



# The urgency of action to tackle tropical deforestation

Protecting forests and  
fostering sustainable  
agriculture



## Prepared by GreenEdge, COWI A/S and AlphaBeta for IDH, The Sustainable Trade Initiative

### Important Notice on Contents – Estimations and Reporting

All information in this report is derived or estimated using both proprietary and publicly available information. Where information has been obtained from third party sources and proprietary sources, it is clearly referenced in the footnotes.

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IDH, The Sustainable Trade Initiative is an international organization that convenes, finances, and manages large programs to accelerate transitions toward sustainability in partnership with multinational and smaller companies, governments, and civil society. Headquartered in the Netherlands, IDH delivers scalable, economically viable impact on the Sustainable Development Goals. IDH operates globally in different industry sectors ranging from cocoa and tea to cotton and soy, and encourages joint investment in innovative models to realize long-term solutions for environmentally and socially sustainable production and trade. IDH is supported by multiple European governments, including the following donors: The Ministry of the Foreign Affairs of the Netherlands (BUZA), Switzerland's State Secretariat for Economic Affairs (SECO), the Danish International Development Agency (DANIDA), and the Norwegian Department for Development Cooperation (NORAD).

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AlphaBeta is a strategy and economic advisory business serving clients across Australia and Asia from offices in Singapore, Sydney, Canberra, and Melbourne.

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COWI A/S is an engineering, environmental, and economics consultancy company with more than 6500 staff with its headquarters in Lyngby, Denmark.



FACTS Consulting is a consultancy focused on land-use, bioenergy, agriculture, and forests based in Copenhagen, Denmark.

**idh** the sustainable trade initiative



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# Foreword

In the face of the rapidly growing threats of climate change, reducing deforestation stands as a crucial mitigation-step in the battle to preserve our planet. Forests store massive amounts of carbon, provide numerous ecosystem services, and are among the most biodiverse biomes on earth. Despite their value, forests, and especially tropical rainforests, are under siege by human activity. Enormous areas of tropical forest – the equivalent of the landmass of the United Kingdom – are lost every year, and commodity demand in Europe is a significant contributor.

In this first-of-its-kind report, we present an overview of the current situation of deforestation, the drivers behind the loss of forest in tropical countries, the best present-day mitigation efforts, and future strategies to save our forests.

Agricultural production is the major direct cause of deforestation and forest degradation in tropical countries. The latest IPCC (Intergovernmental Panel on Climate Change) report on climate change and land revealed that global per capita supply of vegetable oils and meat has more than doubled since 1961 with major implications for deforestation and forest degradation. The report further noted that protecting existing forests (and other carbon-rich lands) from land use change is among the foremost mitigation options currently available. In a rapidly changing world, prioritizing deforestation-free production must be a priority.

In 2015, the signatories of the Amsterdam Declaration came together to commit to zero net deforestation and preservation of primary forests in the supply chains of the key tropical commodities – palm oil, soy, and cocoa – by 2020. Efforts to prevent deforestation must include a wider of deforestation-linked commodities including beef, wood pulp, tropical timber, rubber, and coffee – all are examined in this report.

Analysis of the current situation shows that progress on nearly every commodity lags behind commitments and demands an immediate and forceful response. Despite a host of successful initiatives, gains in the fight against deforestation have remained modest, and in fact deteriorated in some regions. It's clear that the ambitious objectives set forth by governments, companies, civil society, and indigenous peoples organizations in the New York Declaration on Forests in 2014 will not be met by 2020. Despite increasing corporate commitments, progress remains slow and the 2020-goals set by many companies will not be met.

We must leverage the best of praiseworthy initiatives in private sourcing, public procurement, and donor-funded sustainable production programs in producer countries while innovating new models of production. Scaling sustainable production efforts is an imperative. By ushering in a new paradigm in global commodity production we can elevate the livelihood of millions of farmers and landholders currently producing these agricultural commodities while sustainably meeting global demand.

This report outlines the current status of deforestation, review key gaps in current sustainability plans, and propose an action agenda to catalyze action on deforestation-free tropical commodities pre- and post-2020.

We publish this report to underline the urgency of action required both in European consumer countries and in producer countries, and by actors along the entire value chain.



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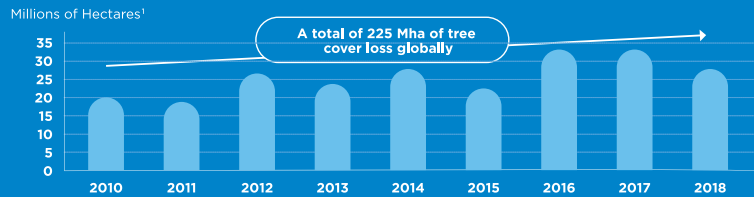


# THE URGENCY OF ACTION TO TACKLE TROPICAL DEFORESTATION

## CURRENT DEFORESTATION HOTSPOTS, IN TERMS OF GROSS DEFORESTATION AND SHARE DRIVEN BY AGRICULTURAL ACTIVITIES



### FOREST LOSS

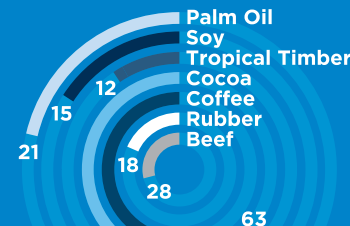


**NO COMPANY IS ON TRACK TO ELIMINATE COMMODITY-DRIVEN DEFORESTATION, ACCORDING TO FOREST 500.**

## OVERVIEW OF KEY COMMODITIES



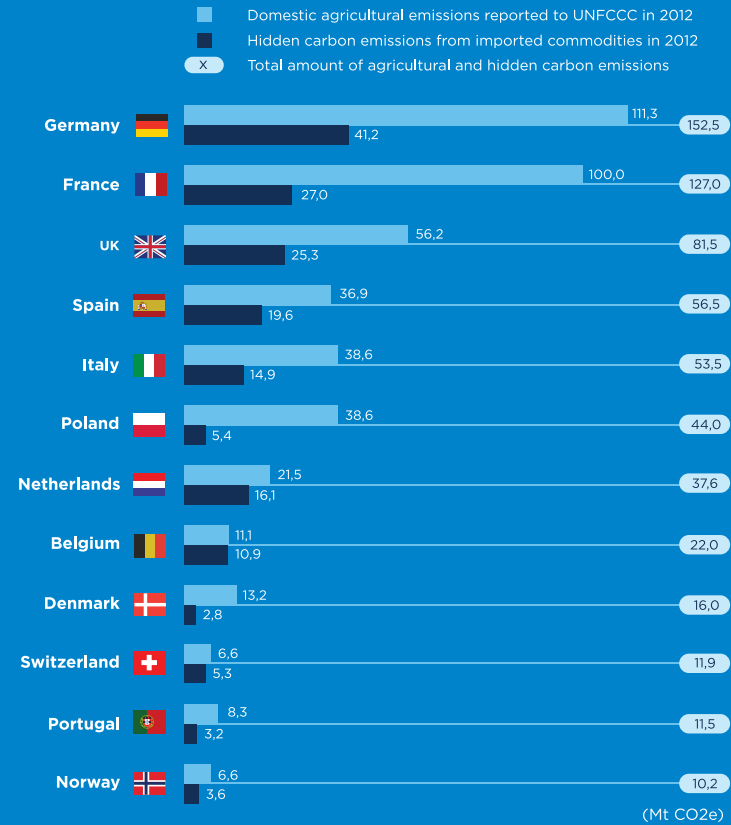
EUROPE'S SHARE OF GLOBAL IMPORTS<sup>2</sup>, %



SHARE OF RESPONSIBLE SOURCING IN EUROPE, %



## HIDDEN CARBON EMISSIONS FROM IMPORTED COMMODITIES COMPARED WITH DOMESTIC AGRICULTURAL EMISSIONS OF EUROPEAN COUNTRIES



## POTENTIAL BENEFITS OF AMBITIOUS SUSTAINABLE SOURCING



Increased income for **1.5 BILLION** smallholders



**1.6 BILLION** people are dependent on forests for food and livelihoods

## IF EUROPE WAS TO ACHIEVE ZERO-DEFORESTATION IMPORTS BY 2025



an **ADDITIONAL 317 MILLION METRIC TONNES OF CO<sub>2</sub>e** could be abated compared to the business-as-usual (BAU) scenario



an **ADDITIONAL 3.6 MILLION HECTARES OF FORESTS** could be saved compared to the business-as-usual (BAU) scenario

(A) For canopy cover greater than 10%. (B) Includes 28 European Union (EU) countries and 4 European Free Trade Association (EFTA) countries where data is available. (C) Relates to emissions from agriculture as well as from crop- and grasslands reported under LULUCF, i.e. numbers are slightly different from Pendrill et al., 2019 (D) Imported deforestation-related emissions estimated with the MRIO model for the time period 2010-2014. (E) This covers 2018 to 2030

SOURCES: Food and Agriculture Organisation (FAO); United States Department of Agriculture Foreign Agricultural Service (USDA-FAS); International Tropical Timber Organisation (ITTO); Forest 500; The Sustainability Advisory; Probos; WRI; Pendrill et al., 2019; UNFCCC, 2014; COWI analysis



# Executive Summary

**Reducing deforestation is a crucial step in mitigating global anthropogenic climate change. Tropical forests are globally significant – they are home to some of the most biodiverse ecosystems on the planet, sequester enormous quantities of carbon, and sustain local communities and businesses - and face great pressures from extractive deforestation and conversion to agriculture. Tropical rainforests are threatened by human activity (especially agriculture), and enormous areas – the equivalent of the landmass of the United Kingdom – are lost every year.**

This report describes the urgent need to take action to reduce the deforestation driven by eight deforestation-linked commodities (palm oil, soy, beef, cocoa, coffee, rubber, pulp & paper, tropical timber) in 12 European markets and 7 producing countries.

The report demonstrates that current efforts by the private sector and governments in producer and consumer countries are not sufficient to address commodity-driven deforestation. Progress remains too slow and additional action by all stakeholders is urgently needed.

Accelerated ambition in all parts of the value chain from producers through intermediaries to consumers could create significant benefits, contribute to tackling deforestation and climate change, and improve economic livelihoods and sustainable development in producer countries and regions. Making it happen will require that industry, civil society, and governments work together.

*Several options for accelerating action on deforestation exists, including:*



**Introducing sourcing requirements and roadmaps;**



**Adopting reporting guidelines and due diligence criteria;**



**Enhancing traceability and transparency;**



**Addressing financial contributions to deforestation;**



**Enhancing sustainable production and consumption.**





*Despite increasing focus on sustainable production, global deforestation is at record rates and commodity production is the single largest driver.*

- **Deforestation is increasing and agriculture is the main driver.** Between 2010 and 2015, 86% of cumulative tropical deforestation occurred due to agricultural expansion, either large scale commodity-driven or as a result of shifting agriculture. Brazil and Indonesia recorded the highest levels of tropical deforestation, while large forest landscapes were also cleared in other Latin American (Paraguay, Argentina, Bolivia) and Asian (Malaysia) countries. Deforestation levels are increasing in Africa as new deforestation hotspots emerge in West Africa and the Congo Basin.
- **Tropical deforestation is driven by a small group of commodities.** Beef and soy are the main drivers in Latin America, while palm oil causes most of the forest loss in Southeast Asia and may grow in significance in the Congo Basin. In addition, 10% of tropical deforestation can be attributed to wood extraction. Rubber, coffee, and cocoa are also gaining importance as global demand is growing and readily available substitutes do not exist.

*Sustainable sourcing performance varies significantly by commodity and is clearly not on track to achieve 100 percent sustainable sourcing by 2020.*

- **While there has been progress made in sustainable production of palm oil, soy, cocoa, and coffee, this generally accounts for a small share of global production.** Sustainable commodity production has mainly resulted in a number of voluntary certifications and standards for each of the commodities. Differences in what is considered sustainable or responsible sourcing and production impede direct comparisons and trigger uncertainty among stakeholders. Sometimes, demand for certified commodities is much lower than supply, forcing producers to sell their sustainably produced commodities at market prices.



*The 12 European countries covered in this report import significant parts of the global production of agricultural commodities, with links to deforestation.<sup>1</sup>*

- **European countries import a significant share of global demand for agricultural commodities.** Europe not only constitutes an important consumer market, but also hosts large food processing industries, resulting in strong demand for agricultural commodities. While Europe has substantial production of beef and wood pulp, the region imports soy to complement its own production, as well as palm oil, rubber, cocoa, coffee, and tropical timber.
- **The lion's share of European commodity net imports stems from 12 countries, including the current signatories of the Amsterdam declaration.** The countries represented more than 95% of regional net imports of cocoa and soy, more than 90% of palm oil and timber, over 80% of beef, coffee, and wood pulp, and more than 70% of rubber.
- **Along with these commodities, European countries import the GHG emissions that were released due to forest clearance.** Despite the fact that consumption occurs in importing countries, these embodied emissions are accounted for by producer countries. On average, imported deforestation is estimated to amount to more than 50% of national agricultural emissions for the 12 European countries. In the case of Belgium, imported emissions linked to deforestation nearly exceed national agricultural emissions.
- **Sourcing of certified commodities in European markets varies significantly by country and commodity, but limited data availability inhibits comparisons.** The share of certified palm oil is higher than figures for responsible soy. From the 12 countries, Norway and Switzerland source the highest share of certified palm oil and soy.

*There have been praiseworthy initiatives, but gains have remained modest and it is clear that the ambitious objectives set forth by private and public actors will not be met by 2020.*

- **There are gaps throughout the entire supply chain hampering efforts to reduce deforestation.** In producer countries, most initiatives concentrate on supporting governments in tackling illegal activities, training, and capacity building. This leaves the absence of financing for sustainable practices as a major unaddressed barrier. Current initiatives from consumer countries are voluntary, thus a clear signal to effectively halt deforestation is broadly missing.
- **Supply-chain information has a number of gaps.** Traceability is important to tackle deforestation because it provides information and transparency among actors and links supply-chain actors to production places. Supply chain traceability can be challenging across all commodities, and for some commodities it is impossible to relate a specific product back to origin due to different sources being mixed at processing locations, e.g. at mills. A critical barrier to increasing traceability is that the majority of information on production and handling of commodities is proprietary, apart from data disclosed in customs clearings or as part of a certification or pledge progress report.

*Accelerated action on sustainable sourcing could deliver large environmental and economic benefits.*

- **Accelerated action brings environmental benefits and saves forests.** Our scenario analysis show that a more ambitious sustainable sourcing approach in soy and palm oil could save over 3.6 million hectares of forests by 2025 and over 5.7 million hectares by 2030.
- **Large greenhouse gas reductions from achieving sustainable sourcing.** Our scenario analysis show that achieving sustainable sourcing can save up to half a billion tonnes (500 Mt) of CO<sub>2</sub>e over the next 12 years.
- **Various livelihood benefits in key producer locations.** Environmental and economic benefits are not necessarily at odds. Jurisdictional approaches that included stakeholders along the value chain proved that sustainable practices can improve livelihoods while rendering them more resilient.

<sup>1</sup>. Belgium, Denmark, France, Germany, Italy, the Netherlands, Norway, Poland, Portugal, Spain, Switzerland, and the United Kingdom.



## Nine recommendations have been identified to reduce deforestation

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Adopt mandatory reporting guidelines and due diligence

Introduce mandatory sustainable sourcing requirements for public procurement across the EU

Sourcing from priority areas and using jurisdictional sourcing like Verified Sourcing Areas

Establish G2G partnerships between European governments and governments in key producing regions to support capacity development in the land sector and governance

Develop sustainable sourcing roadmaps to guide industry efforts

Enhance traceability and transparency along the entire value chain

Leverage investments in sustainable production

Introduce sustainability requirements for financial investments in agricultural and commodity production activities

Mainstream sustainable production and consumption by introducing sustainability criteria in producing countries and working with importing markets

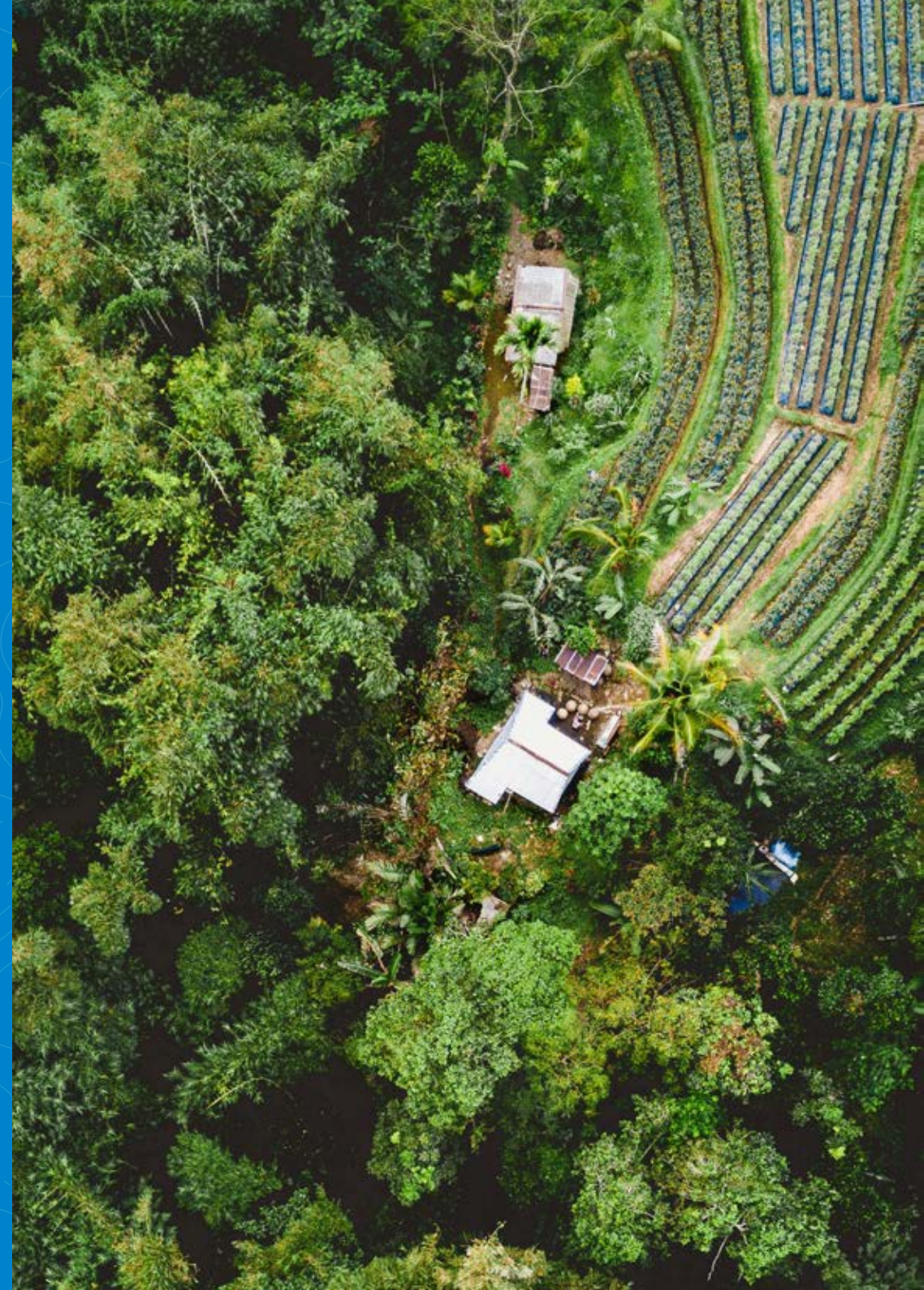


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# Taking stock of developments in key commodity production countries

Despite global efforts to halt deforestation – including the Amsterdam Declaration – forest loss continues to increase, especially in sub-tropical and tropical regions. The causes are complex and interrelated, vary across regions, and are subject to change, but chief among the threats to tropical forests is agricultural expansion. Driven by global and local demand for commodities, agriculture erases forested land around the world.

In Latin America, The Brazilian Amazon and Cerrado, as well as the Grand Chaco stretching over Argentina, Paraguay and Uruguay face daily threats from a range of causes with cattle ranching and (to a lesser extent) soy production the most egregious deforesters. Palm oil is produced at the expense of Southeast Asian primary forests in Indonesia and Malaysia, while rubber and wood pulp production add to the toll. New frontiers of deforestation are appearing throughout Africa, characterized by incremental forest degradation due to smallholder farming and logging. In the Democratic Republic of the Congo, tropical forest loss mainly caused by smallholder farming and shifting cultivation – but it's expected that the Congo Basin may soon host oil palm plantations.







# Deforestation trends, drivers, and causes

Globally, deforestation and forest degradation have put tremendous pressure on forest landscapes. From 2010 to 2015 approximately 122.29 million hectares (Mha) of tree cover was lost – that’s about 5% of the total area covered by natural forests in 2010.<sup>2</sup> Besides the immediate socio-economic and environmental impacts of this conversion, deforestation and other land use changes are considered the second biggest anthropogenic source of GHG emissions, and a major contributor to climate change.<sup>3</sup> Despite efforts by governments, NGOs, and private sector actors, the global annual deforestation rate trends higher. The tropics lost 12 Mha of tree cover in 2018 alone, the fourth-highest annual loss since record keeping began in 2001.<sup>4</sup>

Deforestation and forest degradation result from a complex array of causes of different scales. Direct causes – actions that explicitly impact forest cover – might be driven by socio-economic processes.<sup>5</sup> Data from Global Forest Watch (GFW) suggests that deforestation temperate and tropical forests

equally, but the causes are quite different (as shown in Exhibit 1). Temperate landscapes have been mainly threatened by large-scale forestry operations occurring within managed forests and tree plantations (accounting for 82.8% of cumulative temperate forest loss between 2010 and 2015). In sub-tropical and tropical regions however, deforestation has largely been driven by agricultural activity (86% of cumulative sub-tropical and tropical deforestation). Of the cumulative sub-tropical and tropical deforestation, 46.6% is commodity-driven and 39.5% is a result of shifting agriculture,<sup>6</sup> which is also likely to have a strong commodity component apart from serving for subsistence purposes.<sup>7</sup>

There are some bright spots – global afforestation and reforestation, mostly by high-income countries, mean that temperate domains have been gaining forest cover. Tropical forests, however, have experienced an annually net loss of about 4.6 Mha between 2010 and 2015.<sup>8</sup> To further explore drivers and trends of subtropical and tropical deforestation and its relation to commodities and European consumer markets, this report focuses on deforestation in tropical and sub-tropical countries. Current deforestation hotspots driven by agriculture

2. Referring to tree cover loss with >10% density. Source: Hansen, M. C., et al. (2013). High-Resolution Global Maps of 21st-Century Forest Cover Change. *Science* 342 (15 November): 850–853. Data available on-line from: <http://earthenginepartners.appspot.com/science-2013-global-forest>. Accessed through Global Forest Watch on [15.12.2018]. [www.globalforestwatch.org](http://www.globalforestwatch.org)

3. Blanco G., R. Gerlagh, S. Suh, J. Barrett, H.C. de Coninck, C.F. Diaz Morejon, R. Mathur, N. Nakicenovic, A. Ofosu Ahenkora, J. Pan, H. Pathak, J. Rice, R. Richels, S.J. Smith, D.I. Stern, F.L. Toth, and P. Zhou. (2014). Drivers, Trends and Mitigation. In: *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

4. World Resources Institute (2019), "The World Lost a Belgium-sized Area of Primary Rainforests Last Year". Available at: <https://www.wri.org/blog/2019/04/world-lost-belgium-sized-area-primary-rainforests-last-year>

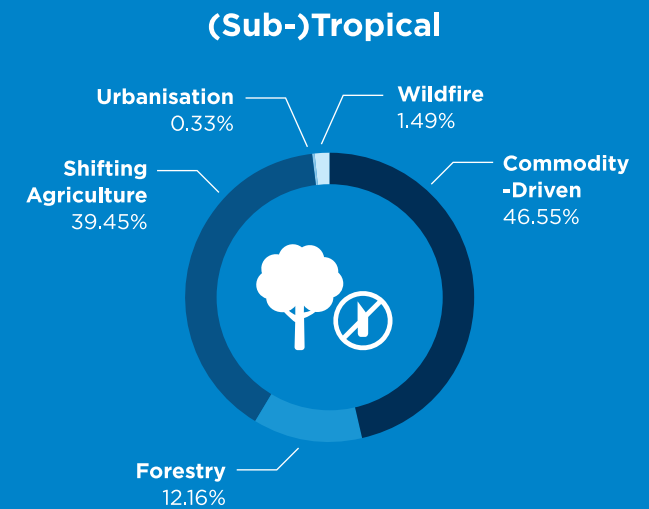
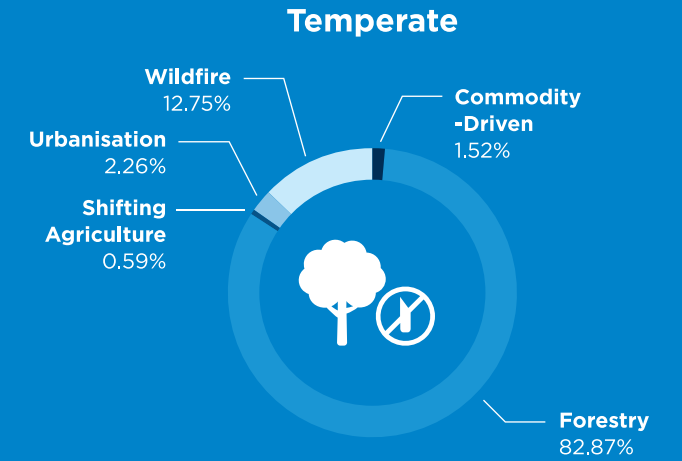
5. Lambin, E. F., Turner, B. L., Geist, H. J., Agbola, S. B., Angelsen, A., Bruce, J. W., ... & George, P. (2001). The causes of land-use and land-cover change: moving beyond the myths. *Global environmental change*, 11(4), 261-269.

