 500 companies with the greatest exposure to forest-risk commodities, 58 percent (144 companies) have at least one forest-related commitment (Figure 2). While the majority of these large and influential companies have a commitment, 42 percent still do not, and only 18 percent have commitments covering all commodities with deforestation risk in their operations. This sample also fails to capture production and consumption by smallholders and medium-size companies, which account for large production shares for some of these commodities (e.g., 40 percent in the palm oil sector).

Figure 2. Forest 500 Companies with Commitments

<table>
<thead>
<tr>
<th>Without a Commitment</th>
<th>With at least one forest-related commitment</th>
<th>With a forest-related commitment for all relevant commodities</th>
</tr>
</thead>
<tbody>
<tr>
<td>42%</td>
<td>58%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Source: Global Canopy, 2017 data

Palm oil, a commodity that is mainly produced in forest-risk areas, has the highest global uptake of forest commitments across different sectors (Figure 3), reaching two thirds of its market. However, regional analysis of major producer companies in Indonesia and Malaysia – which together supply 85 percent of the world’s palm oil20 – shows that less than one third of these countries’ palm oil production area is under commitment. At least 11 million hectares in these two countries are not yet covered by any commitment. The discrepancy between these two estimates is partly because smallholders manage large areas (e.g., 40 percent in Indonesia) that typically are not covered by commitments.

Globally, the share of the production of soy, cattle, and paper and pulp covered by deforestation-related commitments of individual companies remains much lower (11–12 percent, see Figure 3).\textsuperscript{21} These sectors reach coverage levels similar to palm oil, but only if forest risk regions and, in the case of soy and cattle, international exports are considered. In Brazil, a global deforestation hotspot and major producer of soy and beef, more than 60 percent of soy and 85 percent of beef exports are covered by a commitment or sectoral agreement to address deforestation.\textsuperscript{22} This shows significant progress for Brazil’s international market, as Brazil is one of the top producers of these commodities worldwide with a large growth in exports, especially to emerging economies. Nevertheless, it remains unclear if efforts extend to domestic markets, which still account for the most consumption (e.g., about 40 percent of soy and 80 percent of beef)\textsuperscript{23} and in which sustainability concerns do not yet play a prominent role. In the paper and pulp sector, a sample of 20 of the largest producers operating in Asia and Latin America indicates that more than 70 percent of production volume is under a forest-related commitment.\textsuperscript{24}

More detailed CDP analysis for palm oil, soy, and cattle products shows that the large majority of volume disclosed by companies is under a commitment (Figure 4). While the companies that report this information are a relatively advanced group, some of the largest companies in the world producing or consuming substantial market shares of these commodities have made a commitment. In palm oil, soy, and cattle, a few companies represent a large market share; in the case of soy, the majority of total volume was reported to CDP. For paper and pulp, regional analysis of the 20 largest producer companies with operations in Asia and South America show that more than half of the commodity volumes are under a commitment (Figure 5).

\textsuperscript{21} For soy and cattle, CDP. For pulp and paper, Climate Focus analysis based on publicly available information on companies’ webpages and data published by RISI.

\textsuperscript{22} Trase data for 2015 based on the SEI-PCS model version 2.2. for Brazilian Soy. Trase, \url{https://trase.earth/?lang=en}.


\textsuperscript{24} Climate Focus analysis based on publicly available information on companies’ webpages and data published by RISI.
Figure 4. Volume of Palm Oil, Soy, and Cattle Products Production and Consumption under Commitments as Reported to CDP, 2017

Note: For additional detail see Annex. Source: CDP.
Figure 5. Production Volumes of the 20 Largest Paper and Pulp Companies Under and Not Under Contracts with Operations in Forest-Risk Countries in Asia and South America, 2015


5. What is the quality of commitments?

Commitments are considered of higher quality if they can be translated into actionable policies and provide the basis for accountability. To achieve this, commitments must define a clear scope, both in terms of geography and supply chain segments; it is also important that they set timebound targets and refer to effective implementation strategies or concepts.

CDP analysis found a strong correlation between the quality of a commitment and the likelihood of it being implemented. Companies that have adopted widely accepted guidelines or concepts for managing deforestation are more advanced in their traceability systems and in adopting standards for the procurement of products. Specific concepts have been developed for sustainable practices and when these concepts are included in a commitment, they provide an indication of the strategies and the level of impact to which the company will commit. Only 12% to 22% of commitments reported to CDP are time-bound and refer to goals for zero (net) deforestation, excluding high conservation value (HCV) land or land under conservation and high carbon stock (HCS) or peatland, and requiring free, prior and informed consent (FPIC) of local people to any land-use activity that affect the company.25 These types of advanced commitments are considered “robust.” Depending on the commodity, upstream companies with robust commitments are 22–53 percent more likely to report full traceability than the larger group of companies with commitments (Figure 6). The difference is still significant but less pronounced when comparing the adoption of company standards (18–33 percent) and supplier engagement (13–33 percent; Figures 7 and 8).