6. Shifting agriculture is a system of cultivation in which a plot of land is cleared and cultivated for a short period of time, then abandoned and allowed to revert to producing its normal vegetation while the cultivator moves on to another plot; Hansen, M. C., et al. (2013). Data from Global Forest Watch

7. Curtis et al. (2018), Classifying drivers of global forest loss, *Science*, Available at: <https://science.sciencemag.org/content/361/6407/1108.editor-summary>

8. MacDicken, K. et al. (2016).

## EXHIBIT 1 DRIVERS OF DEFORESTATION



Source: Hansen, M. C., et al. (2013). Data from Global Forest Watch





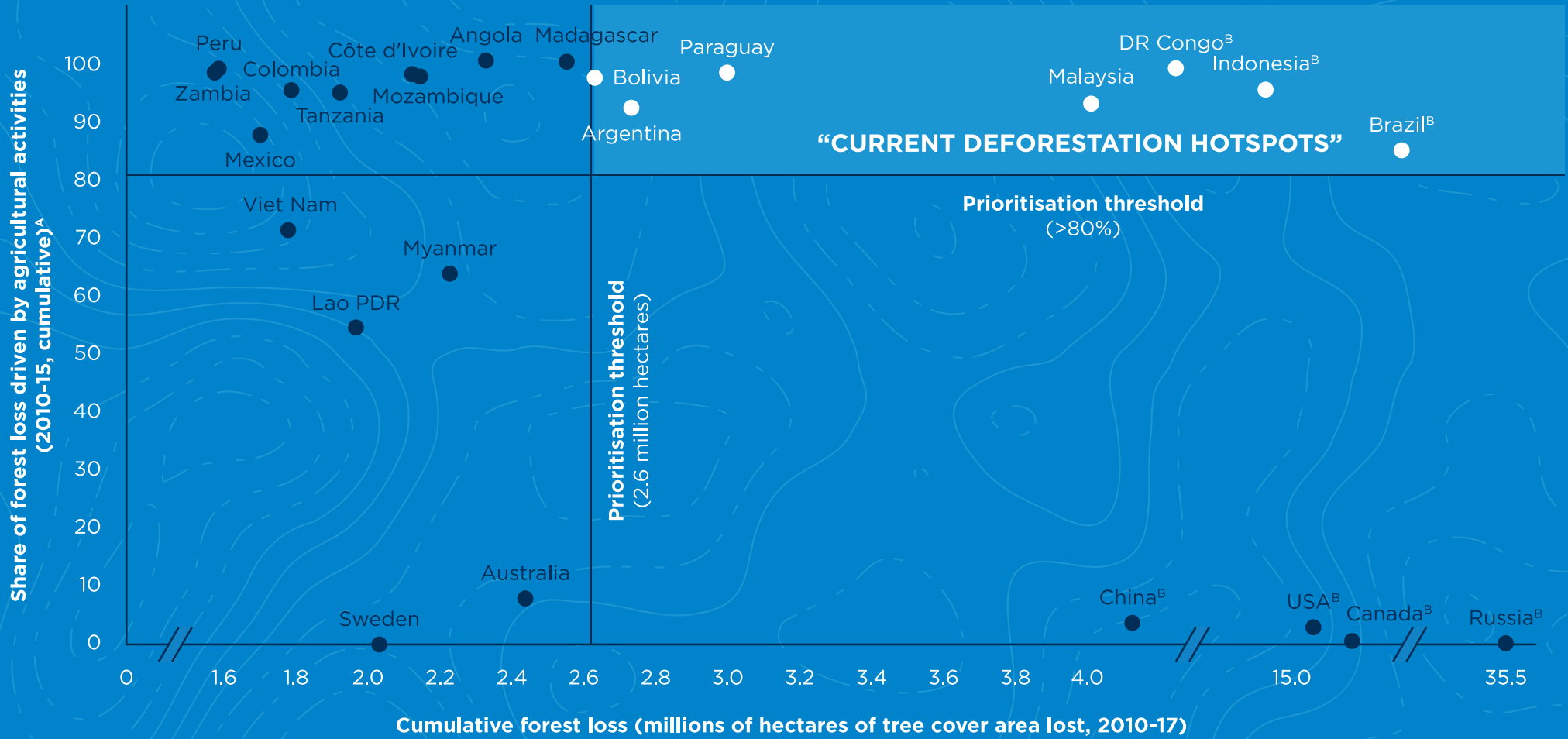
Zooming in on the 25 countries with the highest forest loss between 2010 and 2017, it's clear that deforestation is highly concentrated (Exhibit 2). Russia, Canada, the USA, China, and Australia and Sweden to a lesser extent continue to lose large areas of temperate forests mainly due to large forest plantations (i.e. either conversion of intact primary forest or unsustainable management of working forests). A number of tropical and subtropical countries lose forests due to agricultural expansion. Brazil and Indonesia have deforested large swathes of land in the past decades to make way for agriculture (beef and soy, and palm oil respectively.) These agricultural activities are responsible for more than 80% of deforestation in the other Latin American (Paraguay, Argentina, and Bolivia) and Asian (Malaysia) hotspots. With the exception of The Democratic Republic of the Congo (DR Congo) where forests are mainly converted as a consequence of smallholder farming cultivation practices, these hotspots are mainly driven by (larger scale) commodity production. New deforestation hotspots are emerging mainly in Africa (see Exhibit 2, top left corner). These emerging hotspots (Madagascar, Angola, Mozambique, Côte d'Ivoire, Tanzania, Colombia, Zambia, Mexico, and Peru) have all see deforestation above 1.6 Mha in the period from 2010-2017 with more than 80% of this driven by agricultural activities. Vietnam, Myanmar, and Lao PDR (bottom left) differ from the other tropical countries currently experiencing large-scale deforestation – large-scale forestry operations play a significant role rather than agricultural expansion.<sup>9</sup>

9. Hansen, M. C., et al. (2013). Data from Global Forest Watch

**EXHIBIT 2**

**DEFORESTATION HOTSPOTS**

7 countries stand out as current deforestation hotspots in terms of gross forest loss and share driven by agricultural activities



(A) Includes commodity driven deforestation and shifting agriculture. (B) Cumulative forest loss 2010-17 in Mha: Russia: 35.5; Brazil: 25.2; Canada: 20.7; USA: 16.8; Indonesia: 13.7; DR Congo: 8.1; China: 5.0  
 Source: Global Forest Watch (GFW); AlphaBeta and COWI analysis





**Brazilian forests** can largely credit cattle ranching and to a lesser extent soy production for their destruction. Land speculation, a vicious cycle in which land is bought and cleared for future capital gain, plays a major role in the felling of forests. Cattle ranching is used to secure land and provide economic returns while landholders wait for prices to rise.<sup>10</sup> The consequences of Brazilian deforestation are not minor – Brazil's forests account for around 12% of global forests, and forest loss in Brazil alone accounted for 13% of total global deforestation from 2010 to 2017 (the GFW estimated a loss of 25 Mha of forest area).<sup>11</sup> In 2018 alone over 1.3 Mha of tropical primary rainforest were converted, the most of any tropical country.<sup>12</sup> Overall rates of loss declined sharply and significantly between 2000 and 2014, with a brief uptick in deforestation between 2015 and 2016 before dropping again after 2016.<sup>13</sup>

Among Brazilian states, Pará and Mato Grosso experienced the largest conversion of forest area in 2018 – about 833,000 ha (PRODES: 274,400 ha) and 446,000 ha (PRODES: 149,000 ha) respectively.<sup>14</sup> The states that host the **Brazilian Amazon** are forced to contend with illegal deforestation as a consequence

of unchecked land occupation and weak regulatory enforcement. Forest loss is majorly driven by large and small-scale cattle ranching, as well as small-scale agriculture. Geospatial data indicates that deforestation is moving west to more intact forests through the state of Acre. The Amazonian state Roraima is yet another deforestation hot spot, mainly due to urbanization and infrastructure.<sup>15</sup> Brazil has seen some successes in collaboration – the Amazon Soy Moratorium signed in Brazil in 2006 by large soy sourcing companies such as Cargill, Bunge, and Amaggi under intense pressure to reduce soy-linked deforestation drastically reduced deforestation for soy in the Brazilian Amazon.<sup>16</sup> Unfortunately those benefits may have come at some cost – there is evidence that deforestation-linked production from the Amazon simply moved to the **Brazilian Cerrado**. The MATOPIBA region in Brazil's Cerrado – consisting of the states of Maranhão, Tocantins, Piauí, and Bahia – is now Brazil's primary soy production region.<sup>17</sup>

Deforestation in the main **Southeast Asian** hotspots – Indonesia and Malaysia – is partially driven by unsustainable palm oil production. Second to palm oil is fast wood plantations for pulp and paper, while on a smaller scale rice, rubber, and cassava cultivation also contribute to loss of forests.<sup>18</sup>

10. Roebeling, P. C., & Hendrix, E. M. (2010). Land speculation and interest rate subsidies as a cause of deforestation: The role of cattle ranching in Costa Rica. *Land Use Policy*, 27(2), 489-496.

11. FAOSTAT 2017 data

12. The official Brazilian government forest monitoring system (PRODES) released significantly lower numbers resulting from differences in methodologies. PRODES accounts for primary natural forest – to avoid double counting of already cleared forests – and above a threshold of 6.25 ha which is equivalent to minimal mapping area set in 1988 and was maintained for consistency. In addition, PRODES does not account for forest fires, which are being monitored by a separate system. According to PRODES, 4.89 Mha of primary forest area was lost between 2010 and 2017 (0.75 Mha of primary forest in 2018). The main difference between the two datasets is that PRODES does not record the spike between 2015 and 2016, as slow-moving fires that destroy the understorey of the Amazon were responsible for a degradation of affected parts. See INPE. (2013, Oct). *Metodologia para o Cálculo da Taxa Anual de Desmatamento na Amazônia Legal*. Available at: [http://www.obt.inpe.br/OBT/assuntos/programas/amazonia/prodes/pdfs/metodologia\\_taxaprodes.pdf](http://www.obt.inpe.br/OBT/assuntos/programas/amazonia/prodes/pdfs/metodologia_taxaprodes.pdf) and INPE. (2019). PRODES forest monitoring system. Available at: [http://terrabrasilis.dpi.inpe.br/app/dashboard/deforestation/biomes/legal\\_amazon/rates](http://terrabrasilis.dpi.inpe.br/app/dashboard/deforestation/biomes/legal_amazon/rates)

13. Hansen, M. C., et al. (2013). Data from Global Forest Watch, World Resource Institute. (2017, October). *Global Tree Cover Loss Rose 51% in 2016*. Available at: <https://blog.globalforestwatch.org/data-and-research/global-tree-cover-loss-rose-51-percent-in-2016>; World Resource Institute. *Technical Blog: Comparing GFW's 2017 tree cover loss data to official estimates in Brazil*. Available at: <https://blog.globalforestwatch.org/data-and-research/technical-blog-comparing-gfw-2017-tree-cover-loss-data-to-official-estimates-in-brazil>

14. Hansen, M. C., et al. (2013). Data from Global Forest Watch

15. Harris, N. L., Goldman, E., Gabris, C., Nordling, J., Minnemeyer, S., Ansari, S., ... & Potapov, P. (2017). Using spatial statistics to identify emerging hot spots of forest loss. *Environmental Research Letters*, 12(2), 024012.

16. Mongabay (2017), "Amazon Soy Moratorium: Defeating deforestation or greenwash diversion?" Available at: <https://news.mongabay.com/2017/03/amazon-soy-moratorium-defeating-deforestation-or-greenwash-diversion/>

17. TRASE (2018), "MATOPIBA: Brazil's soy frontier" Available at: <https://medium.com/trase/matopiba-brazils-soy-frontier-9ad4cc6e2d9>

18. Hansen, M. C., et al. (2013).

**Indonesia** contains 3.2% of the world's forest, and with losses of roughly 400,000 ha of tropical primary rainforest in 2018 alone, accounted for 7% of total global deforestation from 2010 to 2017. GFW estimates total loss at 13.7 Mha of forest area, placing Indonesia second only to Brazil in net deforestation by tropical countries.<sup>19</sup>

Local deforestation hot spots are located in Sumatra and Kalimantan, and particularly persistent in Riau (Sumatra) and Central Kalimantan. In recent years, new hot spots driven by plantation forestry and palm oil production have crept over West Kalimantan.<sup>20</sup> These regions saw spikes in deforestation in 2012 and 2016, but have registered sharp declines in 2017 and 2018 – particularly in primary forests.

Indonesia has undertaken major policy initiatives to slow deforestation and degradation. In 2019 the Indonesian government enshrined a permanent moratorium on clearing primary forests. Previously temporary and renewed roughly every two years since 2011, the moratorium protects 66 Mha of primary forest. In September 2018 the Indonesian government also put in place a three-year palm oil moratorium to halt the issuance of new plantation permits. The moratorium applies to new licensing requests as well as any requests that are ongoing and still in the approval process. The moratoriums are a sign of strong top-down action against deforestation, but frequent amendments and a lack of enforcement has diluted their success.<sup>21</sup> Peatland conversion, previously a major cause of ecosystem degradation, has been addressed by the National Peat Drainage Moratorium passed in 2016, increased law enforcement and educational campaigns. Shifts in weather patterns (2017 was a non-El Niño year) also contributed to lessen its degradation. Despite this progress, peatland drainage and primary forest conversion still threaten the Indonesian landscape – companies continue to leverage concession permits secured before these recent political action.<sup>22</sup>

**Malaysia** was responsible for 2% of total global deforestation over 2010 to 2017, with two palm oil-producing states – Sabah and Sarawak – accounting for 56% of all deforestation in the country. The GFW estimates a loss of over 4 Mha of forest area.<sup>23</sup> Forests in Malaysia account for 0.5% of the world's forest.<sup>24</sup> Tree cover loss was concentrated on the island of Borneo where primary forest was reduced by 14% from 2010 to 2017. Deforestation on Borneo only accelerated until 2016, but 2017 saw a major shift, annual forest loss declined to its lowest level since 2004. Besides industrial and smallholder oil palm and wood pulp plantations, urbanization, inherent immigration, infrastructure projects, mining, flooding for dam projects, and fires are considered significant direct drivers of forest loss.<sup>25</sup>

The **DR Congo** currently ranks third in terms of tropical forest conversion. In contrast to deforestation in Brazil and Indonesia, the forest loss in the Congo Basin is mainly a consequence of shifting cultivation – the short-term cultivation of subsistence crops. Small-scale farmers clear forests manually to produce food for themselves and the towns nearby.<sup>26</sup> The cleared forests and additional dedicated timber extraction provide firewood and sawnwood for local markets, and timber for African and overseas export markets.<sup>27</sup> Not surprisingly, deforested areas are situated along road networks. Deforestation threatens intact primary forests and even pierces the boundaries of protected areas like the Sankuru Nature Reserve.<sup>28</sup>

South America's tropical dry forests and savannas are increasingly threatened by commodity-driven deforestation. **The Gran Chaco** is a large biome in South America covering parts of eastern **Bolivia**, northern **Argentina**, western **Paraguay**, and western Brazil. Displacement to the Chaco has led to increasing rates of deforestation due to the expansion of soy production (mainly in Argentina) and cattle ranching (mainly in Paraguay).<sup>29</sup> Paraguay has the sixth-highest rate of deforestation in the world, and this is largely concentrated in the Chaco biome.<sup>30</sup>

19. FAOSTAT 2017 data; World Resources Institute (2019), The World Lost a Belgium-sized Area of Primary Rainforests Last Year. Available at: <https://www.wri.org/blog/2019/04/world-lost-belgium-sized-area-primary-rainforests-last-year>

20. Harris et al. (2017).

21. EIA International (2019). "Indonesia's Moratorium on clearing forests and peatlands now permanent – but excludes vast areas." Available at: <https://eia-international.org/news/indonesias-moratorium-on-clearing-forests-and-peatlands-now-permanent-but-excludes-vast-areas/>

22. World Resources Institute (2018). *Indonesia's Deforestation dropped 60 Percent in 2017, but there is more to do*. Available at: <https://www.wri.org/blog/2018/08/indonesias-deforestation-dropped-60-percent-2017-theres-more-to-do>

23. Forest area greater than 10 percent canopy cover. Data sourced from: Global Forest Watch (2018), *Global Dashboard*. Available at: <https://www.globalforestwatch.org/dashboards/global>

24. FAOSTAT 2017 data

25. Gaveau, D. L., Locatelli, B., Salim, M. A., Yaen, H., Pacheco, P., & Sheil, D. (2019). Rise and fall of forest loss and industrial plantations in Borneo (2000–2017). *Conservation Letters*, 12(3), e12622.

26. Hansen, M. C., et al. (2013).

27. Cerbu, Gillian (Ed.). 2016. *Central Africa Congo Basin Timber*. PROFOR, Washington D.C.

28. Harris et al. (2017)

29. Muller et. al. / Center for International Forestry Research [CIFOR] (2014), *The context of deforestation and forest degradation in Bolivia*. Available at: <https://forestsnews.cifor.org/49057/decoding-deforestation-in-brazil-and-bolivia?fnl=en>

30. Council on Hemispheric Affairs (2017), "The impact of deforestation on Paraguay's Chaco" Available at: <http://www.coha.org/the-impact-of-deforestation-on-paraguays-chaco/>



# New frontiers for deforestation are emerging

High rates of deforestation are no longer confined to a couple of countries. New deforestation hotspots are springing up across the globe, complicating the landscape the fight against deforestation. In 2002 Brazil and Indonesia made up 71% of tropical primary forest loss, in 2018 they accounted for less than half of primary tropical forest loss. Countries such as Colombia, Côte d'Ivoire, Ghana, and the Democratic Republic of the Congo (DR Congo) are increasingly important loci for global tropical deforestation.<sup>31</sup>

From a regional perspective, Latin America continues to have the highest amount of deforestation in absolute terms. After a decade (2005-2015) of intense and successful work to reduce deforestation, recent years have seen a resurgence in deforestation. Between 2015 and 2016 deforestation rates in Latin America were twice the average of the previous decade, an increase of an alarming 116.7% (though still below the average deforestation rate of the 2000s). Deforestation slightly decreased in 2017 in both Latin America and the Caribbean, and East Asia and Pacific (by 6.1% and 27.3% compared to the 2016 figures, respectively).

New frontiers of deforestation are emerging in Sub-Saharan Africa where deforestation increased by 33.9% in 2017 with impacts mostly in primary undisturbed forests. Six of the top ten tropical countries facing the greatest increase in forest loss between 2017 and 2018 were **African**.<sup>32</sup> In **West Africa**, most primary forests have been lost since the second half of the 20th century due to a combination of unsustainable logging, tree crop farming, and slash-and-burn agriculture.<sup>33</sup> Illegal cocoa farming in protected areas has also been a major driver of deforestation in West Africa. The forests of **Côte d'Ivoire**, the largest producer of cocoa in the world (42.6% of total global production) and responsible for around 30% of the world's total cocoa exports, have been most affected by cocoa.<sup>34</sup> Triggered by rising demand for cocoa products, deforestation in Côte d'Ivoire has intensified, growing at an average annual rate of 37% between 2010 and 2017 and recently accelerating. Palm oil is also increasingly grown in the

country. According to WRI Global Forest Watch, **Ghana**, another large cocoa producer, experienced a 60% increase in primary rainforest loss between 2017 and 2018. The northern part of the country, however, is largely covered by savannah, thus this figure does not reflect total deforestation and forest degradation. According to the Forestry Commission, Ghana's forest loss is characterized by incremental degradation as opposed to clear-cut deforestation, and mainly caused by unsustainable land use and management practices. Cocoa is the country's most important commodity. In addition to agricultural expansion, illegal mining is also one of the main causes of deforestation.<sup>35</sup> Timber and fuelwood harvesting, wildfires, and infrastructure development are also believed to contribute to forest degradation.<sup>36</sup>

Around 22% (4.6 Mha) of the world's total area cultivated with oil palm is in Africa.<sup>37</sup> Nigeria has historically been the continent's biggest palm oil producer with between 2 and 3 Mha of cultivated land over the last three decades. However, experts from the Center for International Forestry Research (CIFOR) estimate that the Congo Basin could become the next frontier for palm oil expansion. Production area has increased significantly in the last two decades (40% between 1990 and 2017). The effects of continued palm oil growth could be devastating – the **Congo Basin** spans Cameroon, Central African Republic, DR Congo, Republic of the Congo, Equatorial Guinea, and Gabon and stores 25-30% of the world's tropical forest carbon stocks. DR Congo has historically been the biggest regional producer, with land cultivation ranging between 240,000 ha in the first half of the 1990s to 179,000 ha today. That may soon change. Cameroon has seen land under palm oil cultivation more than double since the first half of the 2000s, rising to 170,000 ha. As of 2017, there were 370,000 ha under palm oil cultivation in the Congo Basin. Troublingly, there are approximately 280 Mha of additional land suitable for palm oil production across **the DR Congo, Cameroon, and The Republic of Congo**, and more than half of this area is located in DR Congo.<sup>38</sup>

31. Forest area greater than 10 percent canopy cover. Data sourced from: Global Forest Watch (2018), *Global Dashboard*. Available at: <https://www.globalforestwatch.org/dashboards/global>

32. World Resources Institute (2019), *The World Lost a Belgium-sized Area of Primary Rainforests Last Year*. Available at: <https://www.wri.org/blog/2019/04/world-lost-belgium-sized-area-primary-rainforests-last-year>

33. Ruf, F., Schroth, G., & Doffangui, K. (2015). Climate change, cocoa migrations and deforestation in West Africa: What does the past tell us about the future?. *Sustainability Science*, 10(1), 101-111.

34. ICCO. (2019, February). *Quarterly Bulletin of Cocoa Statistics, Vol. XLV, No. 1, Cocoa year 2018/2019*. Data sourced in April 2019 from: UN Food and Agriculture Organisation (2019), *FAOSTAT*. Available at: <http://www.fao.org/faostat/en/#data>

35. Satelligence (2019) Cocoa not main cause of deforestation in Ghana. Available at: <https://satelligence.com/news/2019/5/17/cocoa-not-main-cause-of-deforestation-in-ghana>

36. FC Ghana. (2010). *Readiness Preparation Proposal Ghana*. Submitted to Forest Carbon Partnership Facility (FCPF). Final, December 2010. Accra: Forestry Commission of Ghana. Available at <https://theredddesk.org/sites/default/files/Ghana%20R-PP.pdf>. FC Ghana. (2016a). Ghana

REDD+ Strategy. Accra, GH: FC Ghana. Available at <https://www.fcghana.org/userfiles/files/REDD+/Ghana%20REDD+%20Strategy.pdf>

37. FAO. 2017. FAOSTAT statistics database. Accessed 21 January 2019. <http://www.fao.org/faostat/en/#data>

38. Ordway, E.M., Sonwa, D.J., Levang, P., Mborongong, F., Miaro III, L., Naylor, R.L. & Raymond N. Nkongho. (2019, May). *Sustainable development of the palm oil sector in the Congo Basin*. CIFOR inforbrief No. 255. Bogor: IND: CIFOR.

Several **Southern African** countries are particularly concerning. Madagascar, Mozambique, Angola, and Tanzania, already amongst the countries with the highest forest loss (see Exhibit 2 above), experienced deforestation growth rates exceeding 30% in 2016-2017. Data suggests that smallholder farming and connected shifting cultivation are the main drivers.<sup>39</sup> Similarly to DR Congo, deforestation and forest degradation in Southern Africa is increasingly occurring contiguous to population centers, indicating that is primarily driven by local demand for food and fuelwood.<sup>40</sup>

Beyond these new African frontiers, there are emerging hot spots in close proximity to the historic deforestation sites such as the Brazilian Amazon and Indonesian rainforests. Deforestation in Colombia has been increasing rapidly over the past few years, with a massive spike reported in 2017 – over 50% more tree cover was lost in 2017 than 2016 according to data from the GFW.<sup>41</sup> This deforestation has primarily occurred in the **Colombian Amazon**, the site of nearly two-thirds of national forest loss in 2017.<sup>42</sup> Research suggests that post-conflict forest areas that were previously inaccessible to agribusinesses are now open to exploitation. The majority of the deforestation from 2010 to 2015 occurred due to agriculture-related activities. Evidence suggests that, in addition to cattle, coffee, cocoa, and palm oil, illegal coca cultivation and mining are major drivers of deforestation in the country.<sup>43</sup>

The Indonesian provinces of **Papua** and West Papua on the island of New Guinea are considered Indonesia’s ‘last forest frontier.’ As of 2012 they held 38% of Indonesia’s remaining forests.<sup>44</sup> Tree cover loss has spiked in Papua in recent years due to the planned expansion of commodity production (including palm oil). Sustainable production of agroforestry products such as cocoa and rubber has been suggested as an alternative livelihood for local producers.



39. Hansen, M. C., et al. (2013).

40. McNicol, I. M., Ryan, C. M., & Mitchard, E. T. (2018). Carbon losses from deforestation and widespread degradation offset by extensive growth in African woodlands. *Nature communications*, 9(1), 3045.

41. Forest area greater than 10 percent canopy cover. Data sourced from: Global Forest Watch (2018), *Global Dashboard*. Available at: <https://www.globalforestwatch.org/dashboards/global>

42. The Bogota Post (2018). “Deforestation in Colombia: The forest is burning”. Available at: <https://thebogotapost.com/deforestation-in-colombia-the-forest-is-burning/33098/>

43. Expert interviews.

44. World Resources Institute (2018), *Indonesia’s last forest frontier: 3 facts to know*. Available at: <https://www.wri.org/blog/2018/11/indonesias-last-forest-frontier-3-facts-know-about-papua>



## Commodity production has a direct impact on tropical deforestation

While all commodities and biomass products may be associated with deforestation, the reality is that deforestation in tropical areas is mostly driven by a relatively small group of commodities – beef, palm oil, soy, tropical timber, cocoa, wood pulp, rubber, coffee, and other food crops. The repercussion of each of these commodities varies regionally and changes over time. Beef and soy are significant drivers in South America, and palm oil continues to cause areas of forest loss in Southeast Asia (and soon perhaps the Congo Basin). Forestry is mainly driving temperate forest loss, and about 10% of tropical deforestation can be attributed to wood extraction, including wood pulp. Due to the lack of commercially viable substitutes to natural rubber from the Pará rubber tree and a strong global dependence on this commodity, tropical forests – especially in the Mekong region of Southeast Asia – are increasingly threatened by rubber. Coffee and cocoa have relatively lower repercussions on global tropical deforestation, yet outside impacts in individual countries producing large shares of these crops, such as Vietnam (coffee) and Cote d’Ivoire (cocoa). Growing global demand and high sensitivity to climate, potentially shifting production landscapes to currently forested areas may make them increasingly relevant.<sup>45</sup>

The production of each of these eight key tropical commodities is largely concentrated in a few key countries. According to production statistics from the FAO, the top five producers of each of these commodities typically account for the bulk of the total global production, ranging from around 40% for beef, which is more widely produced and not exclusively produced in tropical regions to around 80% for cocoa, palm oil, soy, and rubber, the bulk production of which is undertaken by just two or three countries for each commodity. For soy, more than 80% of total global production is produced by just three countries, USA, Brazil and Argentina (Exhibit 3). The figures for shares of production below are based on raw commodity volumes and exclude intermediary products like soybean meal or cocoa paste.

45. Ovalle-Rivera, O., Läderach, P., Bunn, C., Obersteiner, M., and Schroth, G (2015) Projected shifts in Coffea arabica suitability among major global producing regions due to climate change, PLoS ONE, 10(4).



The livestock sector has been a double-edged sword – it is crucial for food security and poverty reduction, yet directly contributes to the degradation of natural resources and exacerbates climate change. It is estimated that animals are reared on 27% of the world’s ice-free area and 33% of all cropland is devoted to their feed, fueling deforestation and forest degradation as production expands.<sup>46</sup> The production of **beef** is particularly resource-consuming intensive and in Latin America beef production constitutes the main driver of forest conversion. As shown in Exhibit 3, the export share of production of the top 5 producers is rather low (with exception of India), suggesting emissions from forest to pasture conversion are usually related to local consumption.

**Palm oil** is the most widely produced, consumed, and traded vegetable oil – it’s found in about 50% of all packaged goods. The popularity of palm oil stems from its favorable properties, high yields per hectare, and low production costs.<sup>47</sup> For years mainly located in Indonesia and Malaysia, global palm oil production has begun to shift to new production sites in DR Congo, Cameroon, Colombia, Nigeria, and Thailand. Outlooks predict that palm oil output will continue to rise (partly due to enhanced per ha productivity) and that Indonesia and Malaysia will continue to dominate production.<sup>48</sup> Palm oil production is particularly menacing as a source of GHG emissions. Carbon rich peatlands in tropical countries provide optimal growth conditions for palm trees, resulting in deforestation and drainage of peatlands.<sup>49</sup> Peatland drainage alone accounts for 10% of global GHG emissions from agriculture, forestry, and land use.<sup>50</sup>

46. Rivera-Ferre, M. G., López-i-Gelats, F., Howden, M., Smith, P., Morton, J. F., & Herrero, M. (2016). Re-framing the climate change debate in the livestock sector: mitigation and adaptation options. *Wiley Interdisciplinary Reviews: Climate Change*, 7(6), 869-892.

47. ESPO (2017). *Choosing Sustainable Palm oil Progress report on the import and use of sustainable palm oil in Europe*.

48. OECD-FAO (2016). OECD-FAO Agricultural Outlook 2016-2025. Available at: <http://www.fao.org/3/a-i5778e.pdf> (including separate chapter extensions).; FAO. (2019). *Food Outlook - Biannual Report on Global Food Markets*. Rome. Licence: CC BY-NC-SA 3.0 IGO.

49. Kho, L. K., & Jepsen, M. R. (2015). Carbon stock of oil palm plantations and tropical forests in Malaysia: A review. *Singapore Journal of Tropical Geography*, 36(2), 249-266.