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25 It is important to note that if a company does not explicitly mention these concepts, their commitment may still be of high quality, for example, because comparable concepts can be implicit in the choice of an implementation strategy or may not be applicable in a specific supply chain.
Figure 6. Palm, Soy and Cattle Companies with Robust Commitments Have Stronger Traceability Systems than Companies with Commitments

MR = Manufacturers and retailers; PPT = Producers, processors, and traders. Robust commitment refers to commitments to conserve land with a high conservation value (HCV) or high carbon stock (HCS) forest or peatland, which require free, prior and informed consent of local people. See Annex for additional details. Source: CDP, 2017 data.

Figure 7. Palm, Soy and Cattle Companies with Robust Commitment Have Stronger Production or Procurement Standards than Companies Commitments

MR = Manufacturers and retailers; PPT = Producers, processors, and traders. Note: No data is available for PPT in the soy sector that have a robust commitment. Robust commitment refers to commitments to conserve land with a high conservation value (HCV) or high carbon stock (HCS) forest or peatland, which require free, prior and informed consent of local people. See annex for additional details. Source: CDP, 2017 data.

Figure 8. Palm, Soy and Cattle Companies with Robust Commitments Have Stronger Supplier Engagement than Companies Commitments

MR = Manufacturers and retailers; PPT = Producers, processors and traders. Robust commitment refers to commitments to conserve land with a high conservation value (HCV) or high carbon stock (HCS) forest or peatland, which require free, prior and informed consent of local people. See Annex for additional details. Source: CDP, 2017 data.
Roughly two thirds of powerbroker commitments in the palm oil sector are considered to be of high quality, providing clear definitions for sustainable forest use. This group represents a significant share of the market; about 40 percent of all Forest 500 companies active in palm oil have high-quality commitments. In other commodities, the share of high-quality commitments is low (5–7 percent). According to Global Canopy, commitments of powerbroker companies refer to the implementation of traceability systems and exclude the production and use of products originating from intact forest landscapes, HCV areas, and primary and/or natural forests. For palm oil, the relatively high quality of the commitments can partly be attributed to collective efforts in major palm-oil producing countries. For example, the Roundtable for Sustainable Palm Oil (RSPO) creates an advanced system to facilitate implementation and accountability. Compared to palm oil companies, only a small share of Forest 500 companies assessed for soy (5 percent) and cattle products (7 percent) explicitly refer to these concepts, indicating a much lower uptake of quality commitments.

Regional data for Malaysia and Indonesia also indicate that commitments of upstream companies are of relatively high quality, with 60 percent of producers and traders having committed to sourcing sustainable and certified palm oil. Two thirds of companies also have a timebound plan for 100 percent RSPO certification, and at least half committed to the HCS approach, the HCV approach, and to the adoption of best management practices for soils and peat (see Figure 9). A number of companies have at least partially committed to these measures. Only one third, however, have fully committed to a timebound target for achieving traceability to the plantation level. This is particularly important for companies that are processors and operate mills, as this is the stage where products are aggregated. It is less relevant for a manufacturer or retailer to commit to trace product to the plantation level if they are able to source from mills that can trace their plantation suppliers, especially if they claim to be procuring 100 percent certified products.

Figure 9. Percent of Quality Palm Oil Commitments of 40 Upstream Companies Active in Indonesia and Malaysia

The majority of Brazilian companies active in these supply chains rely on sectoral strategies that clearly define requirements, timelines, and geographic scopes. All major soy companies support the Soy Moratorium, and 70 percent of beef slaughtering capacity is covered by companies that have signed collective agreements, such as the G4 agreement between the three largest meatpackers and Greenpeace, or the legally binding Terms of Adjustment of Conduct agreements between meatpackers and the Federal Public Prosecutor. Rather than relying on commitments, companies have focused on sectoral agreements and compliance with legal requirements as a means to address deforestation risks in their supply chains. Examples include the Forest Code, which requires producers to retain a specific share of natural vegetation for conservation, or legally binding agreements between meatpackers and Brazil’s Federal Public Prosecutor. A similar sectoral agreement is planned in Colombia. In contrast to corporate supply chain commitments, legal

Note: These companies are active upstream at the stage of production, processing, and trade. Only two companies do not actively operate on land. All companies have commitments. Source: Climate Focus analysis based on SPOTT 2017 data.

compliance and other types of public private agreements have a broader scope and extend to all markets, both international and domestic.

Individual company commitments that go beyond these agreements are often vague, lacking clear targets. Most companies have adopted ambitious and timebound targets, but few companies define a comprehensive scope in terms of their supply chain segments and geographies. Data from 30 soy and 22 beef companies in Latin America that have a commitment show that there is much room for improvement (see Figures 10 and 11). Just one fifth of companies apply their commitment to all the geographies in which they operate. Yet the experience of the Soy Moratorium in Brazil, for example, demonstrates a clear need for efforts to be extended to all forest-risk regions. In the beef sector, half of these commitments are limited to specific segments or direct suppliers, limiting their effectiveness in a supply chain that is very fragmented and in which deforestation typically occurs upstream. Only a small share of companies apply their commitments to all geographies, which points to a limitation in scope for most of them.

**Figure 10. Quality of Commitments of 30 Soy Companies Sourcing or Producing in Latin America**

<table>
<thead>
<tr>
<th>Target of 2020 or earlier</th>
<th>Applies to whole supply chain</th>
<th>Applies to all geographies</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>30%</td>
<td>50%</td>
<td>70%</td>
</tr>
<tr>
<td>80%</td>
<td>90%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Company action on deforestation (Global Canopy) analysis.

**Figure 11. Quality of Commitments of 22 Cattle Companies Sourcing or Producing in Latin America**

<table>
<thead>
<tr>
<th>Target of 2020 or earlier</th>
<th>Applies to whole supply chain</th>
<th>Applies to all geographies</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>30%</td>
<td>50%</td>
<td>70%</td>
</tr>
<tr>
<td>80%</td>
<td>90%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Note: The majority of companies operate downstream at the level of manufacturing and retail. Source: Company action on deforestation (Global Canopy) analysis.

Regional analysis of companies active in South America and Asia indicates that almost all commitments in the pulp and paper sector are high quality as they are linked to certification schemes, which often set ambitious goals and define clear strategies for sustainable forest management. Although data on other quality indicators are lacking, certification ensures a certain level of quality because companies are required to develop their goals and strategies and adhere to clearly defined principles for sustainable forest use. Among the most important schemes are the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC). The standards of both schemes include criteria for sustainable forest management and compliance with laws.

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27 Global Canopy and Climate Focus analysis.
6. Are commitments being implemented?

High-level pledges cannot be directly used to evidence that better sourcing or production practices are being implemented. Across the supply chains, strategies adopted to implement company commitments vary. Common examples include external certification standards, internal sourcing criteria, and engagement with suppliers. Companies also establish traceability systems to allow for monitoring and compliance with their policies. In addition, implementation strategies may include mechanisms to ensure supplier compliance with local regulations, while some companies rely on multistakeholder or similar initiatives. Some company standards aim to go beyond certification. For example, Unilever shared their Sustainable Palm Oil Sourcing Policy in 2016, which is based on the RSPO Principles & Criteria but commits to going beyond those efforts. Their action plan considers the needs of suppliers and smallholders as well as commits to 100 percent traceability of their supply.

Palm oil companies are generally the most advanced in implementing their commitments. The sector has the highest certification uptake of all commodities, with product certification growing from 7 percent in 2010 to 18 percent in 2018. Based on the CDP analysis, 84 percent of companies with a commitment use certification, with more than half of companies reporting that more than 60 percent of at least one of their products is certified. Across different stages of the supply chain, companies that disclose this information report a combined volume of 19 million metric tons of certified material.

Regional analysis confirms that palm oil companies with commitments are quite advanced in their sustainability efforts. Most upstream companies in Malaysia and Indonesia rely on certification as an implementation strategy, reaching 18 percent of the total palm oil cultivation area in these two countries. Yet, the data suggest significant potential for improvement. Nearly two thirds of the largest upstream companies in Southeast Asia use a voluntary certification scheme – around 60 percent of which refer to the RSPO standard – to implement their commitments (see Figure 12), although the scale of implementation is unclear. Most all companies can trace their supplies back to the mill level, but only one third of mills can trace the majority of their supply to the plantation. Another third can trace it partially. Most companies also report having smallholder support programs to enhance their capacity for complying with standards, but there is no information on the extent of this program implementation.

Figure 12. Implementation of Palm Oil Commitments in Indonesia and Malaysia

<table>
<thead>
<tr>
<th></th>
<th>Traceability of &gt;75% supply from own mills to plantation</th>
<th>Percentage of supply traceable to mill level (above 80%)</th>
<th>Program to support independent smallholders</th>
<th>Program to support scheme smallholders</th>
<th>Supplier engagement</th>
<th>Certified under voluntary sustainability certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Partial</td>
<td>Partial</td>
<td>Partial</td>
<td>Partial</td>
<td>Partial</td>
<td>Partial</td>
<td>Partial</td>
</tr>
</tbody>
</table>

Note: These companies are active upstream at the stage of production, processing, and trade. The number of companies responding to each question varied between 17 and 38, as not all questions were relevant for all supply chain stages. Source: Climate Focus analysis based on SPOTT 2017 data.

28 Climate Focus calculation based on RSPO and USDA data.

29 Note that because of possible double counting, this number is not compared to global production data.
In Brazil, there is strong evidence of effective corporate efforts in the soy sector, despite some limitations. The Amazon Soy Moratorium remains one of the most successful strategies to curb deforestation. Although some of its impact was offset by leakage – to other regions and to other commodities – the moratorium has effectively excluded sourcing from farms with illegal deforestation. The adoption of the Cerrado Manifesto in 2017 shows important momentum, driven primarily to stem leakage from the Amazon. However, the list of signatories remains dominated by downstream retailers and manufacturers, while big soy producers have yet to sign on, and a roadmap for its implementation remains to be developed. Nonetheless, the role of such initiatives in driving action is highlighted by the fact that 20 Forest 500 companies that previously did not have a forest commitment have signed the Cerrado Manifesto.