50. FAO. (2014) *Towards climate-responsible peatlands management*. Rome, IT: FAO

**EXHIBIT 3**

**TOP-5 PRODUCERS OF SELECTED DEFORESTATION-LINKED COMMODITIES**

Production is extremely concentrated for deforestation-linked commodities

Top 5 producing countries by commodity, globally in 2017 (% of global production volume)

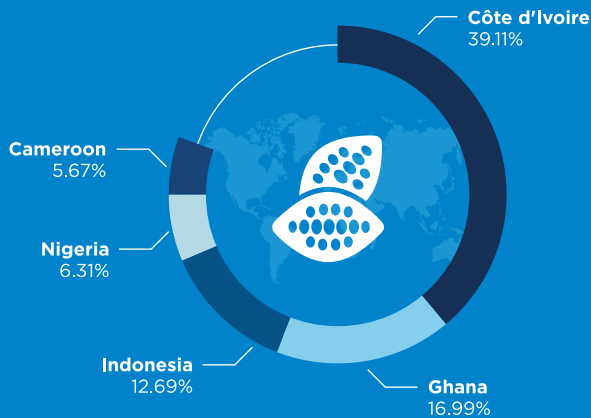
% of total production exported, 2016<sup>A</sup>

● Sub-tropical / tropical

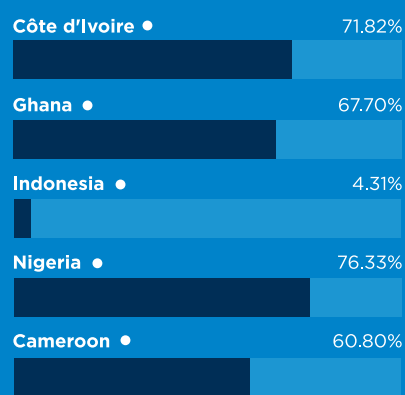
▲ Temperate

**Cocoa**

% OF GLOBAL PRODUCTION VOLUME 2017

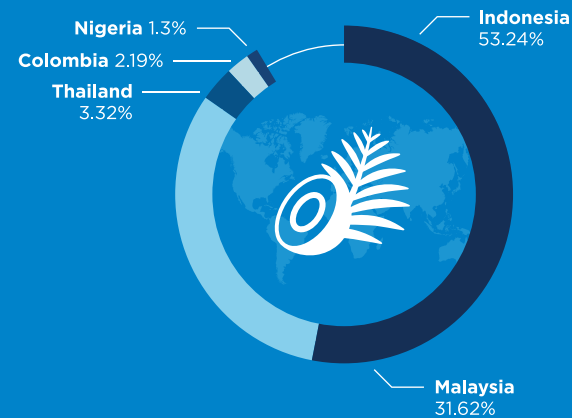


EXPORTS SHARE OF PRODUCTION

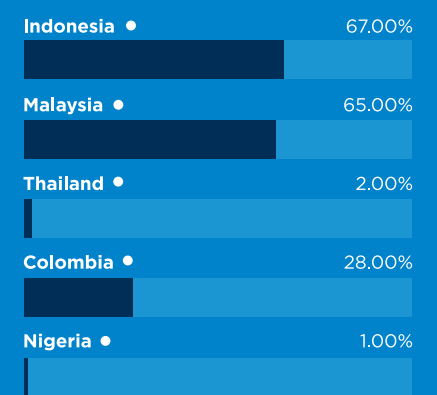


**Palm Oil<sup>B</sup>**

% OF GLOBAL PRODUCTION VOLUME 2017

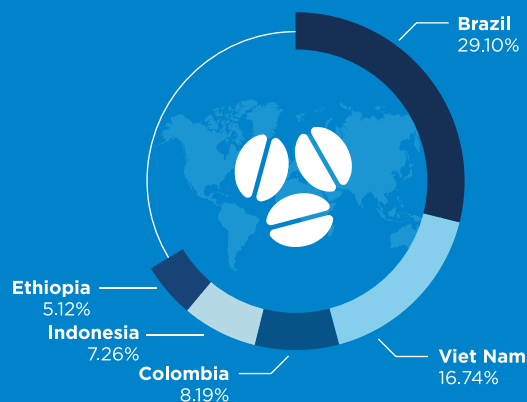


EXPORTS SHARE OF PRODUCTION

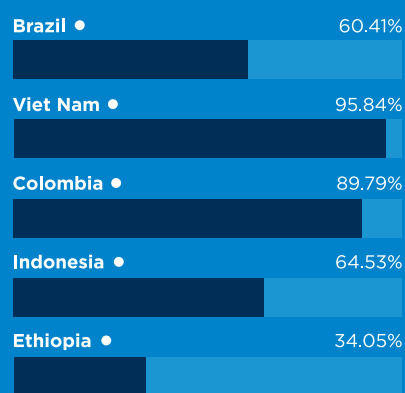


**Coffee**

% OF GLOBAL PRODUCTION VOLUME 2017

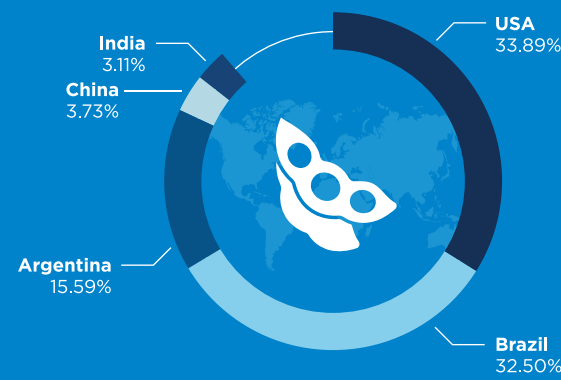


EXPORTS SHARE OF PRODUCTION

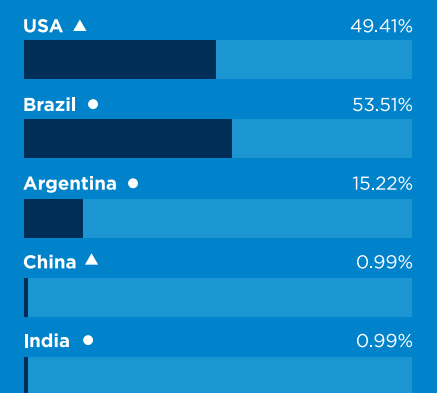


**Soy<sup>C</sup>**

% OF GLOBAL PRODUCTION VOLUME 2017



EXPORTS SHARE OF PRODUCTION

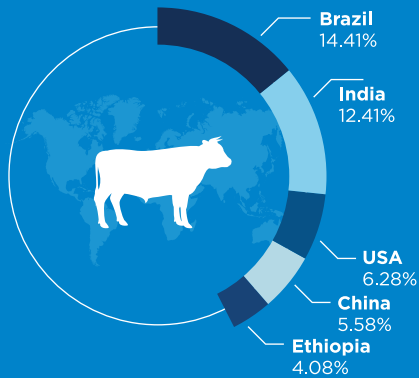


(A) Export data includes re-exports. (B) Palm oil data is forecasted for 2017, using trend data from 2010-14. (C) Soy production is represented by soybean. (D) Beef production data is represented by all bovine heads. Export data is represented by bovine meat only due to lack of aggregated dairy exports data. (E) Rubber production data is represented by natural dry rubber. (F) Latest available data for tropical timber is 2016. (G) Refers to mainland China  
 Source: FAO; USDA; ITTO; AlphaBeta and COWI A/S analysis

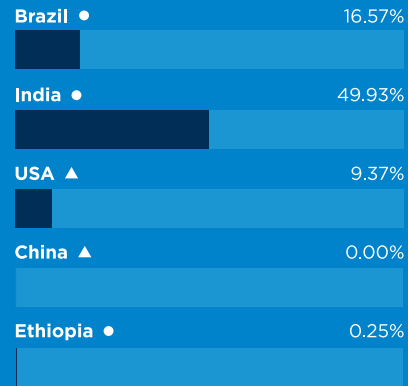


## Beef<sup>D</sup>

% OF GLOBAL PRODUCTION VOLUME 2017

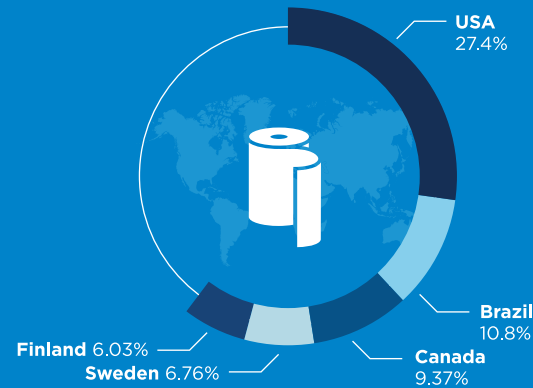


EXPORTS SHARE OF PRODUCTION



## Wood Pulp

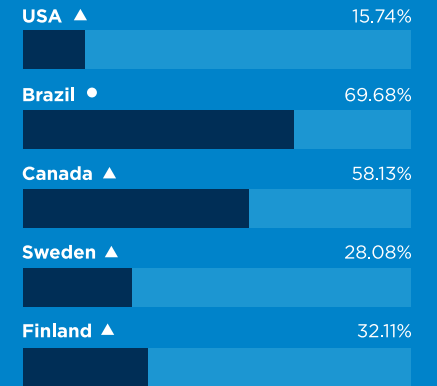
% OF GLOBAL PRODUCTION VOLUME 2017



% of total production exported, 2016<sup>A</sup>

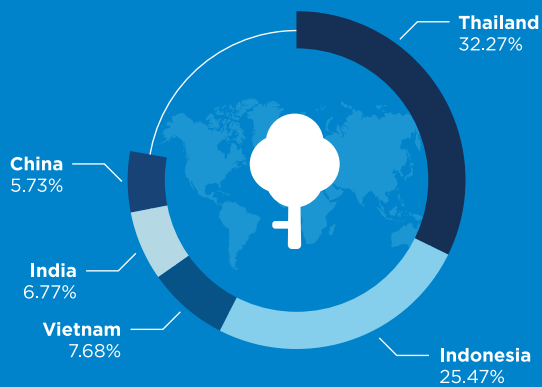
- Sub-tropical / tropical
- ▲ Temperate

EXPORTS SHARE OF PRODUCTION

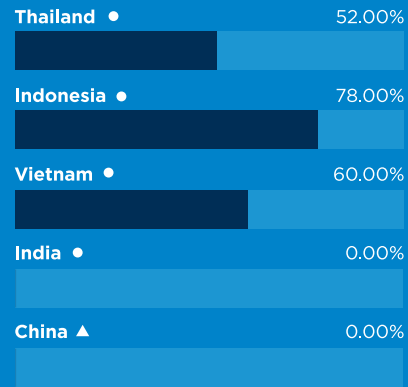


## Rubber<sup>E</sup>

% OF GLOBAL PRODUCTION VOLUME 2017

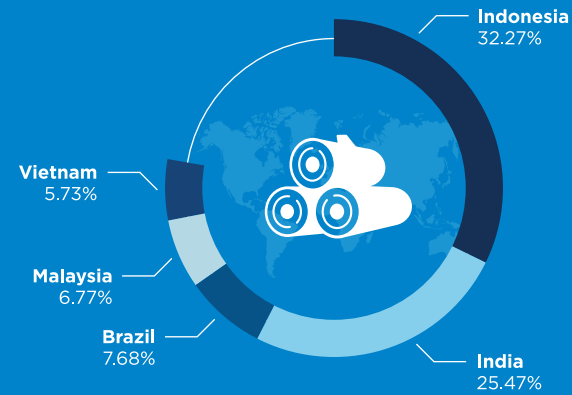


EXPORTS SHARE OF PRODUCTION

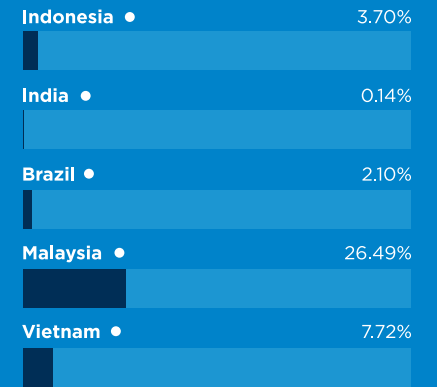


## Tropical Timber<sup>F</sup>

% OF GLOBAL PRODUCTION VOLUME 2017



EXPORTS SHARE OF PRODUCTION



(A) Export data includes re-exports. (B) Palm oil data is forecasted for 2017, using trend data from 2010-14. (C) Soy production is represented by soybean. (D) Beef production data is represented by all bovine heads. Export data is represented by bovine meat only due to lack of aggregated dairy exports data. (E) Rubber production data is represented by natural dry rubber. (F) Latest available data for tropical timber is 2016. (G) Refers to mainland China  
 Source: FAO; USDA; ITTO; AlphaBeta and COWI A/S analysis

Another oil crop with a steep production curve over the past 20 years is **soy**. Apart from the bean's richness in oils, soy has become popular due to high protein levels and its ability to fix nitrogen (reducing the need for fertilizer input).<sup>51</sup> With the USA, Brazil, and Argentina leading production, the majority of soy production occurs in the Americas. In South America, the ongoing practice of double cropping soybean and maize is expected to raise output through more intensive land-use of already cultivated land.<sup>52</sup> Advances in farming methods rendered tropical soils suitable for soy cultivation, turning Brazil into a leading producer country and increasing deforestation.

Natural **rubber** is produced from the rubber tree, which is mainly harvested in tropical South East Asia. Rubber has major applications in the car industry, consumer goods, manufacturing, and medical industries, and is also a major driver of deforestation. Natural rubber has been designated a critical raw material for the EU economy due to 100% dependency on imports and the lack of readily available substitutes.<sup>53</sup>

Compared to other commodities in this report, coffee and cocoa contribute less to global forest loss. Both commodities, however, experienced increasing demand and are sensitive to climate change, possibly resulting in future relocation of current production sites and resulting risks of deforestation.<sup>54</sup> **Cocoa** is mainly produced in West Africa. Four of the five top producing countries are from that region and account for 68.1% of the total production. However, growing demand for cocoa and stress factors such as crop diseases, pests, extreme weather events, and political instability have resulted in reduced production in West Africa in recent years. These factors gave rise to increased production in Indonesia and South America, and associated deforestation in their tropical rainforests. Brazil, Ecuador, and Peru rank 6-8 on the list of top producers and jointly produce roughly 10% of cocoa. They could gain importance as producers in the coming decades.<sup>55</sup>

Brazil is the leading producer of **coffee**, producing 3.9 million tonnes (74.4% of which was Arabica) in 2018/2019.<sup>56</sup> Compared to Robusta coffee, Arabica is less stress resilient but considered higher quality.<sup>57</sup> Vietnam (second in terms of production volume ca. 1.5 million t in 2017) experienced a tremendous growth in coffee production in the wake of the green revolution and social resettlement policies in the late 1980's.<sup>58</sup> The rapid expansion of the coffee sector was catalyzed by Vietnam's niche production of Robusta coffee (97% of Vietnam's coffee production). Farmers from the provinces in the Central Highlands alone cultivate 86% of the country's total production.<sup>59</sup> Like cocoa, coffee can be shade-grown, limiting impact on deforestation but lowering yields than sun-grown cultivation. Shaded cultivation has contributed to tropical forest protection in countries like Ethiopia.<sup>60</sup>

Wood products comprise sawnwood and panels for furniture and construction, wood pulp for paper and tissues, and woody biomass for energy generation. Conventional management of tropical forests likely leads to forest degradation and makes forests more vulnerable to future damage. Forest plantations accounted for 10.2% of overall forest loss in the tropics.<sup>61</sup> **Wood pulp** is becoming increasingly important, with e-commerce driving demand for paper-based packaging. As shown in the figure above, wood pulp is mainly sourced from temperate forests. Apart from Brazil, which produces 11% of global volume, Indonesia (4%) is the second largest tropical provider of the commodity. In Brazil paper plantations tend to occupy former pastureland, reducing their impact on deforestation. In Indonesia, fast wood plantations for pulp and paper are considered a main driver for forest loss, second to palm oil.<sup>62</sup>

51. [UCUSA] Union of concerned scientists USA (2016). Deforestation – Soybeans. Available at: <http://www.ucsusa.org/global-warming/stop-deforestation/drivers-of-deforestation-2016-soybeans#WJm3EU2QyUk>

52. OECD/FAO (2019). OECD-FAO Agricultural Outlook 2019-2028. OECD Publishing, Paris/Food and Agriculture Organization of the United Nations, Rome. [https://doi.org/10.1787/agr\\_outlook-2019-en](https://doi.org/10.1787/agr_outlook-2019-en)

53. EU. (2017). *Study on the review of the list of Critical Raw Materials. Critical raw materials Factsheets*. Bio-based alternatives have been explored, including from dandelion and guayule, but none are commercially viable yet.

54. Kroeger, A., Bakhtary, H., Haupt, F., & Streck, C. (2017). Eliminating deforestation from the cocoa supply chain; Killeen, J. T., & Harper, G. (2016). Coffee in the 21st century, will climate change and increased demand lead to new deforestation (Research Paper). New York: Conservation International.

55. Kroeger, A., Bakhtary, H., Haupt, F., & Streck, C. (2017). Eliminating deforestation from the cocoa supply chain.

56. Marketing year from July to June. Source: ATO/Sao Paulo

57. Bunn, C., Läderach, P., Rivera, O. O., & Kirschke, D. (2015). A bitter cup: climate change profile of global production of Arabica and Robusta coffee. *Climatic Change*, 129(1-2), 89-101.

58. Data sourced in April 2019 from: UN Food and Agriculture Organisation (2019), *FAOSTAT*. Available at: <http://www.fao.org/faostat/en/#data>

59. Thurston, R. W., Morris, J., & Steiman, S. (Eds.). (2013). *Coffee: A comprehensive guide to the bean, the beverage, and the industry*. Rowman & Littlefield Publishers.

60. Hylander, K., Nemomissa, S., Delrue, J., & Enkosa, W. (2013). Effects of coffee management on deforestation rates and forest integrity. *Conservation biology*, 27(5), 1031-1040.

61. Hansen, M. C., et al. (2013).

62. Elias, P. & Doug Boucher. (2014, October). *Planting for the Future How demand for Wood Products Could Be Friendly to Tropical Forests*. Tropical Forest and Climate Initiative of the Union of Concerned Scientists.





Long-rotation hardwood plantations have severe economic limitations, making selective logging in natural forests the common practice for **tropical timber** production. If not done sustainably, selective logging can cause severe damage to the adjacent trees, facilitating near-term clearing of the entire forest. In the Brazilian Amazon, 16% of selectively logged forests are entirely cleared within a year.<sup>63</sup> Brazil's tropical timber production is concentrated in the northern states Pará, Amazonas, and Mato Grosso. Despite the geographical and resource constraints to effectively combat illegal logging, the Brazilian government has made progress towards increased sustainable forest management.<sup>64</sup> Besides Brazil, major tropical log producers are located in Southeast Asia and produce mostly for domestic markets. Malaysia is an exception, exporting mainly to India and Indonesia. Indonesia is the main producer of tropical timber, fueled by land clearing for plantations for pulp and paper or palm oil, and illegal logging. Indonesian authorities are challenged by illegal logging practices, which are estimated to account for 60% of all timber harvested in Indonesia. Dominating global imports, China receives tropical timber mainly from the Solomon Islands and Papua New Guinea, as well as several African countries including Equatorial Guinea, Mozambique, Cameroon and Nigeria.<sup>65</sup>

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63. Elias, P. & Doug Boucher. (2014, October). *Planting for the Future How demand for Wood Products Could Be Friendly to Tropical Forests*. Tropical Forest and Climate Initiative of the Union of Concerned Scientists.

64. ITTO. (2018). *Biennial review and assessment of the world timber situation 2017-2018*. Yokohama, JP: International Tropical Timber Organization.

65. ITTO. (2018). *Biennial review and assessment of the world timber situation 2017-2018*. Yokohama, JP: International Tropical Timber Organization.



## Analyzing the production in the different countries illustrates three key trends:



*Countries are production hubs for multiple key commodities*

Brazil and Indonesia are key producer countries that account for a large share of global production in multiple commodities. Brazil is the world's largest producer of coffee (29% of global production) and soy (36%), and the largest tropical producer of beef (14%) and wood pulp (11%). Indonesia is a key producer of palm oil (53% of global production in 2017) and rubber (25%), as well as cocoa and wood pulp. Similarly, India (soy, beef, wood pulp, and rubber), Colombia (coffee, palm oil, and beef), and Argentina (soy and beef) all produce a variety of the key deforestation-linked commodities. A cross-commodity focus is crucial for engaging with many of these key producer countries.



*Production is highly concentrated, even within producer countries*

Over 50% of global production for each of the crop commodities and rubber occurs in just five countries. Palm oil production exhibits the highest concentration – with 85% of global production concentrated in just Indonesia and Malaysia in 2017. The concentration of production is also mirrored at the subnational level.<sup>66</sup> For instance, the island of Sumatra produced over half of Indonesia's palm oil in 2016, and the Sumatran province of Riau alone produced around 13% of global palm oil. Brazil's Minas Gerais accounts for 62% of national coffee production or 21% of the world's supply. Mato Grosso produces 28% of Brazil's soy or 8% of the world's total. Bas-Sassandra and Gôh-Djiboua in Cote d'Ivoire account for 62% of national production or over 20% of global cocoa production.<sup>67</sup> Beef is less concentrated due to local consumption or regional trade, but Brazil's importance as a source of beef production is growing. On the one hand, the production of agricultural commodities is crucial for the economic growth of tropical countries, as export is an attractive option. On the other hand, allow the growing global hunger for commodities to be satisfied by a small number of tropical regions could have unintended consequences. The combined commodities put enormous pressure on their biodiversity-rich and sensitive ecosystems, and the people who inhabit them.<sup>68</sup>

66. Data sourced from: Tropical Forest Alliance and AlphaBeta (2019), A "commodity-first" approach to identifying landscapes for private sector engagement [forthcoming].  
 67. Data sourced from: Tropical Forest Alliance and AlphaBeta (2019), A "commodity-first" approach to identifying landscapes for private sector engagement [forthcoming].  
 68. Trase (2018), *Trase Yearbook 2018, Sustainability in forest-risk supply chains: Spotlight on Brazilian soy*, <https://yearbook2018.trase.earth/>. Transparency for Sustainable Economies, Stockholm Environment Institute and Global Canopy.



*Strong export orientation*

There is a high degree of export orientation in the production of all commodities, but especially the crop commodities. This indicates that commodity demand is largely driven by overseas markets. Conversely, rapid growth in emerging markets such as Indonesia and Brazil are resulting in significant shares of production being directed to satisfy local or intra-regional demand. Vietnam and Colombia export nearly all of their coffee production – in Vietnam 96% of production was grown for overseas markets in 2016. Apart from Indonesia, all top producers of cocoa export more than two thirds of their production. Similar to the situation of palm oil in Indonesia and Malaysia. For soy, the two top producers, USA and Brazil, export around half of their production. With the exception of India, beef producers have reduced export shares as a result of increased local production in overseas economies and growing local consumption. All top tropical producers of wood pulp except India exported around 70% or more of their domestic production.<sup>69</sup>

69. Wood pulp figures (rather than just tropical timber) are used in this analysis due to the broader coverage of deforestation-related commodities such as packaging.



# 2

## Approaches to promote sustainable commodity production

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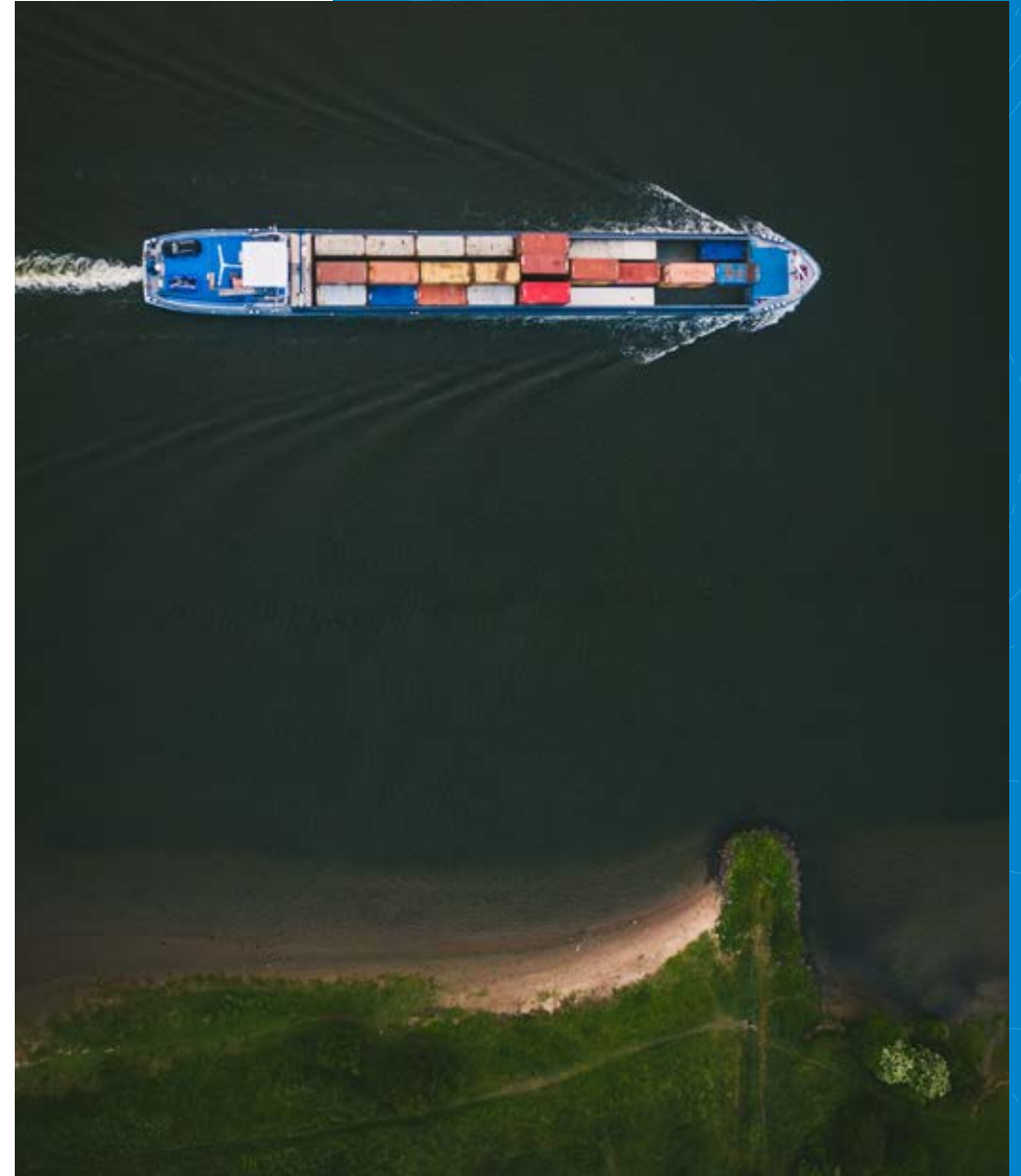
This chapter provides an overview of approaches to reforming industry practices in the eight key agricultural commodities. It includes a range of tools including voluntary sustainability standards, private sector schemes, and government programs. The production of certified, sustainable, or responsible commodities varies widely by commodity and producer country. For the most part demand for certified sustainable commodities remains a small fraction of overall market demand. Private sector efforts to reduce deforestation through voluntary commitments – so-called “zero-deforestation” or “No deforestation, no peat, no exploitation (NDPE)” commitments – have lagged behind targets. To seriously address deforestation driven by commodity production, sustainable production practices must be supported and strengthened.





## Supply chain actions are driven by the private sector, third-party standards, and cross-sector collaboration

Supply chain companies globally are seeing the value in moving towards sustainable sourcing and production. Both changing consumer demand and the reduced risk of sustainable supply chains are catalyzing supply chain shifts. Many private sector actors have pledged support for tackling deforestation in their supply chains, but action still lags. Companies must accelerate programs like sustainable sourcing and sustainable production work with smallholder farmers. Cross-sector collaboration is increasingly used to address problems around unsustainable production practices, often complementing existing or new standards or certifications. This section first discusses the different efforts employed by actors along the supply chain to address deforestation. Then it presents the various approaches to sustainable commodity production across the eight commodities covered by this report. Finally, it discusses where current efforts fall short and how these could be improved.





# A range of actors including the private sector, NGOs, research organizations, and governments are working to reimagine supply chains, but challenges related to transparency, data availability, and cost stymie efforts.