In their individual pledges, many companies in the Brazilian soy sector committed to certification, but the share of certified products is still low with sourcing companies mostly unwilling (or unable) to pay premiums for producers. Nevertheless, the area of Round Table for Responsibly Soy-Certified Production grew to over 950,000 hectares in the Cerrado and 290,000 hectares in the Amazon.

Similarly, in the beef sector, many companies have participated in collaborative initiatives and are working toward legal compliance. Research indicates that these strategies have had a positive impact on forests, but there is still much room for improvement around compliance and the scope of these efforts. For example, two thirds of federally inspected slaughterhouses in the Legal Amazon have signed legally binding agreements (terms of adjustment of conduct [TACs]) to stop purchasing cattle from farms with illegal deforestation. Yet, the scope of these TACs is limited as they extend back only to the last ranch from which the cattle were obtained (i.e., direct suppliers), while cattle, a highly mobile commodity, often passes through several production stages before reaching the slaughtering stage. As a result, although TACs cover the vast majority of slaughtering capacity, the number of cattle farms reached is estimated at only 17 percent.

Beyond these strategies, Global Canopy analysis of companies active in Latin America shows limited progress. Based on company-reported data, implementation is lagging, and there is limited information on the specific strategies used by some companies. In interpreting these results, it is important to note that the indicators developed by Global Canopy are based on company-reported data and do not include an assessment of a company’s success in reducing deforestation. The few indicators available for assessing progress toward implementation pointing to relatively more progress in the cattle sector (see Figures 13 and 14). In soy, only a small share of companies monitor compliance with their policies or are able to trace their product back to the crushing facility. Few monitor compliance of their suppliers. In both sectors, most companies report on progress. In the cattle sector, more than half of companies have traceability systems, although it is unclear how many of these systems extend back to indirect suppliers. A large majority also claim to monitor compliance (e.g., of suppliers) or have reported on their progress in the last two years. Only a small share, however, provide evidence that they engage with noncompliant suppliers.

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32 RTRS. (2017). Round Table of Responsible Soy announces ‘strong support’ for urgent action in Brazil’s Cerrado. October 23. Round Table on Responsible Soy Association, News & Events. http://www.responsiblesoy.org/strong-support-for-urgent-action-in-brazils-cerrado/?lang=en. Note: Additional certified areas are covered by other certification schemes, such as Proterra.  
Pulp and paper companies active in Asia and South America are advanced in implementation, because almost all companies with commitments report at least partial certification (Figure 15). Certification schemes ensure that products conform to the sustainable and responsible forest management practices. Both FSC and PEFC standards have criteria for sustainable forest management and offer “chain of custody” certifications providing assurance that certified material is separated from noncertified sources. Over 40 percent of companies report full certification in their supplies. Similarly, the majority of companies have traceability systems. However, less than half report full traceability, while only one fifth report traceability all the way to the forest management unit. The traceability systems of the majority of companies are linked to certification schemes. However, neither FSC nor PEFC, the two main certification schemes, guarantee full traceability and require only that certified materials are identified and separated from noncertified materials. In the absence of traceability and monitoring systems independent of certification schemes, companies cannot guarantee the origin of the material they source.

Note: These 14 companies are among the 20 largest paper and pulp companies with operations in Asia or South America. Source: Climate Focus analysis based on publicly available information on companies’ webpages, CDP, and production data published by RISI. Rushton, M. & Rodden, G. (2016). The PPI Top 100. Brussels: RISI. https://technology.risiinfo.com/mills/asia-pacific-europe-latin-america-north-america/ppi-top-100.

7. Do companies receive support from the public sector and civil society?

To support companies in the implementation of forest-related commitments, governments can adopt and enforce laws, formulate policies, and directly invest in farmers and farming support. Governments can help establish clear land tenure, which addresses a key barrier that currently prevents farmers from investing in their land, and that is unlikely to be solved by supply chain companies. Civil society can help advance implementation by providing producer training and finance, by supporting accountability efforts in their roles as watchdogs, or by directly assisting supply chain companies in developing and implementing their commitments.

In the absence of aggregate data or even a common understanding of how to measure stakeholder support, this chapter provides a summary of general trends and examples of successful support. Table 1 shows examples of the type of support public and nonprofit sectors can provide to increase the effectiveness of supply chain commitments.

Table 1 Examples of Stakeholder Support for Forest Protection

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>TYPE OF SUPPORT</th>
<th>MAIN ACTORS</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional strengthening &amp; forest governance</td>
<td>Demand-side measures</td>
<td>International and national governments</td>
<td>Partnerships between producer and importing governments to exclude illegal production and promote demand for certified products</td>
</tr>
<tr>
<td></td>
<td>Strengthen law enforcement</td>
<td>National governments</td>
<td>Increasing funding and capacities of enforcement institutions, including law enforcement and public private agreements that exclude “bad” producers</td>
</tr>
<tr>
<td></td>
<td>Tenure reform</td>
<td>National governments</td>
<td>Land registration systems that enable tenure security, a key enabling factor for sustainable land use</td>
</tr>
<tr>
<td></td>
<td>Monitoring and transparency</td>
<td>National and subnational governments, nongovernmental organizations (NGOs)</td>
<td>Transparency platforms and tracking initiatives by civil society that support accountability and help companies in monitoring efforts</td>
</tr>
<tr>
<td></td>
<td>Advocacy and pressure</td>
<td>NGOs</td>
<td>Consumer campaigns to encourage demand for certification support, an essential condition for incentives through premiums and market access</td>
</tr>
<tr>
<td>Implementation support</td>
<td>Sectoral standards</td>
<td>National and subnational governments, NGOs, and private sector</td>
<td>Support certification schemes or moratoria that set forest requirements and provide a clear and recognized framework for implementation of commitments</td>
</tr>
<tr>
<td></td>
<td>Training, capacity building, and technical assistance</td>
<td>National and subnational governments, NGOs</td>
<td>Agricultural extension programs to promote sustainable intensification, for example, in partnership with supply chain companies</td>
</tr>
<tr>
<td></td>
<td>Aggregation of smallholders</td>
<td>National and subnational governments, NGOs</td>
<td>Group certification schemes that allow smallholder producers to reduce transaction costs of compliance with forest and sustainability requirements</td>
</tr>
<tr>
<td>Financial support</td>
<td>International support</td>
<td>International governments</td>
<td>Bilateral agreements for financial assistance programs that promote sustainable land use</td>
</tr>
<tr>
<td></td>
<td>Public-private partnerships</td>
<td>National and subnational governments, international partners, companies</td>
<td>Public private investment funds with risk mitigation instruments for private investors (e.g. guarantees)</td>
</tr>
<tr>
<td></td>
<td>Domestic investments</td>
<td>National governments</td>
<td>“Green” loan programs in the agriculture sector that set mandatory environmental requirements and provide technical assistance</td>
</tr>
<tr>
<td>Landscape initiatives</td>
<td>Subnational governments, international partners, companies, NGOs</td>
<td>Jurisdictional approaches that pursue sustainability (including forest) goals in a collaborative manner</td>
<td></td>
</tr>
</tbody>
</table>
Many producer countries have made pledges and adopted new policies to stop deforestation and improve the sustainability of the land-use sector but have been slow in implementation and enforcement. Although tangible progress in reduced deforestation remains incidental, important developments could improve the enabling environment for company efforts. Many forest countries have adopted high-level policies, initiated political and legal reforms, developed investment plans and monitoring capacities, created new participatory processes for policy making, and set up new public private initiatives for sustainable land use. According to an assessment by Forest 500, 16 of the 50 assessed powerbrokers’ national and subnational jurisdictions have public policies to end or reduce deforestation from forest-risk commodities. These include Colombia’s multilateral commitment with Germany, Norway, and the United Kingdom to end all natural forest loss by 2030 as part of the Amazon Vision; Indonesia’s commitment to save natural forests and significantly reduce the rate of deforestation as part of their Reducing Emissions from Deforestation and Degradation (REDD+) strategy; and Liberia’s zero-deforestation commitment, based on a 2014 agreement with Norway. Yet, these commitments have seen little development since being signed. Similarly, although many tropical forest countries are setting up programs for REDD+, most have not yet been approved and funds have been slow to materialize. In one of the largest multilateral REDD+ funding vehicles, the Forest Carbon Partnership Facility’s Carbon Fund, more than 50 countries are developing programs, but after about a decade of preparations, only six have made it (at least provisionally) to the final application stage and are expected to sign agreements for results-based payments with donors in the near future.

International and local NGOs and think tanks have developed tools and standards for commitment implementation and for strengthening the incentives and disincentives that can motivate a change in sourcing or production practices. Especially in remote areas, where governments are largely absent, NGOs are needed to monitor and verify efforts. International platforms, such as the Trase platform and Global Forest Watch, track commodity supply chains, company efforts, and forest impact. Similarly, the Accountability Framework initiative aims to standardize and harmonize efforts across sectors and supply chain levels. These initiatives, however, lack universal application or are in pilot stages.