**Sustainable production and certification standards and roundtables** refer to the different standards that exist for producing certified version of the different commodities. Each commodity's standards and certification schemes differ, and each has its own definition of what sustainable or responsible production entails. Fairtrade, Rainforest Alliance, and the Forest Stewardship Council (FSC) are some of the best-known certification schemes. Data indicate progress in sustainable production of most commodities (where data is available), but the share of certified sustainable products varies greatly between commodities.<sup>70</sup> Multi-stakeholder roundtables have also been developed to address unsustainable production practices. These are voluntary environmental programs developed by industry and civil society defining social, environmental, and economic guidelines for production<sup>71</sup>. Often, these include certification programs, as is the case for the Roundtable for Sustainable Palm Oil (RSPO) and the Round table on Responsible Soybeans (RTRS).

**Private sector standards and programs** are efforts by private-sector companies to address unsustainable aspects of production within the company's value chain. Several industries have company-led programs, such as Cefetra's Responsible Soy program (CRS) or Nespresso's Triple A standard. The use of these hybrid forms of sustainability governance has proliferated in recent years, increasingly led by large, private sector actors.<sup>72</sup>

**Sector coalitions or platforms** are partnerships between different actors in a sector, such as producers, intermediaries and retailers, as well as civil society and governments, to address problems facing the sector (for example living wage or deforestation). These coalitions are increasingly common ways of addressing questions of sustainable commodity production. Examples include the Global Coffee Platform, the Cocoa & Forests Initiative, or the Soft Commodities Forum.

**Supply chain and commodity platforms** are platforms established by non-profits to help private sector firms identify and address deforestation risks in their supply chains. The World Resources Institute launched Global Forest Watch Pro (GFW Pro) in 2019, which has already gained traction with industry and provides tools for companies to identify, quantify, and address their exposure to deforestation.<sup>73</sup> Private-sector platforms, notably the Starling project launched by Nestlé in collaboration with Airbus and the Earthworm Foundation, signal that data-driven efforts are increasingly being utilized to address deforestation and implement private-sector programs.

70. Data on sustainable production of key tropical commodities in producer countries is generally limited, and there is no consolidated source of information on responsible production, as there is for overall production.

71. Rachael D Garrett, Kimberly M Carlson, Ximena Rueda and Praveen Noojipady (2016) Assessing the potential additionality of certification by the Round table on Responsible Soybeans and the Roundtable on Sustainable Palm Oil, Environmental Research Letters, Volume 11, Number 4. <https://iopscience.iop.org/article/10.1088/1748-9326/11/4/045003>

72. Ponte, S. (2019). Business, Power and Sustainability in Global Value Chains. Zed Books.

73. The Global Forest Watch Pro was launched in June 2019. It is an online management platform, which can be used to identify if current sourcing areas have been deforested recently, already used by more than 80 commodity-producing companies and organizations to monitor and track progress and demonstrate compliance with their commitments to reduce deforestation. For more information, see: <https://pro.globalforestwatch.org/>.

**Traceability and supply chain data systems** – which allow supply chain actors to trace the source of all products – aid in the growth of sustainable production and sourcing. The presence of information and traceability on upstream products in supply chains enables purchasers to be sure that their imports meet sustainable sourcing requirements. Though it is theoretically feasible to trace most commodities to their origin, achieving full traceability is very difficult.<sup>74</sup> Trase, a platform developed by the Stockholm Environment Institute attempts to address this challenge, using multiple independent datasets to “triangulate” flows of traded commodities from regions of production to countries of import.<sup>75</sup> Companies need access to comprehensive, reliable, and timely data on sustainable sourcing performance to measure, report, and verify progress on reducing deforestation. These programs help ensure that the company and its suppliers fulfill their commitments. Several companies have implemented auditing and code of conduct systems to ensure commodities are produced and sourced sustainably.



74. For example, Golden-Agri Resources (GAR) took nearly two years to complete the first phase of supply chain mapping to the level of the individual palm oil mill. Daniel Prakarsa (2016), “Supply Chain Traceability Key to Fulfilling Sustainability Promises”. Available at: <https://sustainable-brands.com/read/supply-chain/supply-chain-traceability-key-to-fulfilling-sustainability-promises>

75. Trase has been developed by the Stockholm Environment Institute and Global Canopy. It is an online supply-chain tracking tool which use publicly available data to map the flow of commodities from the places of production via trading companies to the final consumers. It can be used to identify the companies bringing commodities to consumers, thus holding them accountable if deforestation occurs in their sourcing regions For more information, see: <https://trase.earth/>



## Voluntary sustainability standards and private-sector programs are frequently used to ensure sustainable commodity production

Sustainable, certified, or responsible production of agricultural commodities is mostly through voluntary sustainability standards. To be clear, certified does not necessarily mean sustainable, and not all standards are equally strict in defining and ensuring sustainability requirements. Not all standards guarantee deforestation-free production, and many don't address every sustainability aspect – like whether workers are paid a “living wage” or pollution of waterways is prevented. There is often an inverse relationship between how stringent a standard is and how frequently it is adopted.<sup>76</sup> While certification schemes and standards are an important step towards achieving sustainable production, certification can also not address off-farm deforestation, and usually works with front running farmers. Currently, most actors rely on different standards to address such concerns, but increasingly pilot alternative approaches with greater potential for scaling. Below, we outline the main standards and programs used by actors along the value chain to achieve sustainable production for the different commodities.

Adoption of the different certification standards varies widely by commodity and producer country, but in general demand for sustainable and/or certified commodities remain a small part of overall market demand. For many commodities and standards, demand for certified commodities is significantly lower than supply, meaning that farmers and producers are forced to sell sustainably produced commodities without the price premium normally awarded for such products. Production costs are normally higher for sustainable commodities, further disincentivizing the production of much-needed deforestation-free sustainably produced commodities.

76. Garrett et al. (2016)



# Sustainable production is currently limited across the key deforestation-linked commodities

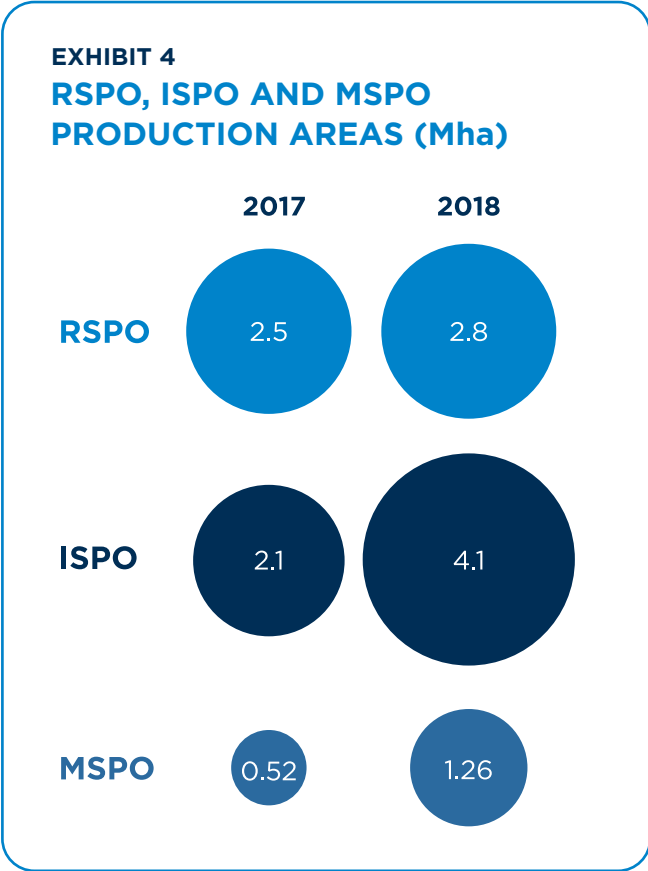
The Roundtable for Sustainable Palm Oil (RSPO) is the main international certifying organization for **palm oil**, and maintains data on certified production volumes. Indonesia and Malaysia also promote certified production through the Indonesian Sustainable Palm Oil (ISPO) and Malaysian Sustainable Palm Oil (MSPO) standards. The latter two are nation-wide legal stepping-stones to regulate producers and a basis for implementing sustainable production practices.

The three standards cover similar aspects of palm oil production, such as legality, environmental protection, and social consideration, but ISPO and MSPO have fewer criteria than RSPO. The difference in coverage is partly a result of scope. MSPO and ISPO were designed especially to facilitate the inclusion of smallholder farmers, who face challenges meeting the more rigorous requirements of RSPO.

RSPO has stronger criteria for auditing and transparency. On environmental aspects, RSPO has relatively comprehensive criteria for environmental impact assessment (EIA), while the two national standards rely on comparatively lenient national legislation for these matters. Similarly, RSPO is the only standard of the three to apply a High Conservation Value approach (placing more value on key ecosystems) and it has the strongest biodiversity criteria. The standards also use different definitions of what “forest” and “deforestation” constitute.<sup>77</sup> As a

consequence, MSPO does not prohibit deforestation, just open burning of land after clearing.<sup>78</sup> The use of “Free, Prior, and Informed Consent” (FPIC) is not mentioned by ISPO, while MSPO requires recording of FPIC and RSPO provides detailed guidelines.<sup>79</sup> An update of RSPO in 2018 has strengthened its deforestation, biodiversity, and assurance criteria compared to other mainstream standards, including MSPO and ISPO.<sup>80</sup> RSPO encourages members to make voluntary commitments to avoid planting on peatlands, but does not prohibit the practice, while ISPO and MSPO allow this.

Production of palm oil under different standards has increased in recent years. In 2018, 19% of the world’s supply was RSPO-certified, although this proportion largely remained constant from 2014 to 2018.<sup>81</sup> Production adhering to MSPO and ISPO has grown, due to a push from the countries’ respective authorities. ISPO is already mandatory for all palm oil production in Indonesia, while MSPO will be mandatory by the end of 2019. In 2017 a total of 2.5 Mha of palm oil plantation was certified under RSPO, 2.1 Mha under ISPO, and 0.52 Mha under MSPO.<sup>82</sup> In 2018, 2.8 Mha were certified under RSPO and 1.26 Mha under MSPO.



77. EFCEA (2015), *Comparison of the ISPO, MSPO and RSPO standards*. Available at: [https://www.sustainablepalmoil.org/wp-content/uploads/sites/2/2015/09/Efeca\\_PO-Standards-Comparison.pdf](https://www.sustainablepalmoil.org/wp-content/uploads/sites/2/2015/09/Efeca_PO-Standards-Comparison.pdf)

78. See more on the MPOCC website: <https://www.mpocc.org.my/part-3-plantations-organised-smallh>

79. EFCEA (2015), *Comparison of the ISPO, MSPO and RSPO standards*. Available at: [https://www.sustainablepalmoil.org/wp-content/uploads/sites/2/2015/09/Efeca\\_PO-Standards-Comparison.pdf](https://www.sustainablepalmoil.org/wp-content/uploads/sites/2/2015/09/Efeca_PO-Standards-Comparison.pdf)

80. IUCN NL (2019) *Setting the biodiversity bar for palm oil certification*. Amsterdam: IUCN National Committee of the Netherlands. [https://www.iucn.nl/files/publicaties/iucn\\_nl\\_setting\\_the\\_biodiversity\\_bar\\_for\\_palm\\_oil.pdf](https://www.iucn.nl/files/publicaties/iucn_nl_setting_the_biodiversity_bar_for_palm_oil.pdf)

81. Roundtable for Sustainable Palm Oil [RSPO] 2019, *RSPO Impact Report 2018*. Available at: <https://rspo.org/key-documents/impact-reports>

82. ESPO (2019) *CHOOSING SUSTAINABLE PALM OIL*. Progress report on the import and use of sustainable palm oil in Europe.





The Roundtable on Responsible Soy (RTRS) and ProTerra certification were the first **soy**-related standards, though international standards for soy certification have proliferated. RTRS, International Sustainability and Carbon Certification (ISCC), ProTerra, trader schemes like Cargill's Triple S, and farmer schemes such as Coamo from Brazil are among the better known, and each has a different definition of sustainable production. Within the soy sector the European Feed Manufacturers' Federation (FEFAC) soy sourcing guidelines (SSG) benchmark has provided a baseline for responsible soy across the plethora of available schemes and standards.

Soy production compliant with the FEFAC-SSG has not reached substantial scale in key Latin American producer countries. FEFAC-SSG compliant soy accounted for just 6% of global production volumes.<sup>83</sup> Of the 18 FEFAC-SSG compliant standards, just eight are 'verified deforestation free'.<sup>84</sup>

83. IDH & IUCN NL (2019), *European Soy Monitor - Insights on the European supply chain and the use of responsible and deforestation-free soy in 2017*. Available at: <https://www.idhsustainabletrade.com/uploaded/2019/04/European-Soy-Monitor.pdf>

84. Kusumaningtyas, R. and JW van Gelder (2019) *Setting the bar for deforestation free soy in Europe*. Amsterdam: Profundo. [https://www.iucn.nl/files/publicaties/setting\\_the\\_bar\\_for\\_deforestation\\_free\\_soy\\_190606\\_final.pdf](https://www.iucn.nl/files/publicaties/setting_the_bar_for_deforestation_free_soy_190606_final.pdf)



### Brazil

accounted for roughly 80% of global Round Table for Responsible Soy (RTRS) certified soy production in 2017, despite FEFAC-SSG compliant soy accounting for only 5% of Brazil's national production.<sup>85</sup>



### Argentina

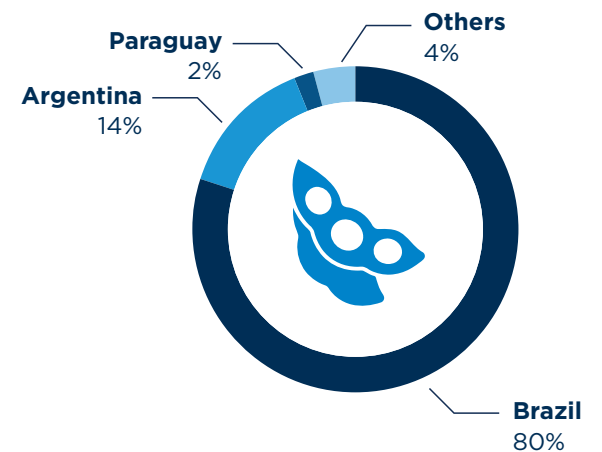
produced 14% of global RTRS certified soy in 2017 with FEFAC compliant soy accounting for roughly 2% of national volume.



### Paraguay

produced 2% of global RTRS certified soy, equal to around 1% of national production.

**EXHIBIT 5  
ORIGIN OF RTRS CERTIFIED SOY**



Source: RTRS (2019), *Certified Volumes and Producers*. Available at: [www.responsiblesoy.org/mercado/volumenes-y-productores-certificados/?lang=en](http://www.responsiblesoy.org/mercado/volumenes-y-productores-certificados/?lang=en)

85. RTRS (2019), *Certified Volumes and Producers*. Available at: [www.responsiblesoy.org/mercado/volumenes-y-productores-certificados/?lang=en](http://www.responsiblesoy.org/mercado/volumenes-y-productores-certificados/?lang=en)

It should be noted that the amount of deforestation-free soy imported exceeds the amount of responsible soy – deforestation-free soy does not take sustainable agricultural practices into account. All soy from the Amazon could be considered deforestation free due to the Moratorium, as well as all soy from the United States, Canada, and Europe.

For **cocoa**, UTZ, the Rainforest Alliance, and Fairtrade certification schemes are the key standards<sup>86</sup>. Production of cocoa certified under one of these schemes was estimated at about 30% in 2018.<sup>87</sup> UTZ and the Rainforest Alliance recently merged to become one standard. They are currently updating certification requirements, working to incorporate deforestation considerations among other changes. Depending on the standard, between 20% and 60% of cocoa that is produced as certified does not get sold as certified<sup>88</sup>.

In addition to the known cocoa-related standards, several private sector initiatives led by large confectionary groups with the support of key producer countries have been established to promote sustainable production. Some companies have introduced 100% certification commitments, while other companies are developing their own in-house sustainability programs. Mondelēz’s Cocoa Life program replaced their Fairtrade certification in Ghana.

The aim of sustainable cocoa production is not only about reducing deforestation but is more broadly linked to improving productivity and livelihoods of cocoa farmers in impoverished production landscapes, which in itself may reduce deforestation pressure. The impact of these initiatives on sustainable cocoa production is yet to be evaluated. A sharp price decline in global cocoa markets, however, may impact future sustainable production as certified cocoa is more expensive to produce.<sup>89</sup> The Ghana and Cote d’Ivoire governments recently announced a floor price for cocoa aimed at alleviating such concerns for producers. They have the support of major cocoa buyers including Cargill, Mars, and Lindt.

For **coffee**, UTZ, Rainforest Alliance, and Fairtrade are the most widely recognized standards while organic (which include both national standards of producer countries and certification according to end-market, e.g. US and EU), is also used within coffee. The largest standard in terms of volume is the multi-stakeholder, industry-led 4C (Common Code for the Coffee Community). Two large company programs – Nestle AAA and Starbucks C.A.F.É. Practices – are widely used due to their market share, but several additional company programs to focused on value-chain sustainability exist within the sector. Sustainable production of coffee certified under a range of standards constituted 40-55% of global production in 2017, depending on the amount of double- and triple certified coffee.<sup>90</sup> Problematically, only around half of the coffee produced according to a standard is sold as such (around 20% of global production). This may



86. KIT Royal Tropical Institute (2019), *Demystifying the Cocoa Sector in Ghana and Côte d'Ivoire*. Available at: <https://www.kit.nl/project/demystifying-cocoa-sector/>

87. Antonie Fountain and Friedel Huetz-Adamas (2018), *Cocoa Barometer*. Available at: [http://www.cocoabarometer.org/cocoa\\_barometer/Download\\_files/2018%20Cocoa%20Barometer%20180420.pdf](http://www.cocoabarometer.org/cocoa_barometer/Download_files/2018%20Cocoa%20Barometer%20180420.pdf)

88. Cocoa Antonie Fountain and Friedel Huetz-Adamas (2018), *Cocoa Barometer*. Available at: [http://www.cocoabarometer.org/cocoa\\_barometer/Download\\_files/2018%20Cocoa%20Barometer%20180420.pdf](http://www.cocoabarometer.org/cocoa_barometer/Download_files/2018%20Cocoa%20Barometer%20180420.pdf)

89. Antonie Fountain and Friedel Huetz-Adamas (2018), *Cocoa Barometer*. Available at: [http://www.cocoabarometer.org/cocoa\\_barometer/Download\\_files/2018%20Cocoa%20Barometer%20180420.pdf](http://www.cocoabarometer.org/cocoa_barometer/Download_files/2018%20Cocoa%20Barometer%20180420.pdf)

90. Sjoerd Panhuysen & Joost Pierrot (2018), *Coffee Barometer 2018*. Available at: <https://www.hivos.org/assets/2018/06/Coffee-Barometer-2018.pdf> and Grabs, J. (2018). Assessing the institutionalization of private sustainability governance in a changing coffee sector. *Regulation and Governance*, (July). <https://doi.org/10.1111/rego.12212>





stymie growth in certification as farmers must invest in certification without a guarantee that they will receive the premium. Sustainability commitments in terms of certified volumes are few in the coffee sector but several companies have commitments relying on internal sustainable sourcing programs. Investment in sustainability efforts is estimated to be USD 350 million annually, just a fraction of the annual USD 200 billion coffee market.<sup>91</sup>

The various coffee standards generally have a much broader focus than just reducing deforestation, with great variety between standards. Adaptation of production practices to climate change is a particularly important issue, as changing temperatures will make large parts of the currently farmed land unsuitable for coffee production. This along with growing global demand for coffee leads to a risk of coffee farms moving into new areas, especially high altitude pristine forests suitable for Arabica coffee, the variety most at risk from changing temperatures. Agroforestry production techniques utilizing shade trees can also play a key role in adaptation and reforestation projects, such as Nespresso's Positive Cup project which operates in Indonesia, Ethiopia, Colombia, and Guatemala.<sup>92</sup>

Certification of **forestry products** in the tropics involves two main global certification systems: the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC). Sustainable tropical timber production, in terms of area of certified forests, increased from 28.9 Mha in 2015 to 30 Mha in 2016.<sup>93</sup> Under the PEFC, the top three International Tropical Timber Organization (ITTO) producer countries for certified forests in 2016 were Malaysia (4.04 Mha), Brazil (2.72 Mha), and Indonesia (1.85 Mha).<sup>94</sup> Brazil and Indonesia were also amongst the top three ITTO producer countries under the FSC system. FSC releases information on certified land area (including timber, rubber, and other wood-based products), but does not release production data.<sup>95</sup>

91. Sjoerd Panhuysen & Joost Pierrot (2014), *Coffee Barometer 2014*. Available at: [https://www.hivos.org/sites/default/files/coffee\\_barometer\\_2014\\_report\\_1.pdf](https://www.hivos.org/sites/default/files/coffee_barometer_2014_report_1.pdf)

92. Nespresso (2019), *The Positive Cup*. Available at: <https://www.nestle-nespresso.com/asset-library/documents/nespresso-positive-cup-csv-report-interactive.pdf>

93. ITTO (2018), *Annual Report 2017*. Available at: [https://www.itto.int/annual\\_report/](https://www.itto.int/annual_report/)

94. ITTO (2018), *Annual Report 2017*. Available at: [https://www.itto.int/annual\\_report/](https://www.itto.int/annual_report/)

95. Forest and Stewardship Council (n.d.), *FSC®-certified natural rubber: Deforestation free, socially responsible*. Available at: <https://fsc.org/file-download/fscr-certified-natural-rubber-deforestation-free-socially-responsible-a-2963.pdf>

Beyond the certification standards with global scope, there are localized certification systems such as the Brazilian Forest Certification Program (CERFLOR), the Indonesian Forestry Certification Cooperation, and the Malaysian Timber Certification Council. Voluntary certification is supplemented by the Forest Law Enforcement Governance and Trade (FLEGT) process, which mediates between the EU and partner countries to alter how governance impacts forestry and forestry products. FLEGT has driven the creation of Voluntary Partnership Agreements (VPA's) between EU and sustainable forestry producing countries. Alongside FLEGT, companies use voluntary certification in order to provide origin information to consumers as sustainability indicators.

According to data from FAO, FSC and PEFC, ITTO, and Comtext, roughly 25% to 32% of primary tropical timber products imported into the EU are exposed to some sort of certification process. PEFC certification accounts for 23% of certified primary forestry products imported to Europe, and FSC accounts for the other 77%. Malaysia, Brazil, and Gabon are the only tropical countries with a PEFC certified forest area. Indonesia is the only country where FLEGT licenses can be issued.

Certified forestry products represent a lower carbon footprint, yet the data for the lowered footprint is not available through the certification processes. FSC and PEFC certification standards do not take into account the carbon emissions associated with timber products. FSC only mentions maintaining environmental integrity among sustainability indicators. PEFC places higher importance on carbon stocks as a part of their standard, but neither PEFC nor FSC require the measurement of carbon impacts in the certification process. The certification process could play a role in the calculation of emissions and general data collection, and demonstrated reductions could drive increases certified timber products.

For **rubber**, there is no commodity specific certification, but other standards do exist. The Fair Rubber Association applies Fairtrade principles for products made from natural rubber and FSC certifies rubber plantations. The Global Platform for Sustainable Natural Rubber (GPSNR) was recently launched by the World Business Council for Sustainable Development (WBCSD) and the Tire Industry Project (TIP). Most of the natural rubber in the world is used by the tire industry, and demand is expected to grow in the coming years.

For **beef**, there are limited existing certification programs and consequently limited data on the sustainable production of beef. However, there are encouraging efforts by relevant organizations such as the Canadian Roundtable for Sustainable Beef, which released the Certified Sustainable Beef Framework in 2018.<sup>96</sup> There are also beef-focused sustainability roundtables such as the Global Roundtable for Sustainable Beef (GRSB), Grupo de Trabalho da Pecuária Sustentável (GTPS, or The Brazilian Roundtable on Sustainable Livestock – formally created in 2009 as a frontrunner in livestock roundtables globally), Mesa Argentina de Carne Sustentable (MACS) in Argentina, and the Mesa Paraguaya de Carne Sostenible (MPCS) in Paraguay.<sup>97</sup>

GRSB brings together producers and producer associations, the commerce and processing sector, retail companies, civil societies, national or regional roundtables, and allied industry initiatives to create a dialogue around sustainable beef production. In its 2018 Sustainability Report, GRSB included a long-term goal of creating a data platform in order to track global metrics. Also within the report, each region involved in GRSB highlights general goals and roundtable statistics. GTPS' projects include objectives to enhance the livelihoods and improve livestock productivity of smallholders through the implementation of sustainable practices across all the Brazilian states. GTPS and GRSB work side by side to promote their objectives of expanding discussions and projects on sustainable livestock.<sup>98</sup>

96. Canadian Cattlemen (2018), "Certified Sustainable Beef". Available at: <https://www.canadiancattlemen.ca/2018/01/16/the-certified-sustainable-beef-framework/>

97. GRSB (2019), 2018 Sustainability Report. Available at: [https://grsbeef.org/resources/Documents/WhoWeAre/GRSB\\_Sustainability\\_Report\\_2018.pdf](https://grsbeef.org/resources/Documents/WhoWeAre/GRSB_Sustainability_Report_2018.pdf)

98. <http://gtps.org.br/en/about-gtps/> and <https://grsbeef.org/>





## Private-sector efforts to promote sustainable commodity production

*The private sector in the 12 leading European importers has been playing an active role in addressing deforestation linked to key commodities, but many still rely on multi-stakeholder platforms.*

Growing sustainable commodity production requires growth in demand in addition to production changes. Across commodities a number of industry coalitions are aiming to promote sustainable commodity production. For **palm oil**, the European Sustainable Palm Oil (ESPO) project has been initiated to stimulate national initiatives that promote the uptake of more sustainable palm oil.<sup>99</sup> For **soy**, the Soy Network Switzerland has liaised with different stakeholders in Brazil to achieve 100 percent responsible non-GM soy imports<sup>100</sup>, while the Norwegian Commitments on Sustainable Soy and Forests seeks to promote certified soy and to ensure it is “sustainable and deforestation-free”.<sup>101</sup> There are also industry-led soy initiatives in France (the Duralim platform) and the United Kingdom (the UK Zero Deforestation Soy Transition Plan led by Tesco), while national soy initiatives or roundtables also exist in a number of countries.<sup>102</sup>

99. The ESPO project has been launched by IDH and MVO - the Netherlands Oils and Fats Industry, and is currently being implemented by the European Palm Oil Alliance, the European food, feed and oleochemical industry. IDH (2017), *Making sustainable palm oil the norm in Europe*. Available at: <https://www.idhsustainabletrade.com/uploaded/2017/11/Monitoring-Rapport-ESPO-2017.pdf>. As part of the ESPO project, the Spanish Sustainable Palm Oil Foundation was created in 2017 to represent the interests of companies committed to the use of sustainable palm oil, and to promote sustainable palm oil among in the private sector. For more information about the Spanish Sustainable Palm Oil Foundation, please refer to <https://aceitedepalmasostenible.es/#sostenibilidad>. The foundation consists of 12 companies, including Unilever, Ferrero, Lipidos Santiga and Natra. European Palm Oil Alliance (2017). Available at: <https://www.palmoilandfood.eu/en/news/spanish-foundation-sustainable-palm-oil>

100. The Soy Network Switzerland was founded in 2011 and established as an association in 2016 with members including soy importers, traders, retailers, producer associations, standard organisations, and WWF Switzerland. RTRS, “Soy network Switzerland visits an RTRS certified field in Brazil”. Available at: <http://www.responsiblesoy.org/soy-network-suiza-visita-un-campo-certificado-rtrs-en-brasil/?lang=en>

101. The Norwegian Commitments on Sustainable Soy and Forests was signed in 2014 by a group of private companies in the Norwegian feed industry. “The Norwegian feed industry receives great recognition for Soya declaration”. Available at: <https://www.nhond.no/politikk/en-barekraftig-mat--drik-ke-og-bionaring/nyheter/norsk-kraftforbransje-far-stor-alerkjennelse-for-soyaerklaring/>. See also: <http://www.denofa.com/>

102. For more information please refer to: <https://www.idhsustainabletrade.com/uploaded/2019/04/European-Soy-Monitor.pdf> <https://www.tescopl.com/news/blogs/topics/uk-zero-deforestation-soy-transition-plan/>

For **cocoa**, the “Beyond Chocolate” initiative<sup>103</sup>, the German Initiative on Sustainable Cocoa (GISCO), and the Swiss Platform for Sustainable Cocoa are prominent examples of platforms that pledge to reduce deforestation.<sup>104</sup> For **coffee**, several companies are members of the Global Coffee Platform, while a number of larger European roasters and traders have formed the International Coffee Partners partnership to jointly implement projects within the coffee sector.<sup>105</sup> For **timber**, the European Timber Trade Federation (ETTF) has developed a due diligence system for national timber trade bodies across the EU, helping members to comply with the EU Timber Regulation.<sup>106</sup> Another example is the Responsible Purchasing Policy (RPP) - a mandatory requirement of membership of the UK Timber Trade Federation, which places due diligence, sustainable sourcing, and supply chain management at the core of member’s activities.<sup>107</sup> Additionally, the European Sustainable Tropical Timber Coalition (STTC), an alliance of industry, business, government, and NGOs, works to increase demand for sustainably sourced tropical timber and spread responsible forest management in tropical countries.

103. The “Beyond Chocolate” initiative is a partnership that aims for sustainable Belgian chocolate, including government organisations, retail chains, trade unions, and universities. Kingdom of Belgium - Foreign Affairs, Foreign Trade, and Development Cooperation, “Alexander De Croo launches partnership for sustainable Belgian chocolate with the chocolate industry, major retailers and civil society”. Available at: [https://diplomatie.belgium.be/en/newsroom/news/2018/beyond\\_chocolate](https://diplomatie.belgium.be/en/newsroom/news/2018/beyond_chocolate)

104. The German Initiative on Sustainable Cocoa (GISCO) is a joint initiative of the German sweets and confectionary industry, the German retail grocery trade, the federal government, and civil societies. For more information, please refer to the German Initiative on Sustainable Cocoa (GISCO). Available at: <https://www.kakaoforum.de/en/about-us/german-initiative-on-sustainable-cocoa/>. The Swiss Platform for Sustainable Cocoa brings together actors from the cocoa and chocolate industry, the public sector, non-governmental organisations, and research institutes, to promote sustainability in the cocoa value chain. For more information, please refer to the Swiss Platform for Sustainable Cocoa. Available at: <https://www.kakaoplattform.ch/en/>

105. The Global Coffee Platform is a multi-stakeholder platform in which farmer cooperatives, roasters, brands, traders and civil society groups work together to accelerate sustainability in the coffee sector. For more information, please refer to <https://www.globalcoffeeplatform.org/membership/>

106. This system was designed in association with Danish-based international not-for-profit environmental organisation NepCon, and a number of ETTF member Federations and Associations have now adopted the system. ETTF, “EU Timber Regulation”. Available at: <https://ettf.info/eu-timber-regulation>

107. Timber Trade Federation, “Responsible Purchasing Policy”. Available at: <https://ttf.co.uk/ttf-sustainability/rpp-hub/>

# Delivering on zero-deforestation commitments

*Companies have made widespread commitments to remove deforestation from supply chains, but implementation is lacking and most are still not delivering on commitments*

Beyond the multi-stakeholder platforms, more than 150 companies have committed to zero-deforestation for one or more commodities across their supply chains. Nestlé is committed to ending deforestation in their supply chain by 2020. Unilever has pledged to spend resources to help achieve zero net deforestation associated with palm oil, soy, beef, tea, paper, and board within the same timeframe.<sup>108</sup> The strength of corporate zero-deforestation commitments differs widely. Some companies have opted for no deforestation, others for no net-deforestation (thus allowing for deforestation, as long as an equal amount of reforestation compensates for the loss). The cutoff date for achieving these commitments ranges from 2020 (the majority) to 2030.

Often corporate commitments on deforestation do not cover all commodities in their supply chain. Most commitments focus on palm oil, followed by soy. About 74% of SE Asia palm oil refining capacity is covered by zero-deforestation or “NDPE” (No Deforestation, no Peat, no Exploitation) commitments, but for other commodities at risk of causing deforestation (beef, timber, paper, board, leather, cocoa, rubber, and coffee)

commitments are not as extensive<sup>109</sup>. Many of the largest companies have still not committed to removing deforestation from their supply chains, while the stringency of the commitments made varies between companies and sectors.

Forest500 assessed companies’ zero-deforestation commitments across a range of criteria including intent and awareness, commodity policies, scope and ambition, reporting and implementation, and social considerations. They found that for the countries studied, 79 companies across nine consumer markets (data for Belgium, Poland, and Portugal was not available) achieved an average total score of 28 out of 100 on their commitments towards addressing deforestation.<sup>110</sup> As a comparison, the average total score of companies in the United States was 31 out of 100.<sup>111</sup> Among the assessed companies, multinational corporations such as Nestlé, Unilever, L’Oréal, Marks & Spencer, and Henkel are leading the charge to address deforestation issues. Exhibit 6 provides a summary of Forest500’s assessment of companies headquartered in the 12 European countries in 2018.

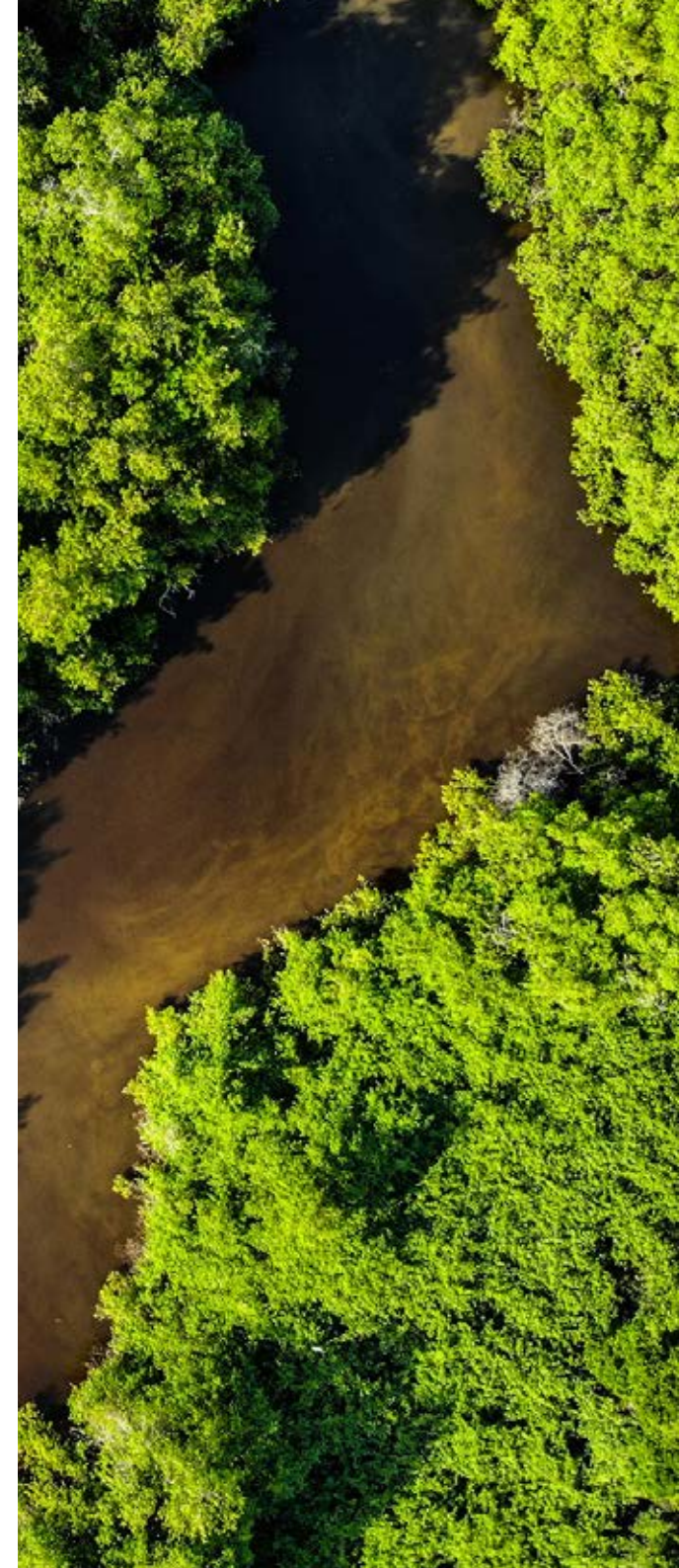
108. Nestlé, “No deforestation”. Available at: <https://www.nestle.com/stories/responsible-sourcing-no-deforestation>

“Unilever’s position on eliminating deforestation”. Available at: [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)

109. Chain Reaction Research (2017). Unsustainable Palm Oil Faces Increasing Market Access Risks: NDPE Sourcing Policies Cover 74 Percent of Southeast Asia’s Refining Capacity (Updated Version). Chain Reaction Research is a collaborative effort of Aidenvironment, Climate Advisers, Profundo. [https://chainreactionresearch.com/wp-content/uploads/2017/11/unsustainable-palm-oil-faces-increasing-market-access-risks-final-1\\_updated-july-2018.pdf](https://chainreactionresearch.com/wp-content/uploads/2017/11/unsustainable-palm-oil-faces-increasing-market-access-risks-final-1_updated-july-2018.pdf)

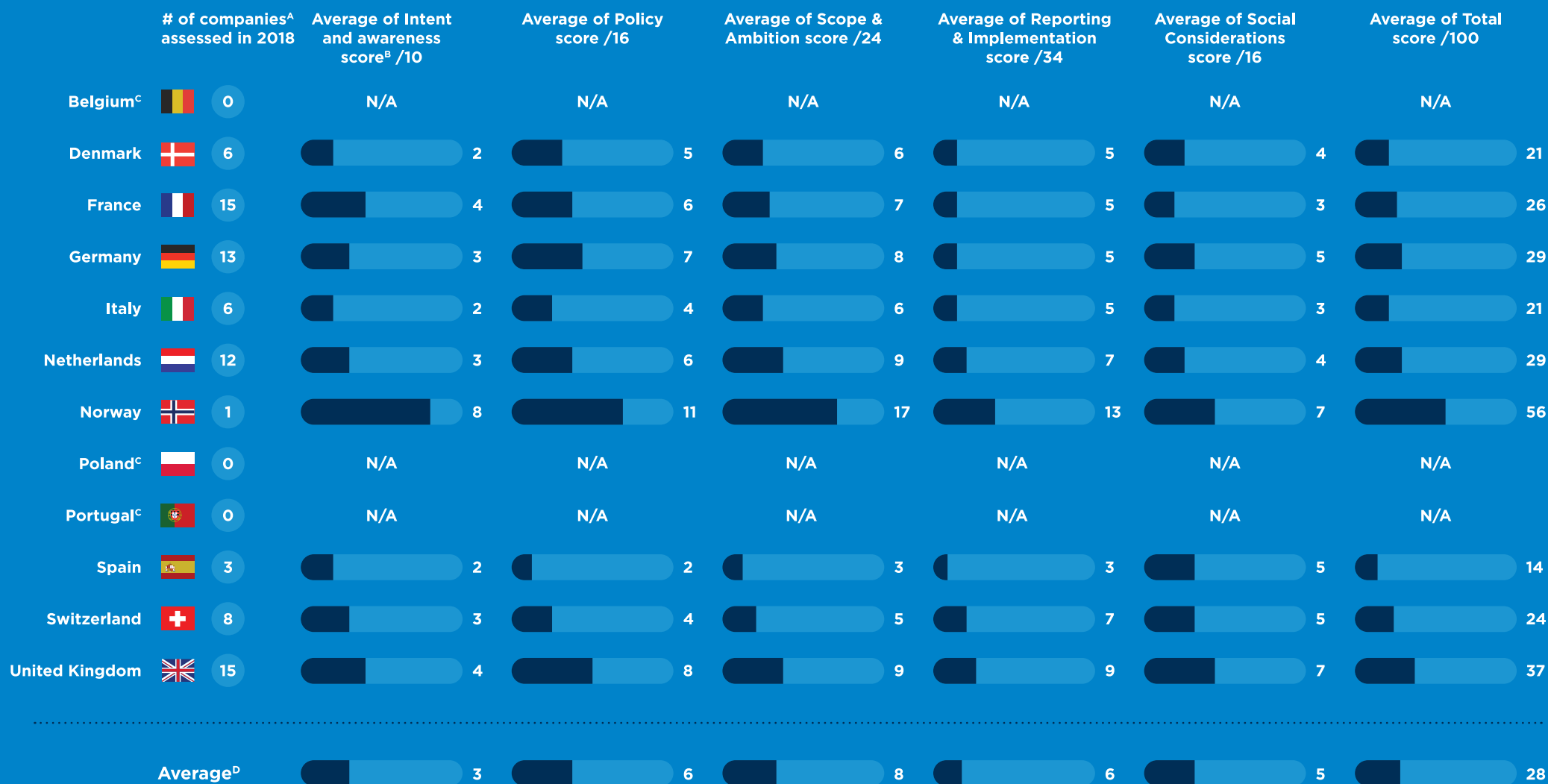
110. Data sourced in April 2019 from: Forest 500. Available at: <https://forest500.org/data/companies>

111. 62 companies headquartered in the United States achieved an average total score of 31 in 2018.





## EXHIBIT 6 SUMMARY OF FOREST 500'S ASSESSMENT



(A) Companies are selected based on: (1) risk of being linked to deforestation; and (2) influence within the political economy of deforestation. 5 commodities (palm oil, soy, cattle, timber and paper) are included in the assessment. Companies are only assessed for the commodities relevant to their operations.

(B) Total score is sum of the 5 component scores. (C) No data available. (D) Only considered countries where data is available.

Source: Forest 500; AlphaBeta analysis



Clearly, major gaps still exist when it comes to implementation and enforcement of commitments. Companies must act urgently to course-correct. Problematically, many of the existing companies' commitments have implementation deadlines beyond 2020 or no deadline at all.<sup>112</sup> 15 out of the 79 companies have not reported or monitored progress towards implementing their commitments.<sup>113</sup> According to Forest 500's 2018 annual report, not a single company is on track to meet 2020 zero deforestation deadlines.<sup>114</sup> Accelerated progress must be made in the private sector if these targets are to be met. Companies need to increase efforts to develop roadmaps, implementation strategies, and systems to monitor and verify progress.

Beyond poor implementation, the overall effectiveness of the commitments themselves (and thus the ability to achieve reductions in deforestation) has been questioned. A recent study found several weaknesses across commitments that reduce outcomes, and recommend companies change commitment targets, deadlines, and implementation, urging companies to implement "zero-gross deforestation targets with immediate implementation deadlines and clear sanction-based implementation mechanisms."<sup>115</sup> Companies should also further strengthen existing commitments, focusing on measures to ensure implementation such as working with suppliers, ensuring adequate Measuring, Reporting, and Verification (MRV) systems, and setting clear targets and goals.

112. Global Canopy & Stockholm Environment Institute (2019), *Stepping up EU action against deforestation and forest degradation*. Available at: <http://ec.europa.eu/environment/forests/pdf/respondents-additional-inputs/Global%20Canopy.pdf>

113. Score of 0 for "Reporting and implementation".

114. Forest 500 (2018), *Forest 500 Annual Report 2018: The Countdown to 2020*. Available at: <https://forest500.org/forest-500-annual-report-2018-countdown-2020>

115. R. D. Garrett, S. Levy, K. M. Carlson, T. A. Gardner, J. Godar, J. Clapp, P. Dauvergne, R. Heilmayr, Y. le Polain de Waroux, B. Ayre, R. Barr, B. Døvre, H. K. Gibbs, S. Hall, S. Lake, J. C. Milder, L. L. Rausch, R. Rivero, X. Rueda, R. Sarsfield, B. Soares-Filho, N. Villoria (2019) Criteria for effective zero-deforestation commitments, *Global Environmental Change*, Volume 54, Pages 135-147. Available at: <https://www.sciencedirect.com/science/article/pii/S0959378018306654>



## Accelerating action along the supply chain

Addressing the gaps along the supply chain requires improved data and systems, and revising, applying, and increasing standards and tools. Sourcing of commodities produced according to a specific standard has thus far been the primary way of improving sustainability of the commodities covered by this report. There range of sustainable production certification standards within commodities and between countries can risk confusion for purchasers and producers. There isn't always a clear standard defining sustainable production and sourcing for a commodity, making it difficult for companies to know how to source sustainable commodities. Increased awareness and capacity building among companies sourcing commodities can address part of this, but the gap requires further action. Companies need to catalyze efforts to revamp sourcing policies, increase consumption of sustainable commodities, verify procurements, and measure progress. Relying on standards alone is unlikely to solve the problem. Recent efforts to bring alternatives to certifications and standards into play, such as jurisdictional approaches and private-sector commitments, could add to the toolbox.

The cost of sourcing systems can often be prohibitively high and prevent companies achieving their commitments. This is especially challenging for small companies, which typically lack the resources to implement sophisticated sustainability sourcing systems in their supply chains and the bargaining power needed to sanction suppliers who fail to comply with sustainability standards.<sup>116</sup> However, progress is being made with increased digitalization and novel opportunities (IoT, blockchain, etc.), and the onus is on the private sector to exploit the potential of these technologies to improve sustainability.

The lack of sustainable sourcing data, particularly the absence of data for sustainable sourcing of beef, cocoa, coffee, and rubber, also hampers efforts to reduce supply-chain deforestation. Data for palm oil, soy, and timber is also unavailable for a number of countries such as Poland. Inconsistencies such as classification differences (FEFAC compliant vs. various classifications of responsible or deforestation-free standards) and scope differences (Data on total consumption versus more limited data on consumption by members of industry alliances) lead to challenges comparing performance.

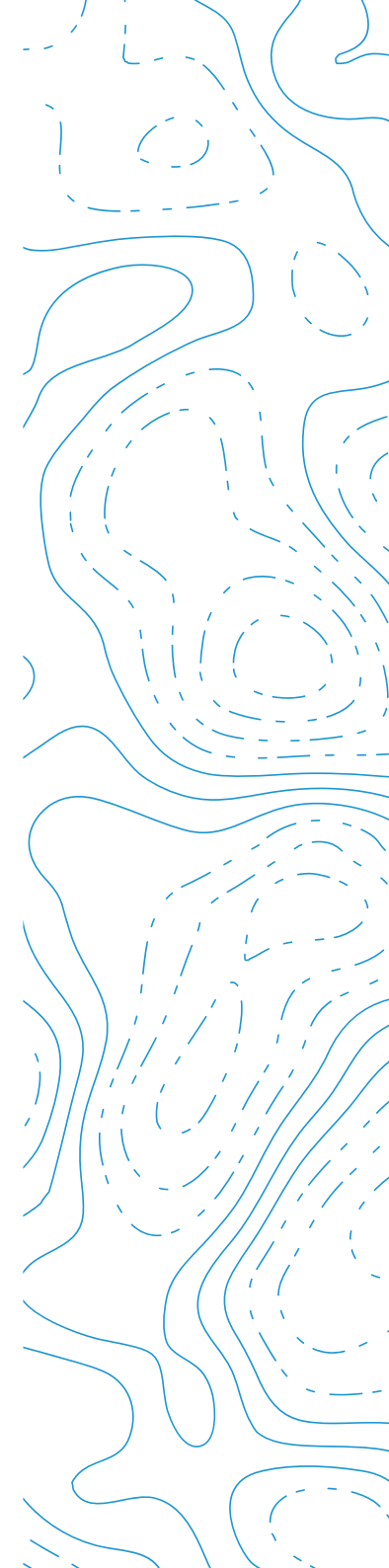
Supply chain traceability is an entrenched challenge across all commodities. For some commodities tracing a specific product back to origin is impossible due to sources being mixed at processing locations like mills. While there are promising initiatives such as TRASE, traceability of commodities poses a critical barrier to importers' attempts to sustainably source. A critical barrier to traceability is the proprietary nature of production and handling data apart from data disclosed in customs clearings or as part of a certification or pledge progress report.<sup>117</sup>

Addressing these challenges is important for facilitating production shifts, but the bottom line is that overall demand for responsible, certified, and/or sustainable commodities remains far too low (less than a third for most commodities). The private sector can contribute greatly to improving sustainability by increasing the demand for these commodities. The potential benefits of action across commodities are monumental – just sourcing 100% verified sustainable tropical timber EU28 could positively impact (reduce degradation) approximately 11.7 to 13.4 million hectares of tropical forest.<sup>118</sup>

117. EC (2018), Feasibility study on options to step up EU action against deforestation. Available at: <http://ec.europa.eu/environment/forests/pdf/KH0418199ENN2.pdf>

118. IDH (2019), Unlocking sustainable tropical timber market growth through data. Available at: <https://www.idhsustainabletrade.com/news/unlocking-sustainable-tropical-timber-market-growth-through-data/>

116. IDH (2009), *Small companies delivering on big challenges*. Available at: <http://www.bibalex.org/Search4Dev/files/431937/460336.pdf>









# 3

## Understanding trends in major European consumer markets

The European market is reliant on tropical commodities. Low regional production, high per-capita demand for goods, and substantial processing industries translate into high import levels of coffee and cocoa and significant shares of wood pulp, palm oil, and rubber. Our analysis focuses on 12 European countries that drive the region's net commodity imports (Belgium, Denmark, France, Germany, Italy, the Netherlands, Norway, Poland, Portugal, Spain, Switzerland, and the United Kingdom). These countries account for at least 70% of Europe's net-imports of the commodities included, and the trend suggests most imports are increasing. Europe's share of the total global demand for these commodities remains largely flat, even taking trading patterns into account. These imports, despite being directly attributable to regional consumption, don't appear in national sustainability/emissions inventories. If included, they would contribute a substantial part of agricultural emissions in Europe. Sustainable commodity production has the potential to alleviate the externalities of this consumption (CO<sub>2</sub>, forest loss), but sustainably produced commodities remain just a fraction total commodity imports.

As discussed in Chapter 1, there is not a one-to-one relationship between commodity consumption and deforestation. The demand for commodities by consumers should rather be seen as an underlying driving force of deforestation.





## The global role of the European consumer market

Europe is one of the biggest importers of deforestation-linked commodities along with China, the US, and other middle- and high-income countries (see Exhibit 7 below).<sup>119</sup> Europe has substantial production of beef and wood pulp, but little soy production, and no production of palm oil, rubber, cocoa, coffee, and tropical timber due to the sub-tropical or tropical conditions required to grow these commodities. Europe's share of the total consumption of the different commodities varies widely due to a variety of economic and social conditions affecting demand. The relative wealth and consumption habits of European consumers lead to greater European demand for some commodities – such as coffee and cocoa – relative to non-European markets. Europe industrial expertise and legacy of trading in and processing different commodities powers an increased demand for palm oil, cocoa, and coffee. And importantly, European policies shape market demand for certain products, most notably the incentives to use palm oil for biodiesel (as well as wood chips and pellets for combustion) as part of the Renewable Energy Directive.<sup>120</sup>

Europe was responsible for more than 60% of global cocoa imports and about 50% of global coffee imports in 2016 (Exhibit 7). While Europe's share of global imports was smaller for beef and wood pulp during the same period, it still accounted for a significant percentage – about 30% for both commodities. Asia is the largest importer of soy, rubber, palm oil, and tropical timber.<sup>121</sup>

119. Europe includes the 28 European countries that are part of the European Union (EU) and 4 European countries, which are part of the European Free Trade Association (EFTA) – Iceland, Liechtenstein, Norway, and Switzerland.

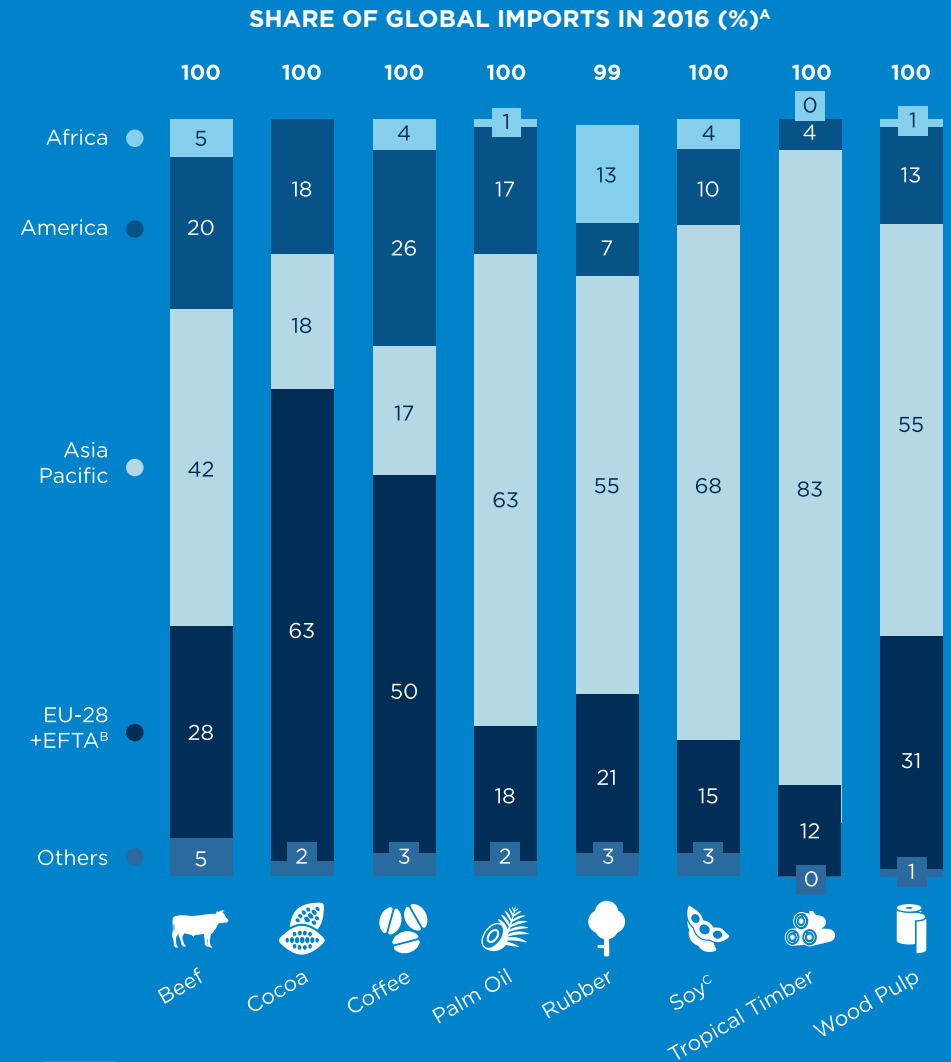
120. The EU has since revised the decisions on the use of palm oil for transport fuel and plan to limit palm oil-based biodiesel by 2020, phasing it out by 2030.

121. Data sourced in April 2019 from: UN Food and Agriculture Organisation (2019), *FAOSTAT*. Available at: <http://www.fao.org/faostat/en/#data>.

### EXHIBIT 7

## GLOBAL IMPORTS OF COMMODITIES

Europe accounts for a significant share of global commodity imports



(A) Including re-exports and intra-regional trade. (B) This includes 28 European Union (EU) countries and 4 European Free Trade Association (EFTA) countries where data is available. (C) Includes soybeans, soy meal and flour, and soybean oil.