NGO initiatives and stakeholder support help companies address gaps in geographic and supply chain coverage of commitments. In the Brazilian soy and beef sectors, the Working Group of Indirect Cattle Suppliers (Portuguese acronym: GTFI) aims to improve traceability and monitoring of the cattle supply chain. Although there are no concrete outcomes yet, the group is discussing an approach to combine an existing animal tracking system with rural environmental registration, among other things. Another example is the Cerrado Manifesto, an NGO-led initiative calling on the private sector to take immediate action to protect this biome. Several leading NGOs, including Greenpeace Brazil, Conservation International Brazil, WWF Brazil, The Nature Conservancy, the International People’s Agroecology Multiversity (IPAM) and Imaflora published a manifesto in September 2017, pointing out that 30 percent of the deforestation in the Cerrado could be prevented by the agribusiness sector. As of April 2018, 62 companies including major downstream companies Carrefour and McDonald’s have signed the Manifesto. In Southeast Asia, the Center for International Forestry Research recently published the Atlas of Deforestation and Industrial

29 A mechanism for results-based payments from developed countries to developing forest countries to reward reduced emissions from the forest sector.
30 Reducing Emissions from Deforestation and Forest Degradation in Developing Countries. Programs are a mechanism for results-based payments from developed countries to developing forest countries to reward reduced emissions from the forest sector.
Plantations in Borneo\textsuperscript{45} to improve transparency and to help palm oil buyers avoid purchases that negatively impact forests. Global Forest Watch also publishes data on palm oil concessions in Indonesia and other countries.\textsuperscript{46}

Financial support from the public sector and collaboration with private investors is essential to meeting forest-related corporate commitments, but finance for forests remains insufficient.\textsuperscript{47} Roughly US$20 billion, mostly from international organizations and governments, has been committed to activities aligned with forest and climate goals since 2010. This is highly disproportionate to the investment needs and mitigation potential of the sector and is dwarfed by the US$777 billion that has been provided to the land sector but with a potentially negative impact on forests. Many tropical forest countries, such as Brazil and Indonesia, invest heavily in agricultural subsidies, often without safeguards to avoid deforestation and harm to ecosystems. Although achieving a transition to sustainable supply chains will require continued new financial support, it will also be necessary to shift traditional investments toward sustainable agriculture and forestry. Furthermore, it is clear that public sector finance alone is not enough and more strategic and coordinated investment with the private sector is essential.

An increasing number of jurisdictional programs and initiatives are addressing deforestation in supply chains, but a lack of aggregate data makes it difficult to point to signs of tangible progress. As of October 2017, there were 34 active jurisdictional supply chain initiatives around the world – evenly spread between the continents of Asia, Africa, and Latin America – that were operating in tropical forest regions or focused on forest-risk commodities.\textsuperscript{48} These jurisdictions are responsible for a significant share of the production of the commodities, and cover 10 commodities (bananas, cocoa, cotton, pulp, soy, cattle, coffee, palm oil, rubber, and timber). These programs bring together stakeholders from across sectors to align interests and coordinate on the support and implementation of sustainable agriculture and forest practices, however, programs vary in their stages of implementation, concrete sourcing agreements are limited, and progress in terms of reduced deforestation remains incidental. Although there are few examples of tangible progress or successful sourcing agreements between companies and governments, the growth of jurisdictional programs and launch of pilot initiatives demonstrates an important willingness among these actors to accelerate progress.


\textsuperscript{46} Global Forest Watch. (2018). Indonesia oil palm concessions. World Resources Institute. \url{http://data.globalforestwatch.org/datasets/82b539b824b95e853670fccc3f0ce68_2?uiTab=table}.


1. CDP data and analysis

Data points used
CDP analyzed the below data points of its 2017 Forests Questionnaire.

Table 1 Questions analyzed from CDP’s 2017 Forests Questionnaire

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>QUESTIONS ANALYSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company commitments</td>
<td>Applicable to all respondents: [F8.2] – Has your organization made a commitment to reduce or remove deforestation and forest degradation from your direct operations and/or supply chain? [F8.2a] – Please identify which of the following criteria are specifically stated in your organization’s commitment to reduce or remove deforestation and forest degradation from your direct operations and/or supply chain.</td>
</tr>
<tr>
<td>Use of certification</td>
<td>Applicable to all respondents: [F9.4] – Do you specify any third-party certification schemes for your selected commodities? Please indicate the percentage of total production and/or consumption currently certified.</td>
</tr>
<tr>
<td>Traceability</td>
<td>Applicable to producers, processors and/or traders: [F6.1a] – Please describe the system you have in place to track and monitor the origin of raw materials for your selected commodities. Applicable to manufacturers and/or retailers: [F6.3] – Please provide details on the level of traceability your organization has for your selected commodities.</td>
</tr>
<tr>
<td>Engaging with suppliers</td>
<td>Applicable to producers, processors and/or traders: [F10.2] – Are you working with smallholders to encourage and support sustainable forest management practices? Applicable to manufacturers and/or retailers: [F10.3] – Are you working with your direct suppliers to support and improve their capacity to supply sustainable materials?</td>
</tr>
<tr>
<td>Volume</td>
<td>The volume included in the analysis relates to production or consumption data provided by companies in response to question: [F5.2a] – Please disclose your production and/or consumption data using the table below.</td>
</tr>
</tbody>
</table>

Volume calculation
Companies apply several types of units when reporting volumes to CDP, depending on the form of the commodity. The following assumptions were made to convert the collected data to metric tons to facilitate analysis.