Source: Food and Agriculture Organisation (FAO); United States Department of Agriculture Foreign Agricultural Service (USDA-FAS); International Tropical Timber Organisation (ITTO); AlphaBeta analysis





## 12 major consumer countries account for the majority of commodity imports to Europe

Of the 12 European countries we examine, type and quantity of commodities imported varies based on a number of factors including the size of the country and the nature of the industrial sector. Analyses of demand and import data (including the adjustments highlighted above) from 2011 to 2016 (Exhibit 8) reveal two key trends:

- **The 12 consumer countries are the main contributors to the region's commodity net imports.** Together they accounted for the majority of regional net imports (adjusted for re-exports) across all commodities between 2011 and 2016 in Europe.<sup>122</sup> In fact, the 12 countries' net imports represented more than 95% of cocoa and soy, more than 90% of palm oil and timber, more than 80% of beef, coffee, and wood pulp, and more than 70% of rubber. Among the 12 countries, current signatories of the Amsterdam Declaration (Denmark, France, Germany, Italy, Norway, the Netherlands, and the United Kingdom) play an important role in the region's net imports of the key commodities. They accounted for 90% of tropical timber net imports, more than 70% of cocoa and wood pulp, more than 60% of beef, coffee, soy, and palm oil, and close to 50% of rubber net imports. The concentration of imports in just a few countries is a call to action – reducing imports of commodities linked to deforestation could alter Europe's impact on deforestation.
- **Despite year-to-year fluctuations, net imports of most commodities to the 12 European countries exhibit an upward trajectory.**<sup>123</sup> Cocoa net imports (adjusted for re-exports) experienced the highest average year-over-year (YOY) growth rate (15%) from 2011 to 2016, followed by palm oil (10%). These increases are driven by increased consumption within Europe for existing and new markets or by increasing exports of processed commodities. Soy and coffee demonstrated lowest growth (4% and 3% respectively). Net imports of beef and wood pulp did not change significantly with less than 1% YOY growth on average. Rubber and tropical timber were the only two commodities with shrinking imports from 2011 to 2016.

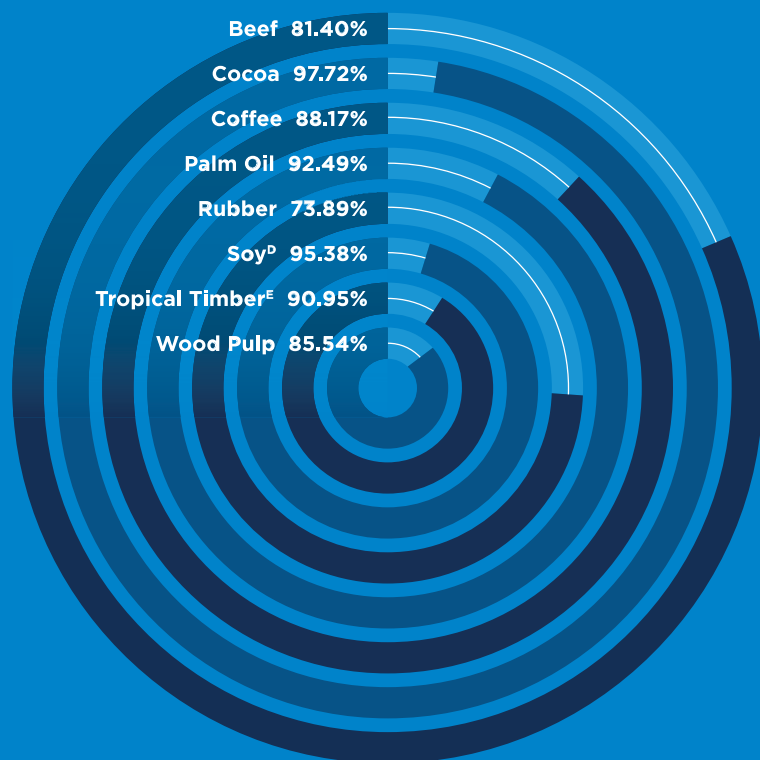
<sup>122</sup>. Regional imports were aggregated from net import figures (adjusted for re-exports) of 28 European Union (EU) countries and 4 European Free Trade Association (EFTA) countries. Intra-regional trade is included in the regional figures.

<sup>123</sup>. The effect of year-to-year fluctuations is normalised by taking the average of year-on-year (YOY) growth rates during the 2011-2016 period.

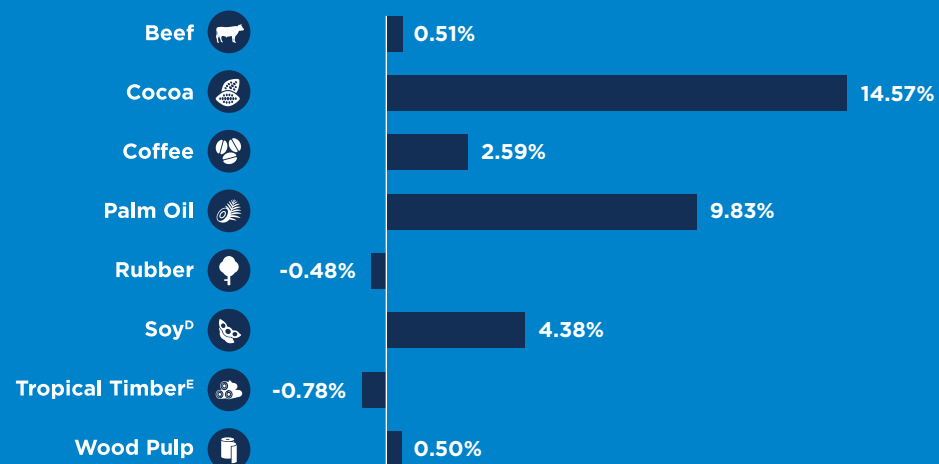
EXHIBIT 8

GROWTH OF NET IMPORTS OF COMMODITIES

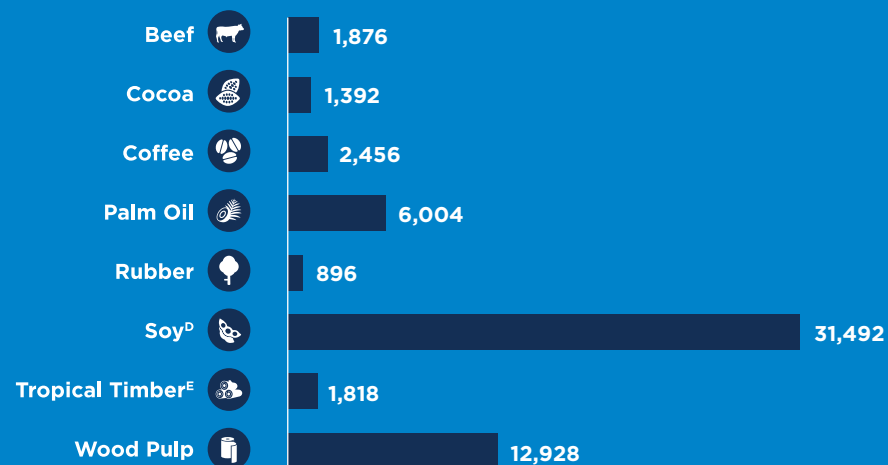
SHARE OF THE 12 CONSUMER COUNTRIES OF EUROPEAN NET IMPORTS<sup>A</sup> 2011-16



AVERAGE ANNUAL NET IMPORTS YOY GROWTH, 2011-16



AVERAGE ANNUAL NET IMPORTS<sup>B</sup> OF 12 EUROPEAN COUNTRIES<sup>C</sup>, 2011-2016  
(Thousand tonnes)



(A) Regional import, export and production data was aggregated from data of 28 EU member states and 4 European Free Trade Association (EFTA) countries where data is available. Intra-regional trade is included in the regional figures. (B) Net imports refer to total imports adjusted for re-exports. Re-exports were estimated by assuming that the ratio of re-exports to total imports was the same as the ratio of direct exports to domestic production. (C) 12 European countries are BE, DK, FR, DE, IT, NL, NO, PL, PT, ES, CH, and the UK. Aggregated figures include intra-regional trade. (D) Includes soybeans, soybean meal, and soybean oil. Based on 2017 data. Growth rates of soybeans and shares of regional net imports of soybeans were used as proxies for soy. (E) The unit of measurement for tropical timber is 1000 m3.

Source: FAO; International Tropical Timber Organization (ITTO); IDH; AlphaBeta and COWI analysis



Understanding import trends and the role of imports in fulfilling domestic consumption in Europe is not straightforward. To arrive at accurate figures, it is necessary to account for re-exports and volatility.<sup>124</sup> For example, while Europe is the destination for more than 50% of global coffee and cocoa, a significant part of this is re-exported as value-added commodities (as products like chocolate or instant coffee) by European industries.<sup>125</sup>

Some of the 12 countries are among the largest importers of these commodities on a global scale. As data from Trase show, the Netherlands was the third largest off-taker globally of Brazilian soy in 2017, dwarfed only by China and Brazil (domestic consumption). Spain was fifth and France seventh. Accounting for the deforestation risk of these imports, Trase data show Spanish and Dutch imports are each responsible for more than 50,000 ha of deforestation. Five European countries are among the top-10 countries with greatest deforestation risk in Brazil<sup>126</sup>. The role of the Netherlands as a sourcing hub for much European soy explains this large figure for a relatively small country, meaning that the impact of this soy import should not be allocated to the Netherlands alone, but to the end-markets in other European countries. Accounting for re-exports, the figure for Netherlands reduces significantly, while that of the EU as a whole remains similar, as the Netherlands re-export the soy mainly to other European nations. Trase shows that soy imports of the 12 countries analyzed correspond with some 175,000 ha of deforestation, equivalent to approximately 2.3 MtCO<sub>2</sub>e of greenhouse gases.<sup>127</sup>

124. Import figures reported by the Food and Agriculture Organisation of the United Nations (FAO), Eurostat, and other sources of trade data are not representative of the domestic demand as they often include re-exports. At the same time, there is no granular data, which allows separation of re-exports from total imports (as some re-exports may include export of local production). To address the impacts of volatility, a country's imports and exports were normalised by taking the average of annual imports and exports across six years (from 2011 to 2016).

125. To address this issue, re-exports were estimated and deducted from a country's total imports to arrive at net imports. Re-exports were estimated by assuming that the ratio of re-exports to total imports was the same as the ratio of direct exports to domestic production. However, when accounting for re-exports it is important whether this is exported to another European market or to a country outside the EU – only in the latter case does the demand attributed to the EU change. Therefore, to get a picture of actual EU consumption for the different commodities, it is necessary to account for commodity import and export. There are also significant fluctuations in import and export data over time, primarily since bulk purchases of these commodities are made at certain times and then stored. For example, imports of rubber by Denmark declined by 30% between 2012 and 2013 and increased by 45% in the subsequent year. Data sourced in April 2019 from: UN Food and Agriculture Organisation (2019), FAOSTAT. Available at: <http://www.fao.org/faostat/en/#data>

126. Based on data from Trase. Data for Brazilian soy exports 2017: [https://trase.earth/flows?selectedResizeByName=DEFORESTATION\\_V2](https://trase.earth/flows?selectedResizeByName=DEFORESTATION_V2)  
127. Based on data from Trase. Data for Brazilian soy deforestation (<https://trase.earth/flows?toolLayout=0&selectedBasemap=default&selectedResizeBy=62>) and CO<sub>2</sub> emissions (<https://trase.earth/flows?toolLayout=0&selectedBasemap=default&selectedResizeBy=48>). The calculation is based on the reported figures for the 12 countries for the year 2017. The methodology used by Trase for calculating deforestation and CO<sub>2</sub> emissions can be found here: <https://trase.earth/about/how-does-trase-work>

At this stage, deforestation data does not exist for other commodities in the Trase database, but trade flows between select producer countries and the European countries included in this report can be explored. This data reveals that imports from specific producer countries are affected by activities of the countries importing the commodities. For example, Denmark imports significantly more soy from Argentina than from Brazil, despite the latter producing far more. This means that to curb imports of commodities prone to deforestation risk, consumer countries must work with the companies facilitating the import of the commodities, rather than look only at the overall production of a given commodity by a given country.

Given the large amount of re-exports in import flows, it is important to separate total imports (which include re-exports) from net imports into a country (to satisfy local demand). Exhibit 9 shows each of the 12 countries' relative size of imports, both for total imports and net imports. As these figures show – countries like Belgium, the Netherlands, and Germany import commodities, process them further, and then re-export final or intermediary products. A country's relative size of imports varies by commodity, and is driven by two factors:

- **Domestic demand.** Domestic demand is driven by the size of the economy and domestic industries. Large economies such as France, Germany, Italy, and the United Kingdom were among the largest importers across all commodities. On the other hand, Belgium, despite being a smaller economy, dominates European imports of tropical timber and ranked third in terms of total cocoa imports during the 2011-2016 period. The country's cocoa processing and chocolate industry is the major driver behind its cocoa imports. Belgium has the 11th largest cocoa grinding industry in the world and the fifth largest in Europe. When it comes to chocolate production, the country ranks as the fifth largest chocolate producer in the world and the second-largest exporter.<sup>128</sup>
- **Re-exports.** Total import volume is also affected by re-exports in several countries. For instance, while the Netherlands was the largest importer of palm oil, with an average of 2.4 million tonnes of palm oil imported annually between 2011 and 2016, the country exported on average 1.3 million tonnes per year.<sup>129</sup> After adjusting the total palm oil imports for re-exports, the Netherlands' relative size of imports among the 12 countries decreases from 31% to 18%.

128. Centre for the Promotion of Imports (2017), "Exporting cocoa to Belgium". Available at: <https://www.cbi.eu/market-information/cocoa/belgium>

129. Data sourced in April 2019 from: UN Food and Agriculture Organisation (2019), FAOSTAT. Available at: <http://www.fao.org/faostat/en/#data>

Once re-exports are accounted for, calculating the contribution of each country and the 12 countries combined becomes possible. Data from the Observatory of Economic Complexity (OEC) shows that re-exports of the commodities are mainly directed towards European markets with less than 15% exported to overseas markets. This means that total European demand for the given commodity remains largely unchanged, despite reductions among the first importing countries. Re-exports to North America, Middle East, North Africa, and Asia for certain products are significant. This is mainly a reflection of the agro-industrial sector in the EU. Belgium exports 11.8% of its processed cocoa paste and 6.3% of its chocolate to overseas markets, while the Netherlands export 26.7% of its processed cocoa powder to the USA and Canada. Dutch chocolate and cocoas also flow to markets in the Middle East and Asia (18% of the country's exports for each of the products). Germany exports 42% of its decaffeinated coffee (not roasted) to the USA, and Germany and the Netherlands export significant shares of soy oil to North Africa (40% and 33% respectively).<sup>130</sup> For the remaining EU countries included in this analysis, accounting for re-exports only increases domestic demand, as these countries import virgin or processed commodities from the commodity-processing hubs in Western Europe<sup>131</sup>.

130. Data sourced for 2017 from OEC. (2019). Available at: [https://oec.world/en/visualize/tree\\_map/hs92/export/gbr/show/0101/2017/](https://oec.world/en/visualize/tree_map/hs92/export/gbr/show/0101/2017/). The OEC data is based on UN-COMTRADE data and exists for both SETC and HS trade codes.

131. Some commodities are further processed into different products altogether (e.g. soy used for pig production), which are then exported, and such trade flows are difficult to map, so even accounting for re-exports does not provide the full picture of a region's demand for a given product.





EXHIBIT 9

IMPORTS AND RE-EXPORTS OF COMMODITIES

Germany, Italy, and the Netherlands are the largest importers of commodities among the 12 countries  
 Breakdown of average annual imports during 2011-2016 by country<sup>A</sup>

● Total imports ○ Total consumption accounting for re-exports



A. Numbers may not add up to 100% due to rounding.

B. Includes soybeans, soybean meal, and soybean oil. Based on 2017 data.

Source: Food and Agriculture Organisation (FAO); International Tropical Timber Organisation (ITTO); IDH; AlphaBeta analysis



## Sustainable sourcing performance varies by commodity and by country

To reduce deforestation and “imported emissions”, companies can source commodities certified according to different sustainability standards. However, several challenges exist when it comes to assessing countries’ performance on sustainable imports. Scarce data on sourcing across deforestation-linked commodities is a major limitation. While some data points exist for palm oil, soy, and tropical timber, there is no country-specific data on sourcing of certified beef, cocoa, coffee, and rubber. Additionally, comparing countries’ performance on sourcing of certified and other non-conventional commodities is difficult due to shifting definitions and methodologies. For instance, the share of soy compliant with the FEFAC-SSG could be used as a proxy for responsible soy, while stricter standards such as RTRS, ISCC+, and Proterra could be used to determine the share of verified deforestation-free soy, but the definition of what constitutes “sustainable” commodities affects the ranking of each country.<sup>132</sup> Finally, limited sample sizes constrain the statistical analysis, as the data reported by countries vary in terms of the scope of industries/trade organizations/firms covered. With these caveats in mind, Exhibit 10 summarizes the latest available information on sourcing of certified, responsible, or sustainable production of palm oil, soy, and tropical timber across the 12 European countries.

132. The European Feed Manufacturers’ Federation (FEFAC) has developed Soy Sourcing Guidelines which define a baseline level for imported soy to the European market. For more information, please refer to <http://www.standardsmag.org/Guidance%20document%20151116%20-%20FEFAC.pdf>. Deforestation-free sourcing is covered by RTRS, ISCC +, Proterra, Danube / Europe Soy, CRS / BFA and SFAP-Non Conversion, a subset of the standards compliant with the FEFAC Soy Sourcing Guidelines (Kusumaningtyas, R. and J.W van Gelder (2019) Setting the bar for deforestation free soy in Europe. Amsterdam: Profundo. Available at: [https://www.iucn.nl/files/publicaties/setting\\_the\\_bar\\_for\\_deforestation\\_free\\_soy\\_190606\\_final.pdf](https://www.iucn.nl/files/publicaties/setting_the_bar_for_deforestation_free_soy_190606_final.pdf)). For more information about, please refer to RTRS: <http://www.responsiblesoy.org/rtrsamsterdamdeclarations?lang=en> ISCC +: <https://www.iscc-system.org/wp-content/uploads/2019/03/Deforestation-Free-Benchmark-of-FEFAC-Compliant-Standard-190312.pdf> Proterra: <https://www.proterrafoundation.org/>





## Palm Oil

According to the European Sustainable Palm Oil (ESPO) Secretariat, 74% of the palm oil imported for food into Europe was RSPO certified. The refiners, represented by Fediol, also share annual figures on the amount of certified palm imports<sup>133</sup>. Switzerland reported sustainable palm oil as a share of total consumption as high as 90 percent in 2017. Germany is the only country with detailed data on sustainable sourcing performance across several sectors – use of certified sustainable palm oil was the highest in the food sector, at 85 percent in 2017. However, Germany’s overall sustainable palm oil use was only 55 percent of total consumption. Other countries such as Denmark, Italy, and the Netherlands only reported the share of sustainable palm oil used in the food sector.<sup>134</sup> Country specific figures are difficult, as the monitoring is based on measurements done by respective national palm oil sustainability initiatives, which only includes their members. So while France reports 99% compliance, the initiative is estimated to cover only 70% of the market share. In the upcoming report, European Palm Oil Alliance members – the refiners – will provide country level data, ensuring complete markets are represented on a national level.



## Soy

The Amsterdam Declaration Partnership countries vary greatly in their procurement of sustainable soy, from Norway at 80% total (ProTerra, RTRS) to Italy at below 3% responsible.<sup>135</sup> the Netherlands, Switzerland, and Norway had the highest share of FEFAC-compliant soy in 2017, followed by Belgium, Germany, and the United Kingdom.<sup>136</sup> Italy and Spain, despite being large importers of soy, had the lowest share of FEFAC-compliant soy. In terms of deforestation-free sourcing standards, which are a subset of FEFAC guidelines, Switzerland and Norway remained the top performers in 2017. Deforestation-free sourcing of soy is non-existent in Portugal and Spain.

133. [https://www.fediol.eu/data/Leaflet%20Oil%20monitor\\_NEW%202018%23Final.pdf](https://www.fediol.eu/data/Leaflet%20Oil%20monitor_NEW%202018%23Final.pdf)

134. IDH & MVO (2019), *Choosing Sustainable palm oil, Progress report on the import and use of sustainable palm oil in Europe*. Available at: [https://www.idhsustainabletrade.com/uploaded/2019/01/EPPO\\_Vormgeving2019\\_DEF\\_31012019.pdf](https://www.idhsustainabletrade.com/uploaded/2019/01/EPPO_Vormgeving2019_DEF_31012019.pdf)

135. IDH & IUCN NL (2019), *European Soy Monitor - Insights on the European supply chain and the use of responsible and deforestation-free soy in 2017*. Available at: <https://www.idhsustainabletrade.com/uploaded/2019/04/European-Soy-Monitor.pdf>

136. IDH & IUCN NL (2019), *European Soy Monitor - Insights on the European supply chain and the use of responsible and deforestation-free soy in 2017*. Available at: <https://www.idhsustainabletrade.com/uploaded/2019/04/European-Soy-Monitor.pdf>



## Timber

There is limited data on sustainable sourcing of tropical timber across the 12 European countries aside from initial monitoring for the seven countries that account for approximately 90% of the tropical timber imported into Europe. The Netherlands achieved the highest share of sustainable timber among these countries (68%), followed by the United Kingdom (43%), Germany (33%), and Belgium (28%). France (13%), Italy (8%), and Spain (5%) are far behind. A recent IDH report estimates that between 25-32% of all tropical timber imported into the EU is certified<sup>137</sup>.



## Cocoa

The share of sustainable cocoa imported by the 12 countries can only be assessed via indirect figures obtained from the data on sourcing by the main cocoa traders and grinders. The five largest European traders share of sustainable imports were 19% (Sucden), 22% (Touton), 31% (Cemoi), 36% (Barry Callebaut), and 38% (Ecom), indicating that around one third of overall imports to Europe are certified.<sup>138</sup>



## Coffee

Data on imports of sustainable coffee by country cannot be directly assessed. Imports of certified coffee among the large European roasters vary widely, ranging from almost none (Lavazza, at 3.5%) to more than a third (Tchibo, at 36%).<sup>139</sup>

137. IDH (2019). *Unlocking sustainable tropical timber market growth through data*. Available at: <https://www.idhsustainabletrade.com/news/unlocking-sustainable-tropical-timber-market-growth-through-data/>

138. Data from Cocoa Barometer 2018, p. 41. Antonie Fountain and Friedel Huertz-Adamas (2018), *Cocoa Barometer*. Available at: [http://www.cocoabarometer.org/cocoa\\_barometer/Download\\_files/2018%20Cocoa%20Barometer%20180420.pdf](http://www.cocoabarometer.org/cocoa_barometer/Download_files/2018%20Cocoa%20Barometer%20180420.pdf)

139. Trase is working on including coffee and cocoa to its list of commodities and has already added coffee for Colombia, Peru, and Brazil, enabling better data on these commodities as more countries and commodities are added.



Share of  
**CERTIFIED  
SUSTAINABLE**  
palm oil<sup>A</sup>, 2017



Share of  
**FEFAC-  
COMPLIANT**  
soy, 2017



Share of  
**VERIFIED  
SUSTAINABLE**  
tropical timber, 2017

**EXHIBIT 10**

**SUSTAINABLE SOURCING OF PALM OIL,  
SOY AND TROPICAL TIMBER**



Share of  
**CERTIFIED  
SUSTAINABLE**  
palm oil<sup>A</sup>, 2017



Share of  
**FEFAC-  
COMPLIANT**  
soy, 2017



Share of  
**VERIFIED  
SUSTAINABLE**  
tropical timber, 2017



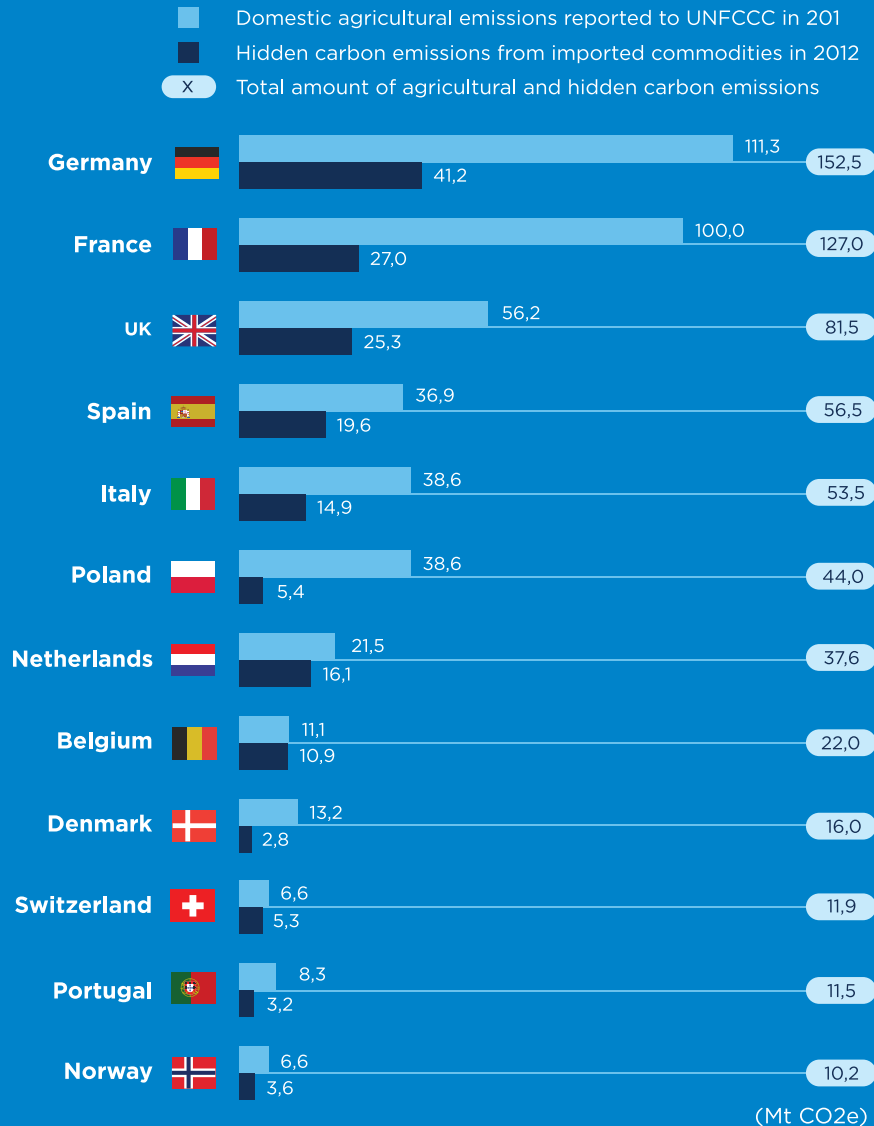
(A) This share only refers to palm oil used in food, feed and oleochemicals, palm oil used in biofuels was excluded. For most countries, the reported share only covers certain industries or members of certain alliances. (B) Only for members of the Belgian Alliance for Sustainable Palm Oil (BASPO). This is estimated to cover 15-50% of the Belgian market. (C) Based on total palm oil consumption/imports. (D) The share of certified sustainable palm oil was 85% in food, 26% in feed, 58% in laundry detergents, home care products and cosmetics, and 27% in chemistry/ pharmacy. (E) Only for members of the Norwegian Initiative for Sustainable Palm Oil (NISPO), which is representative of the food industry. (F) Based on 2018 data.

Source: IDH



EXHIBIT 11

EUROPEAN COUNTRIES' IMPORTED DEFORESTATION-RELATED CARBON EMISSIONS



(A) Relates to emissions from agriculture as well as from crop- and grasslands reported under LULUCF, i.e. numbers are slightly different from Pendrill et al., 2019. (B) Imported deforestation-related emissions estimated with the MRIO model for the time period 2010-2014. Source: Pendrill et al., 2019; UNFCCC, 2014; COWI analysis

## Imported commodities linked to deforestation release greenhouse gas emissions in producing countries

The difficulty in tracing imported emissions doesn't negate their impact. Estimates show that from 2010 to 2014 net GHG emissions attributable to tropical deforestation totaled 2,600 Mt CO<sub>2</sub>e, largely a consequence of agricultural expansion – 39% of these emissions were exported.<sup>140</sup> The share of imported emissions varies by commodity and geography – African commodities export 9%-32% of deforestation-linked emissions, the Asia-Pacific region exports a higher share (mainly linked to palm oil), and Latin America exports 23-34% of emissions, though the difference between cattle meat and soy is large, due to the relatively high domestic consumption of meat.<sup>141</sup> For about a third of industrialized countries, imported deforestation is estimated to amount to more than 50% of national agricultural emissions.<sup>142</sup> Belgium, the Netherlands, Switzerland, Norway, Italy, Germany, and Spain all fall into this category. In the case of Belgium, imported emissions linked to deforestation nearly exceed national agricultural emissions.<sup>143</sup> According to UNFCCC principles and IPCC best practices for GHG inventories, national inventories include emissions occurring within the territory of the individual country, and therefore no emissions related to deforestation for the production of imported commodities appear in the GHG inventory of any importing country. This absence has far reaching consequences as it often means that national reduction targets and commitments by consumer countries will exclude these emissions from its scope. **The embodied emissions linked to deforestation are thus accounted for by producer countries, despite the fact that the importing countries consume the commodity.** This transfer unfairly burdens producer countries with consumer countries' carbon emissions.

140. Pendrill, F., Persson, U. M., Godar, J., Kastner, T., Moran, D., Schmidt, S., & Wood, R. (2019). Agricultural and forestry trade drives large share of tropical deforestation emissions. *Global Environmental Change*, 56, 1-10. Exported share was estimated with the MRIO model that considers indirect links between economic sectors.

141. Pendrill et al. (2019).

142. Listed under Annex I of the UNFCCC. "Annex I Parties include the industrialized countries that were members of the OECD (Organisation for Economic Co-operation and Development) in 1992, plus countries with economies in transition (the EIT Parties), including the Russian Federation, the Baltic States, and several Central and Eastern European States." (UNFCCC, 2019; <https://unfccc.int/parties-observers>)

143. Pendrill, et al. (2019). The authors did not include CO<sub>2</sub> emissions from grasslands and croplands which led to overestimation of the shares.

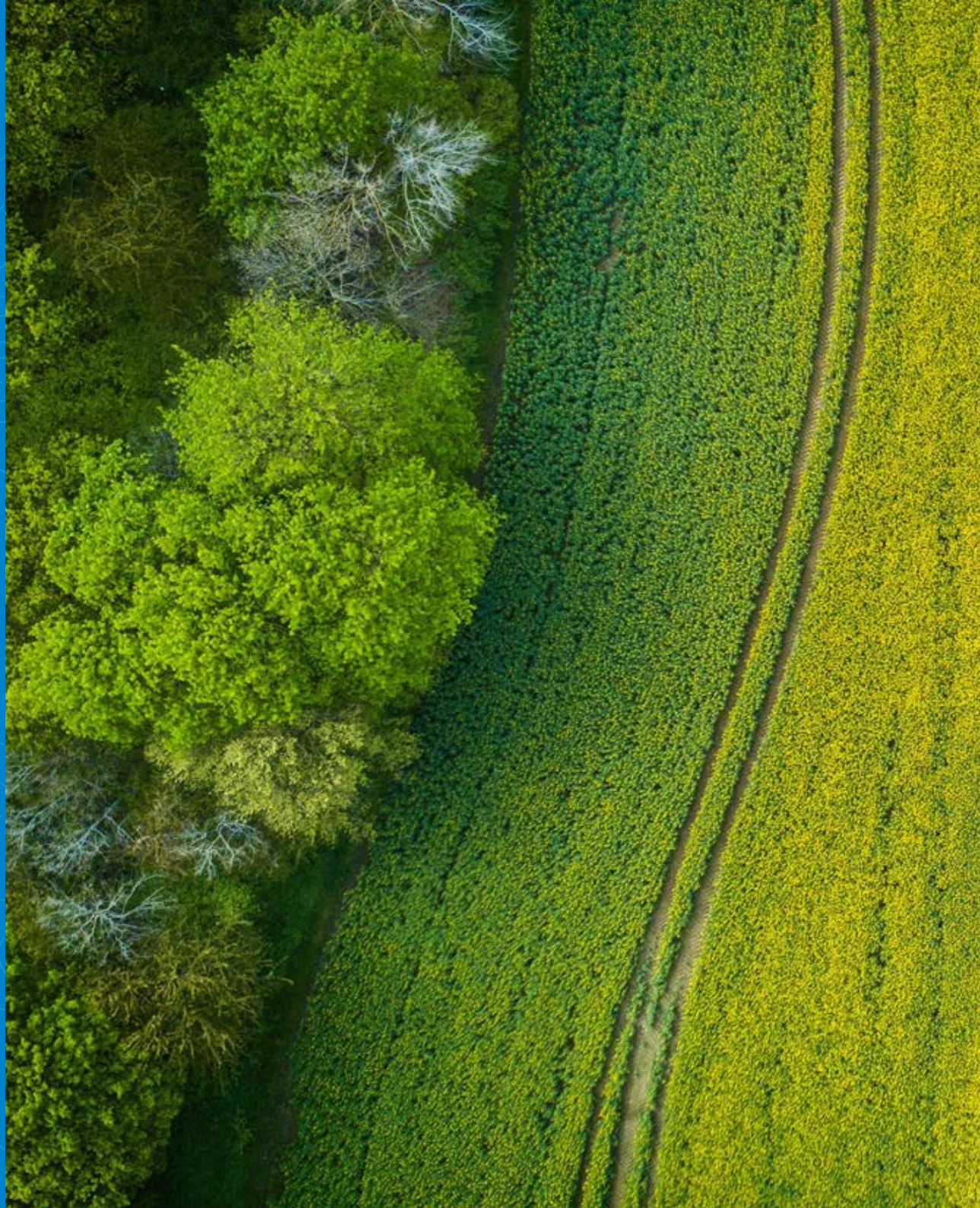


# 4

## Initiatives to address deforestation

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Guided by findings from previous chapters, interviews with supply chain experts, and a review of relevant literature, this chapter identifies current and potential options for addressing commodity driven deforestation. We explore policies and methods for driving change on sustainable sourcing, working with key actors along the value chain, and supporting producers in adapting production. Separately we include a summary of the recent EU communication on deforestation. Inspiring actions abound across commodities, but there is much room for improvement. Successful course-corrections must target relevant actors across all parts of the value chain, targeting consumer markets, supply chain actors, financial bodies, and major production areas for deforestation-linked commodities. And actions must complement or build upon the interventions already being promoted by governments, NGOs, and the private sector.







## Producer country initiatives

There are several initiatives that aim to contain or eliminate commodity-linked deforestation in producer countries. Efforts include progressive national legislation, innovative financing, capacity building, jurisdictional approaches, and multi-stakeholder dialogue. These interventions are operated at various scales from federal to district-level, and initiated by a suite of actors including governments, the private sector, and NGOs. Many efforts in the commodity deforestation “hotspot” countries are interrelated, uniting efforts in consumer markets and across supply chains. For example, the efforts of European commodity processors and those of primary producers of raw commodities to reduce commodity-linked deforestation are intimately linked. Focusing on the supply of commodities is key to reducing deforestation and improving the livelihoods of the millions of farmers small and large who produce a large part of the global production of palm oil, cocoa, coffee, and beef. Varying production patterns across commodities, countries, and even farmers necessitate a nuanced approach to intervention. Smallholder farmers might lack access to resources and markets, and often produce under uncertain tenure agreements, while larger landholders might lack financial capacity or face regulatory challenges. We briefly present the different efforts currently being undertaken to address deforestation in producer countries before delving into an assessment of how current efforts could be improved.



*There are several ongoing initiatives to reduce deforestation in producer countries. Some initiatives like capacity building are frequently used; other types of interventions like financing support must be strengthened.*

**National legislative initiatives** cover legislation introduced by governments in producer countries to curb domestic deforestation through the use of various policy measures. Examples include the Indonesian moratorium on the issuance of new permits for palm oil plantations, the Brazilian “Forest Code,” which provides for two types of conservation on private land<sup>144</sup>, and the “Zero Deforestation Law 2524/04” in Paraguay, which aims to preserve natural areas on rural properties.<sup>145</sup> The Malaysian government has committed to supporting nation-wide sustainable palm oil. Efforts include mandating MSPO certification for all oil palm planters in the country by 2019, and capping the expansion of palm oil plantation at 6.5 million hectares. At a state level, the government of Sabah is pursuing policies to achieve 100% RSPO certified by 2025.

144. Permanent Preservation Areas (Áreas de Preservação Permanente, or APPs), in which deforestation is prohibited; and the Legal Forest Reserve (Reserva Legal (LR)), for which landowners must set aside a percentage of their property for conservation (ranging between 20 percent and 80 percent of land inside, and 20 percent outside the Legal Amazon). See: IDH & IUCN NL (2019), *European Soy Monitor - Insights on the European supply chain and the use of responsible and deforestation-free soy in 2017*. Available at: <https://www.idhsustainabletrade.com/uploaded/2019/04/European-Soy-Monitor.pdf>

145. The law states that rural properties in forest areas with more than 20 hectares should keep 25 percent of their natural forest area and preserve riverbeds and streams in order to prevent erosion and water pollution. See IDH & IUCN NL (2019), *European Soy Monitor - Insights on the European supply chain and the use of responsible and deforestation-free soy in 2017*. Available at: <https://www.idhsustainabletrade.com/uploaded/2019/04/European-Soy-Monitor.pdf>

**Financing support** initiatives are policies or interventions that use financial means to address deforestation in producer countries. Financing support can include support schemes, such as grants provided to farmers, or blended finance or loans designed to support sustainable production approaches. There are limited examples of government initiatives funding financing support across the commodities examined in detail, although the Netherlands, Norway, Denmark, and the UK are pioneering approaches in this area. Solidaridad, a civil society organization supported by the Dutch government, is bundling blended finance with other solutions to approach villagers in Indonesia.<sup>146</sup> Another initiative is the blended finance debt fund “&Green” incorporated by IDH and the Government of Norway through its International Climate and Forest Initiative (NICFI). The fund invests in commercial projects that can demonstrate decoupling of commodity production from deforestation.<sup>147</sup> AGRI3, a partnership between UN Environment and Rabobank, to develop business models and mobilize private financial resources for deforestation-free sustainable agriculture and land use will explore combined solutions of equity, debt, risk reduction, and grant instruments (in the form of technical assistance) to catalyze USD 1 billion in finance. The fund will offer solutions to farmers, and involve banks, private-sector actors, and local governments.<sup>148</sup>

146. Solidaridad (2019), “Small farmers protect unique forests of Indonesia”. Available at: <https://www.solidaridadnetwork.org/news/small-farmers-protect-unique-forests-of-indonesia>

147. ADM Capital (2019). Available at: <https://www.admcapital.com/green-fund-makes-catalytic-investment-in-natural-rubber-company-in-indonesia-through-tiff/>

148. <https://www.idhsustainabletrade.com/news/agri3fund-idh-partners-with-rabobank-un-environment-and-mirova-altheia-to-support-deforestation-free-agriculture/>







**Capacity building** in producer countries includes any initiative to provide knowledge, training, and technical support to producers. These initiatives are often funded by governments or consumer countries' development agencies, and often implemented with the support of the private sector or non-government organizations (NGOs). Capacity building has historically been an area of focus by Western governments to address various development or environmental issues. Cocoa producers have received particular capacity building attention, likely a result of Europe's large share of global cocoa imports. Fewer countries have supported capacity building activities in producer countries of palm oil and soy. In Vietnam, the German development agency GIZ supported local authorities in forest management, including the certification of timber and introduction of payments to local people for their forest-related environmental services.<sup>149</sup> For timber, Belgium is the facilitator of the multi-stakeholder platform Congo Basin Forest Partnership (CBFP) for the period 2018-2019. Parties recently signed the Brussels Declaration, highlighting the need to build capacity for small and micro wood processing companies in the Congo Basin.<sup>150</sup>

**Multi-stakeholder dialogue** in producer countries are initiatives that gather different stakeholders on the supply side (such as farmers, local governments, and civil society actors) to work on issues related to deforestation. A number of initiatives have been implemented in countries producing palm oil. The Tropical Forest Alliance (TFA) and UK Government's Partnership for Forests (P4F) Initiative supported the Africa Palm Oil Initiative, which brings together governments, companies, civil societies, and community groups from ten African palm-oil-producing countries to develop regional principles for responsible palm oil.<sup>151</sup> In another initiative, the French research agency CIRAD set up the SALSA platform in 2016, working predominantly on sustainable palm oil cultivation in Indonesia and Malaysia.<sup>152</sup> In cocoa, a new public-private partnership – the Cocoa & Forests Initiative (CFI) – has been organized by the World Cocoa Foundation (WCF), IDH, and The Prince of Wales' International Sustainability Unit (ISU). The governments of Côte d'Ivoire and Ghana and thirty-two leading cocoa and chocolate companies have joined together in the hopes of ending deforestation and restoring forest areas.<sup>153</sup>

149. GIZ. Available at: <https://www.giz.de/en/worldwide/357.html>

150. ATIBT (2018), "The Brussels Declaration – Conclusions of the 18th CBFP meeting". Available at: <https://www.atibt.org/en/the-brussels-declaration-conclusions-of-the-18-th-cbfp-meeting/>

151. TFA (2017), *Tropical Forest Alliance 2020 Africa Palm Oil Initiative*. Available at: [https://www.tfa2020.org/wp-content/uploads/2017/10/BNS\\_English\\_Final\\_5Oct.pdf](https://www.tfa2020.org/wp-content/uploads/2017/10/BNS_English_Final_5Oct.pdf)

152. The Sustainable Agricultural Landscapes in Southeast Asia (SALSA) platform promotes the concrete integration of disciplines and multi-stakeholder teams into research, training and development projects conducted in the field, working with local stakeholders, using experimental and academic approaches. <https://www.huiledepalmedurable.org/nos-partenaires/?lang=en>

153. For further information, see <https://www.worldcocoa-foundation.org/initiative/cocoa-forests-initiative/>



## Jurisdictional approaches

To drive a transformation towards sustainable agriculture, local jurisdictions and smallholder farmers must have the ability to develop sustainable production systems. This requires addressing issues such as land tenure and rights, access to inputs, training, coordination, and sufficient advisory and outreach services. Governments, key private sector actors, NGOs, research institutions and outreach agencies all have a role to play. Producers must also be able to market these products to consumers. Strong incentives or mandates in the producer countries to support sustainable production can provide clear market signals for sustainably produced products. Price signals and consumer demand for sustainably produced commodities are currently not strong enough to drive change in key production locations. This demands multilateral action by producer and consumer country governments – market access can be facilitated by removing trade barriers or distorting taxes and subsidies, and demand for sustainable goods grown through information campaigns, public procurement policies, and other policy measures.

Jurisdictional approaches can ease multi-stakeholder and cross-country challenges by ensuring sustainable production practices across an entire jurisdiction. Consumer-side commitments on sustainable production and commodity sourcing call for an efficient and inexpensive solution to guaranteeing sustainable production of commodities – jurisdictional approaches are a key part of the solution. Moreover, monitoring at a jurisdictional landscape level drives transparency, which powers a cycle of action, investment and sourcing.

Jurisdictional or landscape approaches aim to reconcile competing social, economic, and environmental objectives, and take place at a scale that matches the administrative boundaries of sub-national or national governments. These approaches can be civil society, government, or private sector led. The focus is on helping regions to adopt sustainable production approaches, rather than ensuring sustainable sourcing approaches in the supply chains of large companies. These approaches can complement certification, as certification does not incorporate the territory between certified farms and concessions in which most of the deforestation occurs.







## The IDH Landscape approach

The IDH Landscape approach aims to make agricultural production sustainable across entire landscapes or regions. It has been built around coalitions of key landscape stakeholders, including governments, businesses, farmers, communities, and civil society organizations. It is focused on those landscapes in Africa, Asia, and Latin America that have economic value as major producers of globally traded commodities. We jointly develop sustainable land-use plans, regulatory frameworks, and business models to achieve three interlinked goals — creating areas where commercial and food crops are grown sustainably (Production); forests and other natural resources are sustainably used and protected (Protection); and farmers' and communities' livelihoods are enhanced (Inclusion), thereby contributing to the UN Sustainable Development Goals (SDGs) toward 2030.

**To strengthen landscape and sector governance**, IDH develops green growth plans at large-scale jurisdictional level (e.g. a state or province) in collaboration with public and private stakeholders, ensuring that these plans are embedded in the jurisdiction's long-term planning process. For example, in Vietnam, IDH supported the Lam Dong province in developing its Green Growth Action Plan. This will be integrated in the Provincial Master plan, a legally binding document that will be approved by the Prime Minister of Vietnam and will receive public funding for its implementation. The Green Growth Action Plan sets a course for the jurisdiction to become sustainable in 2030.

At a more local jurisdictional level (district or municipal), IDH facilitates the design and adoption of Production, Protection, Inclusion (PPI) compacts – landscape-level agreements between key stakeholders to enhance the sustainability and productivity of land, and secure community livelihoods in exchange for forest/natural resources protection. In Mato Grosso, Brazil, these agreements have been signed in Juruena, Cotriguaçu, Sorriso, and Barra do Garças municipalities. To achieve the compact targets, local governance is supported and pilot projects are developed and implemented. Annual monitoring is an essential part of the governance.

**To connect demand with supply of agricultural products**, IDH works on monitoring, convening public-private partnerships, and the development of the Verified Sourcing Area (VSA) model. End buyers are connected to the compacts in various ways, including via pilot projects to support implementation of the compact targets or sourcing from the region. The VSA Digital Platform, currently in development, is envisioned to create a new form of interaction between end buyers and compact stakeholders, by making progress on KPIs and end buyer activities visible, as well as functioning as a matchmaking platform between compacts and buyers.

**To scale up sustainable landscape approaches** IDH builds on good governance, duplicating successful innovations, making connections to markets, and providing financing. Scaling is easier where there is strong provincial or state governance with effective local PPI compacts supporting innovation. These provide a ready model for neighbouring jurisdictions to emulate. Market players can also scale innovations by taking new ways of doing sustainable business developed in one landscape and applying them in another from which they are also sourcing. IDH builds networks linking diverse landscapes and markets seeking sustainability. We aim to scale impact beyond a single landscape or commodity, creating verified sourcing areas for multiple commodities, and constantly inventing new ways of doing business. Sustaining and scaling innovations need financing and IDH not only co-funds innovations to reduce the risks for investors, but also helps projects to become investable and creates new international investment vehicles specifically to scale up sustainable landscape management.

While the IDH jurisdictional approach is explained in detail above, many organizations work on landscapes, including Conservation International, WWF, GIZ, CIFOR, Earth Innovation Institute, and Solidaridad.

## Accelerating action in producer countries

Efforts to shift production standards face many barriers. It can often be difficult for smallholders and producers in low-income countries to obtain the financing to transform their operations, limiting their ability to achieve sustainable production. Interest rates are often a major hurdle and too high for farmers to be willing to take on the risk of these investments. Banks also face risk, and de-risking sustainable investments for both parties, as exemplified by the “&Green” initiative, provide a way to grow investment. Coupling financing support with outreach and technical assistance is one effective way to ensure farmers engaging in long-term loan agreements make real and economically viable changes to cultivation practices.

A critical constraint for pursuing sustainable development in jurisdictions is the scale of investment required – previous TFA works suggest investment needs could reach around USD 160 billion annually.<sup>154</sup> When comparing the investment needed to assets under management of funds created to invest in ecological and regenerative agriculture and food systems, it’s clear a large gap needs to be filled. Currently the capital of the 63 leading agricultural investment funds sums to just USD 7.1 billion.<sup>155</sup>

Several national-level initiatives are constrained by enforcement issues. In Brazil, human and financial resources limit implementation of the rural land registry, and disincentivizing compliance from farmers. To combat enforcement issues, Resolution 3545, which limits access to rural credits if farmers are non-compliant with the Forest Code was implemented. In Paraguay, the Zero Deforestation Law could limit forest loss in the Atlantic Forest, but doesn’t completely halt illegal extraction and results in enhanced deforestation in the western part of the country including El Chaco.<sup>156</sup> Increased support for relevant environmental and agricultural agencies in deforestation-prone countries could boost compliance and enforcement capacity. Knowledge-sharing and capacity building can also help with promotion and implementation of the most effective policies. Crucially, many

key production locations lack jurisdictional programs for sustainable sourcing. For soy up to 90% of top producing regions do not have active jurisdictional approaches.<sup>157</sup> For beef and coffee this number is 80% – wood pulp (70%), and cocoa and palm oil (50% each) follow. Based on a review of major sources of literature on jurisdictional approaches, there are currently roughly 97 jurisdictional programs active or in the process of being developed.<sup>158</sup> Of those only 41 are in the top commodity producing regions, and another two are in the fastest growing commodity producing regions. Sufficient technical capacity is required in these production locations to design, implement, and evaluate projects to achieve outcomes efficiently and effectively. Jurisdictions vary significantly in this regard, particularly with regards to scaling of interventions. These approaches are time and cost intensive, requiring engagement with many individual farms and plantations. Technical and financial support is thus a prerequisite to successful interventions.

Many producer country initiatives could also benefit from additional support with operationalization and implementation from European countries. Commitments like the joint Framework for Action in the Cocoa & Forests initiative (2017) that defines core commitments, verifiable actions, and time-bound targets required for a deforestation-free and forest-positive cocoa supply chain are difficult to implement. Jumpstarting this type of initiative is crucial to radically altering the impacts of the cocoa supply chain and demands support from producer and consumer governments. Knowledge sharing, technical/financial support, official development assistance (ODA), or multi-lateral financing are all tools for consumer governments to consider.

154. TFA 2020 (March 2016), *Better growth with forests - economic analysis*. Available at: <https://www.tfa2020.org/wp-content/uploads/2016/03/Better-growth-with-forests-report.pdf>

155. FAO (2018), *Agricultural investment funds for development*. Available at: <http://www.fao.org/3/i8226en/i8226EN.pdf>

156. IDH (2018), *European Soy Monitor: Insights on the European supply chain and the use of responsible and deforestation-free soy in 2017*. Available at: <https://www.profundo.nl/download/idh1904>

157. Data sourced from: Tropical Forest Alliance and AlphaBeta (2019), *A “commodity-first” approach to identifying landscapes for private sector engagement* [forthcoming].

158. Based on a review of three key sources of literature (and existing AlphaBeta research):

GCF Task Force (2019), *States*. Available at: <http://acfiimpact.org/states>

Earth Innovation Institute (2018), *The State of Jurisdictional Sustainability – Caqueta, Colombia*. Available at: <https://earthinnovation.org/state-of-jurisdictional-sustainability/>

Forest Carbon Partnership Facility (2018), *Annual report*. Available at: <https://www.forestcarbonpartnership.org/sites/fcp/files/FCPF%20Annual%20Report%202018%20FINAL%20VERSION-compressed%20under%2020%20MB.pdf>





## Consumer country initiatives

Importers, consumers, and governments in major consumer markets in Europe can and must act to reduce deforestation.<sup>1</sup> Several policy initiatives that seek to contain or eliminate deforestation are already being implemented including consumer awareness campaigns, shifts in public procurement, capacity building, multi-stakeholder dialogue, reporting requirements, government-to-government dialogue, market measures, and command-and-control measures. Further, efforts by the European Union can strengthen and build upon existing national initiatives. In this section, we briefly present and assess the efforts by consumer countries to address deforestation, and offer paths to improvement.

1. Examples of government initiatives for each of the 12 consumer countries can be found in this report's Appendix C.



*Governments of the 12 European countries have taken steps to combat deforestation linked to key commodities, but these measures are mostly voluntary and non-binding. Governments must codify real incentives for sustainable purchasing into law.*

**Consumer awareness, concern, and agency** cover activities aimed at raising awareness among end users of how goods and commodities contribute to deforestation. The degree to which consumers are aware of an issue, concerned by it, and able to act on it profoundly affect the purchasing decisions they make. Consumer awareness interventions include education programs, communication campaigns, and product labeling. Consumer activism on palm oil and timber, long targets of campaigns by NGOs, appears to be an exception. Awareness of sustainable sourcing of other commodities is limited, and a recent target for government intervention. Among the 12 countries, the French government has been the most active in activating consumers. France plans to launch a “zero deforestation label” by 2020.<sup>159</sup> It’s important to note that consumer campaigns can have unintended consequences – for example the palm oil free movement hinders the promotion of sustainable palm oil, which has the potential to reduce deforestation.

159. The French “National Strategy to Combat Imported Deforestation” (Stratégie Nationale de Lutte Contre la Déforestation Importée), which was adopted in 2018, includes a plan to develop a “zero deforestation” label for consumers by 2020. A communication campaign will also be launched with the aim to raise consumers awareness and help them make more informed choices. The strategy will initially target the agricultural commodities, which contribute the most to imported deforestation, such as palm oil, soy, cocoa, and timber. For more information, please refer to the official French government website. Available at: <https://www.gouvernement.fr/en/ending-deforestation-caused-by-importing-unsustainable-products>  
Reuters (2018), “UPDATE 1-France sets out plans to tackle deforestation”. Available at: <https://af.reuters.com/article/energyOilNews/idAFL8NIXP37D>  
Stratégie nationale de lutte contre la déforestation importée 2018-2030, Available at: [https://www.ecologique-solidaire.gouv.fr/sites/default/files/2018.11.14\\_SNDI\\_0.pdf](https://www.ecologique-solidaire.gouv.fr/sites/default/files/2018.11.14_SNDI_0.pdf)

**Public procurement** initiatives are efforts to address sustainability issues by establishing purchasing guidelines for the public sector. While most countries have public procurement policies related to timber and paper, they are largely absent for other commodities.<sup>160</sup> The EU Green Public Procurement for Food and Catering Services is being revised and one of the proposals is to include sustainable sourcing requirements for palm oil.<sup>161</sup> For cocoa, the United Kingdom includes “fairly traded” chocolate in its sustainable procurement policy.<sup>162</sup>

**Capacity building in the domestic market** includes initiatives to support the private sector with shifts to sustainable sourcing of deforestation-risk commodities. This may take the form of technical support, training, or guidance on best practices. Domestic capacity building has received little attention. Less than half of the countries analyzed have initiatives to build the capacity of domestic supply chain stakeholders, with most focusing on palm oil, soy, and timber. Denmark supports the Responsible Sourcing of Soy, Beef, and Palm Oil Project in developing commodity risk assessment frameworks and provides Danish companies with information and training to help them secure responsible sourcing.<sup>163</sup> For timber, the Spanish authorities have worked with FSC and STTC to provide the construction industry with technical guidance on sustainable wood sourcing.<sup>164</sup> The degree of focus has been lower for cocoa – examples however include the German Initiative on Sustainable Cocoa (GISCO), the Swiss Platform for Sustainable Cocoa, or the Beyond Chocolate partnership in Belgium.<sup>165</sup>

160. For example, the United Kingdom has an established Timber Procurement Policy to ensure sustainable sourcing of timber across government departments, which include providing guidance to government procurers, suppliers and businesses on sustainability requirements of timber. For more information, please refer to the official UK government website. Available at: <https://www.gov.uk/government/collections/cpet-resources-for-government-procurers-suppliers-and-businesses#timber-procurement-policy-publications-and-guidance>  
Italy also has a public procurement policy for paper and office furniture with sustainability criteria. Source: Brack (2014), *Promoting Legal and Sustainable Timber: Using Public Procurement Policy*. Available at: [https://www.chathamhouse.org/sites/default/files/publications/research/20140908PromotingLegalSustainableTimberBrackFinal2\\_0.pdf](https://www.chathamhouse.org/sites/default/files/publications/research/20140908PromotingLegalSustainableTimberBrackFinal2_0.pdf)

161. European Commission (2018), *Palm oil and public procurement*. Available at: [http://ec.europa.eu/environment/gpp/pdf/news\\_alert/Issue\\_82\\_Article.pdf](http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue_82_Article.pdf)

162. For more information, please refer to <https://www.parliament.uk/documents/CSD-Commercial-Services-Directorate/Sustainable%20Procurement%20Policy.pdf>

163. NEPCoN, “Enhancing the responsible sourcing of forest impact commodities”. Available at: <https://www.nepcon.org/projects/enhancing-responsible-sourcing-forest-impact-commodities>

164. Madera Sostenible (2018), “FSC presentará dos publicaciones en CONSTRUTEC”. Available at: <https://madera-sostenible.com/madera/fsc-presentara-dos-publicaciones-en-construtec-2018/>

165. For more information, please refer to the German Initiative on Sustainable Cocoa (GISCO). Available at: <https://www.kakaoforum.de/en/about-us/german-initiative-on-sustainable-cocoa/>



**Multi-stakeholder dialogue** in the domestic market involves engaging different stakeholders, such as the government, private sector actors, universities and research agencies, and civil society actors in working together to address deforestation. Examples are numerous – The UK government has engaged with the private sector and civil societies on the issue of sustainable sourcing through multi-stakeholder platforms that support the signatories’ commitments and action plans to achieve sustainable sourcing.<sup>166</sup> For cocoa, the Belgium government has played an active role in convening the Beyond Chocolate partnership platform, which involves different stakeholders in the Belgian chocolate and retail sector, civil societies, social impact investors, and universities in tackling deforestation and ensuring livable incomes for cocoa producers.<sup>167</sup> At the regional level, the STTC brings together governments, businesses, and NGOs with an aim to increase European demand for sustainably sourced tropical timber. France’s National Group on Tropical Forests (GNFT), which aims to promote sustainable timber harvesting and prevent illegal logging, offers a national example.<sup>168</sup>

**Reporting requirements** are policies that mandate companies to report the share of sustainable sourcing of commodities relevant to their operations. Reporting requirements are rarely used in relation to deforestation, though recently France adopted a law establishing a “duty of vigilance” for large multinational firms carrying out all or part of their activity in France. Companies subject to the law must now establish mechanisms to prevent human rights violations and environmental impacts throughout their chain of production, including for their subsidiaries and companies under their control.<sup>169</sup> For timber, the Swiss Declaration Requirement requires companies to declare species and country of origin for imports, but has faced enforcement challenges with only 15% of audited companies declaring their products correctly.<sup>170</sup>

**Government-to-government dialogue** can include various forms of communication between governments to agree on measures to address deforestation. This can take the form of discussions or partnerships between governments of consumer countries and/or governments of producer countries on how to address issues related to production, trade, or manufacturing of various commodities.<sup>171</sup> Palm oil has been the main focus of government-to-government dialogues. For example, IDH and Solidaridad implemented the National Initiatives for Sustainable and Climate-smart Oil Palm Smallholders program, a government-to-government program funded by the Netherlands and currently operating in Indonesia, Malaysia, and Nigeria.