- For palm, companies reported on palm oil, palm kernel, palm derivates and other products. Due to the lack of differentiation between the volumes across these products, total volume has been assumed to be for palm oil.

- For cattle products, different reported units have been converted to cattle heads to then be converted again to metric tons applying a ratio of 0.3085 metric tons per cattle head.

- For soy, companies reported on soybean, soy oil and other products. Due to the lack of differentiation between the volumes across these products, total reported volumes have been assumed to relate to soy bean.
For calculating global market share for each commodity, the following sources are used:

- **Palm**: Total global production volumes of palm oil as reported by the United States Department of Agriculture (2018), at 69.73 million metric tons\(^1\).
- **Soy**: Total global production of soybean and soy oil as reported by the United States Department of Agriculture (2018), at 336.7 million metric tons of soybean\(^2\).
- **Cattle**: Total meat from cattle as report by FAOSTAT (2018), at 93.2 million metric tons\(^3\).

The total number of cattle slaughtered for meat was used to calculate volumes of cattle product.

**Data limitations**

There are a number of limitations in the scope and coverage of the reported data by companies to CDP and in the presented analysis:

- Among the 112 companies that reported on palm oil, soy and cattle products, 61 were from the ‘deforestation powerbroker’ companies identified by Global Canopy’s Forest 500. Together, these account for nearly a fourth of the total Forest 500 companies.
- Not all companies reported the commodity volumes they handle. The results presented on market share area are therefore only limited to those companies that choose to disclose this. The aggregate volume data however also includes companies that have disclosed privately.
- Not all companies specify the type of commodity products they handle, making it difficult to confirm exact volumes per product type.
- Companies provide information on volumes in a number of different units, depending on the form of the commodity. As mentioned above, assumptions were therefore needed in order to convert all values to metric tons.
- There could be overlap in volumes reported by companies operating at different stages of the supply chain.

### Table 2. Coverage of Forest 500 companies in the CDP analysis of market shares

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Percentage of Forest 500 companies reporting volumes</th>
<th>Percentage of Forest 500 companies included in the analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palm</td>
<td>70%</td>
<td>27%</td>
</tr>
<tr>
<td>Soybean</td>
<td>67%</td>
<td>15%</td>
</tr>
<tr>
<td>Cattle products</td>
<td>68%</td>
<td>20%</td>
</tr>
</tbody>
</table>

**2. Global Canopy data and analysis**

**2.1 Company action on deforestation**

As part of the Company action on deforestation project, Global Canopy analyzed the commitments of 137 companies in the soy and cattle supply chains in Brazil, Argentina and Paraguay. These companies cover three biomes – the Amazon, Chaco and Cerrado – and included:

- 102 soy companies (73 downstream and 29 upstream), half of which are Forest 500 companies. Together, these account for 38% of soy companies identified by Forest 500 as the most influential ‘powerbrokers’.

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- 98 cattle companies (71 downstream and 27 upstream), 27 of which are Forest 500 companies. Together, these account for 33% of the cattle companies identified by Forest 500 as the most influential ‘powerbrokers’.

Companies were assessed against information publicly available on their websites and on external platforms (including CDP Forests and Trase). Global Canopy carried out an analysis of the existence and robustness of company policies and commitments to address deforestation risks in their supply chains. Policies were assessed against the following criteria: inclusion of an overall zero/zero net deforestation commitment, commodity-specific commitments to protect forest landscapes, geographic and supply chain scope, and requirements for time-bound actions. Beyond commitment ambitions, Global Canopy also developed indicators to capture self-reported actions taken by companies to implement their policies and commitments. Indicators on self-reported progress include whether companies regularly report progress, monitor compliance in their supply chain, engage with non-compliant suppliers and implement traceability systems.

**Data limitations**
The platform’s geographic coverage is limited to Brazil, Argentina, and Paraguay. Additionally, the indicators on self-reported progress rely on data provided by companies and do not include verification of company reported progress or an assessment of the on-the-ground impacts of company policies.

2.2 Forest 500
Global Canopy also provided data on the policies of 250 Forest 500 companies. Companies included in the Forest 500 are some of the most influential companies operating in forest risk commodity supply chains. They are identified based on the scale of their commodity production, the volume of commodities they trade or process, and their market share in manufacturing and retail sectors.

**Data limitations**
The platform focuses on the 250 most influential companies operating across major forest risk commodity supply chains. This focus means that there is limited coverage of small and medium-sized enterprises in the Forest 500 and that coverage across some forest risk commodities (in particular cattle and timber) is limited. Additionally, a large number of the 250 companies in the Forest 500 are headquartered in North America and Europe and there is lower coverage of companies that play key roles in the domestic and regional markets of forest-risk regions such as South America and Southeast Asia.

3. SPOTT data and analysis
SPOTT assesses commodity producers and traders on the public disclosure of their policies, operations and commitments related to environmental, social and governance issues. Their 2017 assessment of palm oil companies covered 50 palm oil producers and traders, including some but not all of the key players. SPOTT conducts review of each company’s publicly available reports and analyzes the results against indicators specific to the scope of its operations. Currently, this assessment includes 125 indicators across the ten sustainability areas.

**Data limitations**
SPOTT assesses palm oil companies against a comprehensive list of criteria and indicators. However, there are some data limitations:
- SPOTT assesses only information from producers and traders in palm oil industry. This means that manufacturers and retailers are excluded from this assessment.
- Data comes from public reports prepared by companies. There is a risk that the data on palm oil plantations may not include all the plantations these companies own.
4. Analysis for pulp and paper

In order to assess the volumes of pulp and paper covered by a commitment, the following method was used:

- The 20 of the largest pulp and paper companies that operate in forest-risk regions across Asia and South America were identified through two sources: the top 100 pulp and paper companies list published by RISI and the 25 timber and pulp companies assessed by Zoological Society of London (Table 2). Five of these are Forest 500 companies.
- For production volumes, data was used from the RISI report and individual company reports. Where pulp and paper production volumes were not available, the companies’ annual production capacities were used as a proxy for production volumes.
- To identify the companies that have a forest commitment, publicly available company reports and company webpages were reviewed, as well as referring to Supply-Change.org.
- For pulp and paper volumes under a commitment, it was assumed that the total production volume falls under a commitment.
- For the pulp and paper market share under a commitment, FAOSTAT data was used for total pulp and paper (pulp for paper, and paper and paperboard) production volumes in Asia and South America (2016 data), at 277.06 million metric tons and global production volumes at 594 million metric tons (2016 data).

Table 3. Pulp and paper companies assessed

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>HEADQUARTERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marubeni</td>
<td>Japan</td>
</tr>
<tr>
<td>Rengo</td>
<td>Japan</td>
</tr>
<tr>
<td>Hokuetsu Corp</td>
<td>Japan</td>
</tr>
<tr>
<td>Fibria</td>
<td>Brazil</td>
</tr>
<tr>
<td>Arauco</td>
<td>Chile</td>
</tr>
<tr>
<td>Empresas CMPC</td>
<td>Chile</td>
</tr>
<tr>
<td>Daio Paper</td>
<td>Japan</td>
</tr>
<tr>
<td>Lee and Man Paper</td>
<td>China</td>
</tr>
<tr>
<td>Vinda Paper</td>
<td>China</td>
</tr>
<tr>
<td>Hansol Paper</td>
<td>South Korea</td>
</tr>
<tr>
<td>Suzano</td>
<td>Brazil</td>
</tr>
<tr>
<td>Klabin</td>
<td>Klabin</td>
</tr>
<tr>
<td>Asia Pulp and Paper</td>
<td>Indonesia</td>
</tr>
<tr>
<td>APRIL</td>
<td>Indonesia</td>
</tr>
<tr>
<td>Mitsubishi Paper Mills</td>
<td>Japan</td>
</tr>
<tr>
<td>Oji Paper</td>
<td>Japan</td>
</tr>
<tr>
<td>Shandong Sun Paper Industry</td>
<td>China</td>
</tr>
<tr>
<td>Shandong Chenning Paper Holdings</td>
<td>China</td>
</tr>
<tr>
<td>Nine Dragons Paper Holdings</td>
<td>China</td>
</tr>
<tr>
<td>Nippon Paper</td>
<td>Japan</td>
</tr>
</tbody>
</table>

5. Additional information on Figure 4 (Volume of Palm Oil, Soy, and Cattle Products Production and Consumption under Commitments as Reported to CDP, 2017)

- **Palm oil:** Of the ten largest palm oil companies that disclose consumption or production data to CDP, six make this information publicly available. This includes major producers (e.g. Wilmar International Limited), traders (e.g. Bunge) and manufacturers (e.g. Unilever plc), although many of these companies are active at other supply chain stages as well. Other major palm oil companies such as Sime Darby, PT Musim Mas, Bumitama Agri Ltd or Procter and Gamble Company have disclosed this information privately.

- **Soy:** Of the 10 soy companies that reported largest consumption and production volumes to CDP, seven disclose this information publicly. These include major producers, processors and traders (e.g. Archer Daniels Midland, JBS S/A and Marfrig Global Foods S/A), and manufacturers and retailers (e.g. Nestle and McDonald’s Corporation). Some companies disclose this information privately (e.g. Grupo Andre Maggi and BRF S.A).

- **Cattle:** Of the ten cattle companies that disclose the largest consumption or production volumes to CDP, all make this information publicly available. These companies include the largest beef processors in the world (e.g. JBS, Marfrig and Minerva) and key retailers (e.g. McDonalds and J Sainsbury).

- **Pulp and paper:** These companies include some of the largest pulp and paper producers (e.g. Asia Pulp and Paper) and manufacturers (e.g. APRIL) in Indonesia, and the second largest manufacturer in the world (OJI Paper) with operations in many forest risk countries including Indonesia and Malaysia. Other companies that have reported volumes and have a commitment include Marubeni, Klabin, Mitsubishi Paper Mills and Rengo.