**Redirecting consumption patterns:** initiatives to change demand for certain products though positive or negative incentives are few. As a prominent example, France has decided to end tax incentives for adding palm oil to diesel fuel as of 2020.<sup>172</sup> Outright bans or restrictions placed on imports of certain commodities, if these are judged to contribute (too much) to deforestation, are not frequently used either. Under the National Strategy to Combat Imported Deforestation, France intends to stop importing soy, palm oil, beef, wood, and other products linked to deforestation and unsustainable agriculture by 2030.<sup>173</sup> Norway has also considered banning imports of unsustainable palm oil as feedstock to biofuels.<sup>174</sup>

166. For more information, please refer to: [http://www.efeca.com/wp-content/uploads/2018/11/UK-RT-Annual-Progress-Report\\_Final\\_11.09.18.pdf](http://www.efeca.com/wp-content/uploads/2018/11/UK-RT-Annual-Progress-Report_Final_11.09.18.pdf)  
<http://www.efeca.com/the-uk-roundtable-on-sustainable-soya/>

167. Foreign Affairs, Foreign Trade, and Development Cooperation (2018), “Alexander De Croo launches partnership for sustainable Belgian chocolate with the chocolate industry, major retailers and civil society”. Available at: [https://diplomatie.belgium.be/en/newsroom/news/2018/beyond\\_chocolate](https://diplomatie.belgium.be/en/newsroom/news/2018/beyond_chocolate)  
 168. “The National Group of Tropical Forests (GNFT) met on February 16 in Paris”. Available at: <https://www.atibt.org/en/groupe-national-forets-tropicales-gnft-sest-reuni-16-fevrier-a-paris/>

See also, *Tropical Forests: taking stock and new challenges* - What guidance for French stakeholders?. Available at: [https://agri-culture.gouv.fr/sites/minagri/files/documents/publications/pdf/rapport\\_anglais\\_Forts\\_tropicales\\_15\\_10\\_cle8a4966.pdf](https://agri-culture.gouv.fr/sites/minagri/files/documents/publications/pdf/rapport_anglais_Forts_tropicales_15_10_cle8a4966.pdf)

169. Further information is available at: <https://www.csrandthelaw.com/2017/08/03/the-french-duty-of-vigilance-law-what-you-need-to-know/>  
 170. The declaration was passed in 2011. It requires companies to declare species (including whether the type of wood is protected by the CITES Convention) and country of origin. For further information see <https://sustainableforestproducts.org/node/65>; SWI (February 6, 2018), “Wood not labelled properly in Switzerland”. Available at: [https://www.swissinfo.ch/eng/business/consumer-affairs\\_wood-not-labelled-properly-in-switzerland/43880440](https://www.swissinfo.ch/eng/business/consumer-affairs_wood-not-labelled-properly-in-switzerland/43880440)

171. An EU example relying on government-to-government dialogue is the Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan for tackling deforestation and illegal logging, where the EU works with producer governments to address illegal logging  
 172. “France’s National Assembly ends tax incentives for palm oil in diesel fuel”. Available at: <https://news.mongabay.com/2016/03/france-imposes-new-palm-oil-tax-indonesia-malaysia-protest/>

173. Climate Home News (2018), “France aims to ban deforestation imports by 2030”. Available at: <https://www.climatechangenews.com/2018/11/14/france-aims-ban-deforestation-imports-2030/>

174. Bloomberg (2019), “Norway Pushes for Sustainable Palm Oil to Forge Malaysia Deal”. Available at: <https://www.bloomberg.com/news/articles/2019-02-26/norway-pushes-for-sustainable-palm-oil-to-forge-malaysia-deal>  
 Independent (2018), “Norway to heavily restrict palm oils linked to deforestation”. Available at: <https://www.independent.co.uk/environment/norway-palm-oil-fuels-deforestation-rainforests-orang-utans-biofuels-a8666646.html>

## Accelerating action in consumer countries

Consumer countries are taking a number of actions to reduce commodity-driven deforestation, but efforts must be increased to address the scale of the problem. Most of existing initiatives are voluntary – multi-stakeholder dialogues proliferate – and for most commodities there are too few initiatives that actually address deforestation.

Clear labeling for products in European markets to guide consumers on making a deforestation-free purchase are almost non-existent (partly due to the high technical complexity of developing these programs). Existing standards and certifications do not focus specifically on deforestation, but on sustainability in general, and even these are limited in their reach. Government initiatives to increase consumer awareness of deforestation are relatively limited. As a result, consumers struggle to make informed decisions about their purchases.

Public entities such as hospitals, schools, and the military procure substantial quantities of food products and soft commodities, but deforestation risks are rarely addressed by public procurement. Palm oil, soy, and cocoa have received little attention, with only a few countries addressing the issue of sustainable sourcing from the public procurement angle. Timber is the rare exception, and potentially a model for future efforts. EU-level action including FLEGT and EUTR could provide a roadmap for other commodities. In addition, sustainable sourcing requirements by governments and public agencies can contribute to promote demand for sustainably produced commodities while curbing demand for those commodities linked to deforestation, thus also supporting actions in other areas.

Capacity building has the capacity to catalyze private sectors efforts on deforestation, but is underutilized by consumer governments. This is an area, which would link well with efforts among the private sector. Many private companies struggle to implement, verify, measure and fulfill their commitments providing a key leverage point for governments. Examples could include support on sourcing of sustainable materials, establishing MRV-systems, providing opportunities for exchanging knowledge and experience among involved actors, and providing access to expert knowledge.<sup>175</sup>

175. Measuring, Reporting, and Verification. The term was introduced as part of the Bali Action Plan on Climate Change in 2007, coining the term “measurable, reportable and verifiable” greenhouse gas (GHG) mitigation actions and commitments.





Government-to-government dialogue has been used with some success, but there are opportunities for expansion. The EU could include this as part of its work with developing countries including ACP countries.<sup>176</sup> We must initiate dialogues with China, India, Australia, South Korea, and other large import markets to ensure EU initiatives are aligned with policy developments in those countries.

Regulatory measures to address deforestation are largely nonexistent. There are limited government initiatives related to mandatory reporting across palm oil, soy, and timber, but no outright bans or fiscal penalties for unsustainable imports. Adherence to trade rules, especially WTO regulations, makes use of command-and-control and market policy tools difficult for many governments, but it could potentially be used by the EU.

Market incentives can be used by the consuming countries or built into trade agreements like the recently signed EU-Mercosur trade deal, where provisions and stipulations on quota and tariffs for different commodities and goods are set. Production can be subsidized, as already happens with most agriculture in the EU, or tariffs lowered for certified commodities to shift incentives for production. A tax on commodities contributing to deforestation could alter the landscape on deforestation. There are potential drawbacks and complications involved in using such measures including distinguishing between “like-products” (as similar commodities produced under different circumstances are referred to by the WTO), or implementing wide-scale certification systems, not to mention potential political and economic opposition. Raising tariffs “would probably be consistent with WTO rules”,<sup>177</sup> although adoption would likely be controversial. In general, import tariffs on most of the commodities are low, meaning reducing tariffs would have little effect unless coupled with other measures.

176. The EU already have existing partnerships with the Africa-Caribbean-Pacific (ACP) countries on a range of topics related to sustainable development and economic integration, and dialogues on deforestation could be aligned with the work already ongoing in these areas.

177. Brack, D. and Bailey, R. (2013) Ending Global Deforestation: Policy Options for Consumer Countries. Chatham House and Forest Trends, September 2013. Available at: [https://www.forest-trends.org/wp-content/uploads/imported/Brack\\_Deforestation\\_Programme\\_Report\\_FINAL.pdf](https://www.forest-trends.org/wp-content/uploads/imported/Brack_Deforestation_Programme_Report_FINAL.pdf)

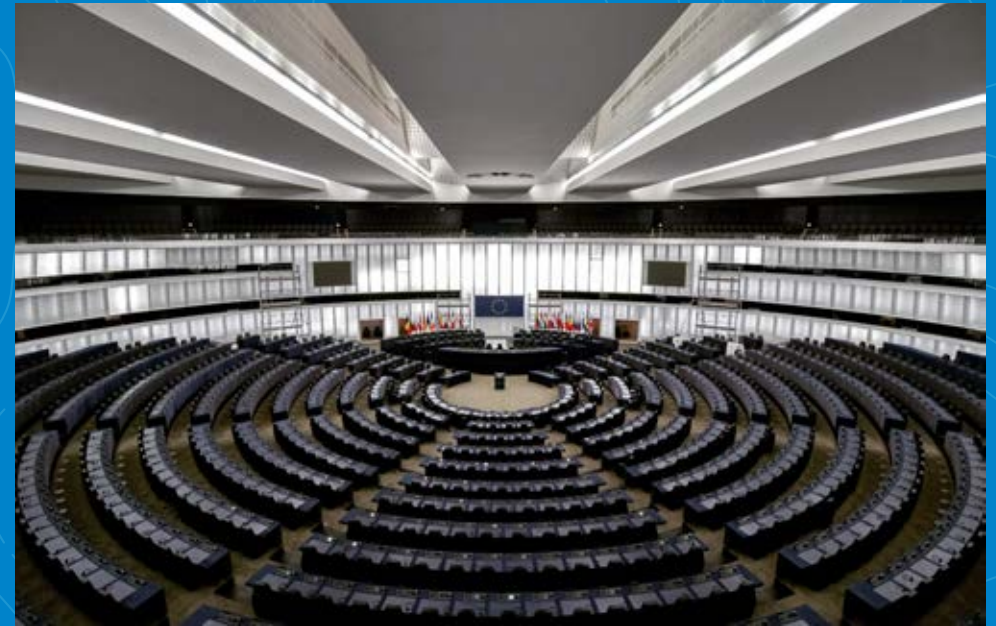


# The European Union has proposed actions to address deforestation

Faced with multiple calls for an ambitious joint approach to tackle deforestation, the European Commission (EC) recently released a policy paper building on several previous studies and consultations “to propose ways to step-up EU action to protect the world’s forests”.

The EU cannot address global tropical deforestation alone, but as a major trader, investor, and the largest provider of development assistance globally, the EU action has great power. The EU document sets out five priorities while recognizing that solutions need to be specific to the country and region targeted. These five priorities are:

- 1 Reduce the footprint of EU consumption and encourage the consumption of products from deforestation-free supply chains;**
- 2 Work in partnership with producer countries to reduce pressures on forests and to “deforest-proof” EU development cooperation;**
- 3 Strengthen international cooperation to halt deforestation and forest degradation, and encourage forest restoration;**
- 4 Redirect finance to support more sustainable land-use practices; and**
- 5 Support the availability of and access to quality information on forests and commodity supply chains, and support research and innovation.**



The actions proposed also aim to create a multi-stakeholder platform and an EU Observatory on deforestation and forest degradation, explore possible legislative measures, and reinforce the implementation of the EU Forest Law Enforcement and Governance and Trade (FLEGT) Action Plan (with a focus on fighting illegal logging).

It is imperative to note, however, that “as the mandate of the current Commission is drawing to a close, this Communication will stop short of laying out a definitive blueprint for the incoming Commission.” As a result, the current Communication should be seen as a proposed list of initial actions to be considered and decided upon by the incoming Commission. It is dependent on the endorsement and active engagement of the European Parliament and Council in implementing the actions it contains.

#### Sources:

EC (2018), Feasibility study on options to step up EU action against deforestation. Available at: <http://ec.europa.eu/environment/forests/pdf/KHO418199ENN2.pdf>

EC (2018), “Deforestation and forest degradation – stepping up EU action”. Available at: [https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2018-6516782\\_en](https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2018-6516782_en)

EU Communication (2019) on Stepping up EU Action to Protect and Restore the World’s Forests. Available at: [https://ec.europa.eu/environment/forests/eu\\_comm\\_2019.htm](https://ec.europa.eu/environment/forests/eu_comm_2019.htm)

European Commission (2019) COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. Stepping up EU Action to Protect and Restore the World’s Forests. COM(2019) 352 final, Brussels, 23.7.2019.



# 5

## Building sustainability scenarios to accelerate progress

This chapter explores how different scenarios for the sourcing of certified soy and palm oil by European countries affect the deforestation rates and CO<sub>2</sub>e emissions embodied in European consumption. Increasing the consumption rate of sustainable commodities can address commodity-driven deforestation.

The results presented here aim to inspire accelerated progress towards higher levels of sustainable sourcing from the European countries. Adopting the most ambitious sustainable sourcing approach for soy and palm oil could have enormous impacts, saving over 3.6 million hectares of forests by 2025, and over 5.7 million hectares by 2030.







## Key assumptions and data feeding into the scenario exercise

The scenario exercise in this chapter aims to provide an estimation and indication of future deforestation rates and greenhouse gases emission. Due to limited data availability, the model measurement utilizes information on soy and palm oil retrieved from the two reports: “European soy monitor - insights on the European supply chain and the use of responsible and deforestation-free soy in 2017”<sup>178</sup> and “Choosing sustainable palm oil - progress report on the import and use of sustainable palm oil in Europe”<sup>179</sup>.

For Poland and Portugal where no data is available for soy and/or palm oil, we took the most conservative assumption that none of its soy is sustainably sourced. On the palm oil data, we only account for palm oil used in the food, feed and oleochemical sectors. These sustainable sourcing figures have been derived through literature review and consultation with national experts. Appendix A contains a detailed methodology with the key assumptions, including the calculation of land requirements for both soy and palm oil.



178. IDH & IUCN NL (2019), European Soy Monitor - Insights on the European supply chain and the use of responsible and deforestation-free soy in 2017.

179. European Sustainable Palm Oil (2019), Choosing sustainable palm oil - progress report on the import and use of sustainable palm oil in Europe.



# There are six different scenarios for how sustainable sourcing in Europe could evolve

The scenarios for how sustainable sourcing performance could evolve in the future vary on multiple dimensions, such as the number of countries that meet the goals of the Amsterdam Declaration (for example, only the seven original signatories of the Amsterdam Declaration or all 28 countries in the European Union), as well as the timeline for achieving these actions (achieving sustainable sourcing goals in 2025 or 2030).

*This analysis considers six scenarios, three with the time period set to 2025 and three with the time period set to 2030.*

## Time period 2025

- **Business-as-usual to 2025.** This scenario assumes that the current share of net imports (adjusted for re-exports) that is sustainably sourced increases at a constant rate from today's levels (2017) for the 12 countries – 4 percent for palm oil and 3 percent for soy.<sup>180</sup> As a result, the deforestation and CO<sub>2</sub>e impacts are mainly driven by changes in the volume of demand from the 12 countries.
- **Match best practice by 2025.** This scenario assumes that each of the 12 countries achieves the sustainable sourcing share of the current best-performing country in each commodity by 2025.
- **Zero deforestation by 2025.** This scenario assumes that the 12 countries improve their sustainable sourcing performance in a linear fashion to achieve 100 percent sustainable sourcing by 2025.

180. The estimations of 4 percent increase for palm oil and 3 percent increase for soy are based on historical growth rates. For instance, Belgium's sustainable sourcing rate for soy in 2019 has been estimated to be 47 percent. Maintaining a constant year-on-year growth rate increase of 3 percent, Belgium's sustainable sourcing rate for soy in 2020 and 2021 will be 48 percent and 50 percent.

## Time period 2030

- **Business-as-usual to 2030.** This scenario assumes that the current share of net imports (adjusted for re-exports) that is sustainably sourced increases at a constant rate from today's levels (2017) for the 12 countries – 4 percent for palm oil and 3 percent for soy.<sup>181</sup> As a result, the deforestation and CO<sub>2</sub>e impacts are mainly driven by changes in the volume of demand from the 12 countries.
- **Match best practice by 2030.** This scenario assumes that each of the 12 countries achieves the sustainable sourcing share of the current best-performing country in each commodity by 2030.
- **Zero deforestation by 2030.** This scenario assumes that the 12 countries improve their sustainable performance in a linear fashion to achieve 100 percent sustainable sourcing by 2030.

181. The estimations of 4 percent increase for palm oil and 3 percent increase for soy are based on historical growth rates. For instance, Belgium's sustainable sourcing rate for soy in 2019 has been estimated to be 47 percent. Maintaining a constant year-on-year growth rate increase of 3 percent, Belgium's sustainable sourcing rate for soy in 2020 and 2021 will be 48 percent and 50 percent.



*A more ambitious sustainable sourcing approach in soy and palm oil could save over 3.6 million hectares of forests by 2025 and over 5.7 million hectares by 2030*

Due to data constraints on sustainable sourcing rates for a number of key commodities, this analysis focuses only on soy and palm oil.<sup>182</sup> To measure the deforestation impacts of European demand in key producer countries, future demand of the 12 European markets is projected to 2030. Subsequently, the amount of land required to satisfy this future demand is estimated, taking into account country-specific yield improvements based on historical trends (among key sourcing countries).<sup>183</sup> The potential amount of deforested land for each scenario is calculated based on past studies on each commodity’s contribution to deforestation in the respective production locations. Finally, the CO<sub>2</sub>e impact is estimated based on local data of emissions associated with deforestation in each key producer country. The analysis builds on the assumption that by sourcing certified commodities, deforestation-free consumption can be achieved. This is a simplified method, but had to be used as a proxy due to lack of better ways of gauging the impact of changed sourcing and consumption practices. This does not imply that certification is the only way to source sustainably. The detailed methodology can be found in Appendix A.

182. Soy includes soybean, soy meal and soy oil.

183. To determine the amount of land required to grow the soy products in the producer countries, we assume that each tonne of soy meal or soy oil requires the same amount of land as one tonne of soybean. This will lead to an underestimation of deforestation as we need more than one tonne of soybean to produce one tonne of soy meal or soy oil (based on research on crushing ratios, one soybean only contains 78.5 percent of soy meal and 18.5 percent of soy oil). However, using the crushing ratios might lead to significant double-counting which is more problematic. For more details and an example, refer to Appendix A Box 1.



Exhibits 12 and 13 summarize the deforestation impacts across the six scenarios:

### 1. Business-as-usual to 2025

In this scenario, where the current sustainable sourcing rate increases for soy and palm oil are maintained to 2025, the cumulative deforestation caused by demand from the 12 European markets is approximately 6.6 Mha (an area slightly smaller than Ireland, or roughly 1.6 percent of the total land area of the 28 European Union members).

### 2. Match best practice by 2025

In this scenario, where other countries are assumed to converge to the current best-performing country by 2025, the amount of estimated deforested land declines to approximately 3.9 Mha (an area slightly smaller than Switzerland). Switzerland is the leading country for sustainable sourcing among the 12 countries examined for palm oil (90 percent sustainable sourcing) and soy (82 percent sustainable sourcing).

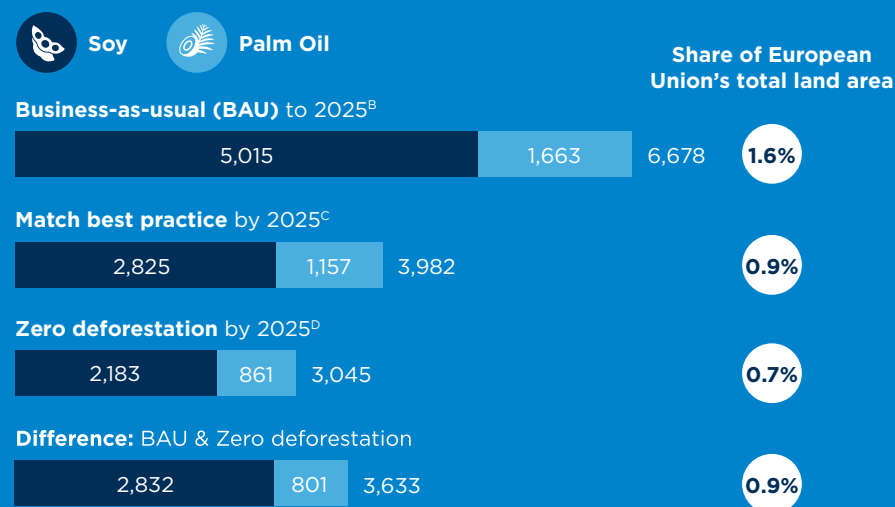
### 3. Zero deforestation by 2025

This scenario assumes the most rapid improvement in sustainable sourcing, with all 12 countries achieving 100 percent sustainable sourcing of both soy and palm oil by 2025. Unsurprisingly, the projected level of cumulative deforestation in this scenario is the lowest at around 3.0 Mha (an area the size of Belgium) – roughly 0.7 percent of the land area of the EU.

For the time period before 2025, the difference between the highest deforestation scenario (“Business-as-usual to 2025”) and the lowest deforestation scenario (“Zero deforestation by 2025”) is a reduction of deforestation over the next seven years of over 3.6 Mha, which is equivalent to the size of Netherlands (or about 0.9 percent of the total land area of the 28 European Union members).

## EXHIBIT 12 CUMULATIVE DEFORESTATION CAUSED BY EUROPEAN MARKET DEMAND BETWEEN 2018 AND 2025<sup>A</sup>

Deforestation area (‘000 hectares)

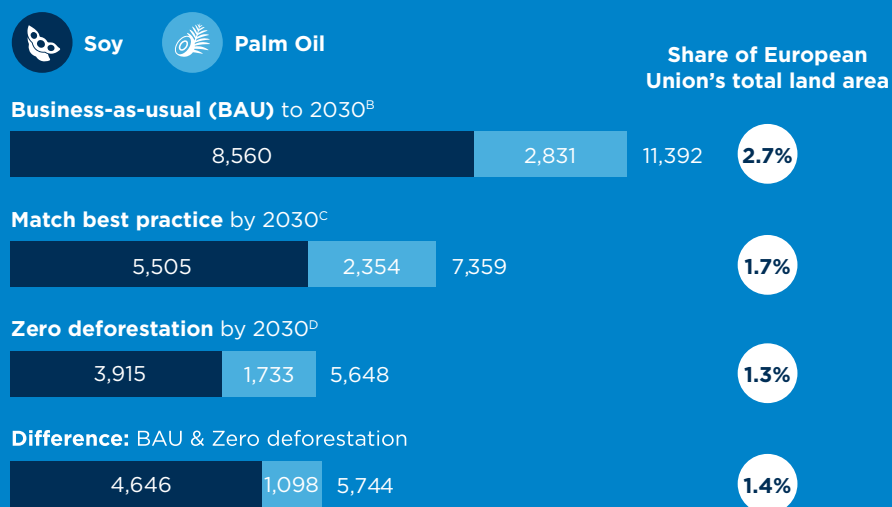


(A) Estimates for 12 European markets: Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Poland, Portugal, Spain, Switzerland, and the United Kingdom. (B) Assumes that the 12 markets increase their sustainable sourcing rates at a constant pace (3% y-o-y for soy and 4% y-o-y for palm oil) till 2025. (C) Assumes that the 12 markets match the 2018 best practice sustainable sourcing rates in 2025. (D) Assumes that the 12 market attain 100% sustainable sourcing in 2025.

Source: Henders et. al.(2015); FAO STAT; USDA; Global Forest Watch; AlphaBeta analysis

## EXHIBIT 13 CUMULATIVE DEFORESTATION CAUSED BY EUROPEAN MARKET DEMAND BETWEEN 2018 AND 2030<sup>A</sup>

Deforestation area ('000 hectares)



(A) Estimates for 12 European markets: Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Poland, Portugal, Spain, Switzerland, and the United Kingdom. (B) Assumes that the 12 markets increase their sustainable sourcing rates at a constant pace (3% y-o-y for soy and 4% y-o-y for palm oil) till 2030. (C) Assumes that the 12 markets match the 2018 best practice sustainable sourcing rates in 2030. (D) Assumes that the 12 market attain 100% sustainable sourcing in 2030.

Source: Henders et. al.(2015); FAO STAT; USDA; Global Forest Watch; AlphaBeta analysis

## 4. Business-as-usual until 2030

In this scenario, where the current sustainable sourcing rate increases for soy and palm oil are maintained to 2030, the cumulative deforestation caused by demand from the 12 European markets is approximately 11.3 Mha (slightly more than the size of Estonia and Lithuania combined, or roughly 2.7 percent of the total land area of the 28 European Union members).

## 5. Match best practice by 2030

In this scenario, where other countries are assumed to converge to the current best-performing country by 2030, the amount of estimated deforested land declined to approximately 7.4 Mha (an area slightly smaller than the Czech Republic, or about 1.7 percent of the total land area of the 28 European Union members).

## 6. Zero deforestation by 2030

The cumulative amount of deforested land under this scenario, which assumes consuming countries grow their share of sustainable sourcing to 100 percent by 2030, is approximately 5.6 Mha (an area the size of Croatia, or about 1.3 percent of the total land area of the 28 European Union members).<sup>184</sup>

The difference between the highest deforestation scenario (“Business-as-usual to 2030”) and the lowest deforestation scenario (“Zero deforestation by 2030”) is a reduction of deforestation over the next 12 years of over 5.7 Mha, which is slightly more than the size of Croatia (or around 1.4 percent of the total land area of the 28 European Union members).<sup>185</sup>

184. For example, Denmark’s share of sustainably sourced palm oil is 65 percent in 2017 and is projected to improve by around 2.7 percentage points annually to 100 percent in 2030.

185. If we remove Poland (Soy, PO) and Portugal (PO), in the 2025 scenario: the difference between BAU and Zero deforestation scenarios will decrease to 3,202,000 hectares (compared to 3,633,000 hectares); in the 2030 scenario: the difference between BAU and Zero deforestation scenarios will decrease to 4,959,000 hectares (compared to 5,744,000 hectares).





*Carbon emissions could be reduced by 186 Mt CO<sub>2</sub>e by 2025 and 280 Mt CO<sub>2</sub>e by 2030*

Exhibit 14 estimates the corresponding cumulative emissions caused by European demand under each of the three first scenarios under the 2018 – 2025 timeline. By moving from “Business-as-usual to 2025” to the “Zero deforestation by 2025” scenario, about 317 million metric tonnes (Mt) of CO<sub>2</sub>e could be avoided between 2018 and 2025, equivalent to the emissions reduction of taking more than 9.6 million passenger vehicles off the roads annually for seven years (or taking roughly 23 percent of Europe’s 299 million passenger vehicles off the road for one year).<sup>186</sup>

<sup>186</sup> EPA (2019), “Greenhouse Gas Equivalencies Calculator”. Available at: <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

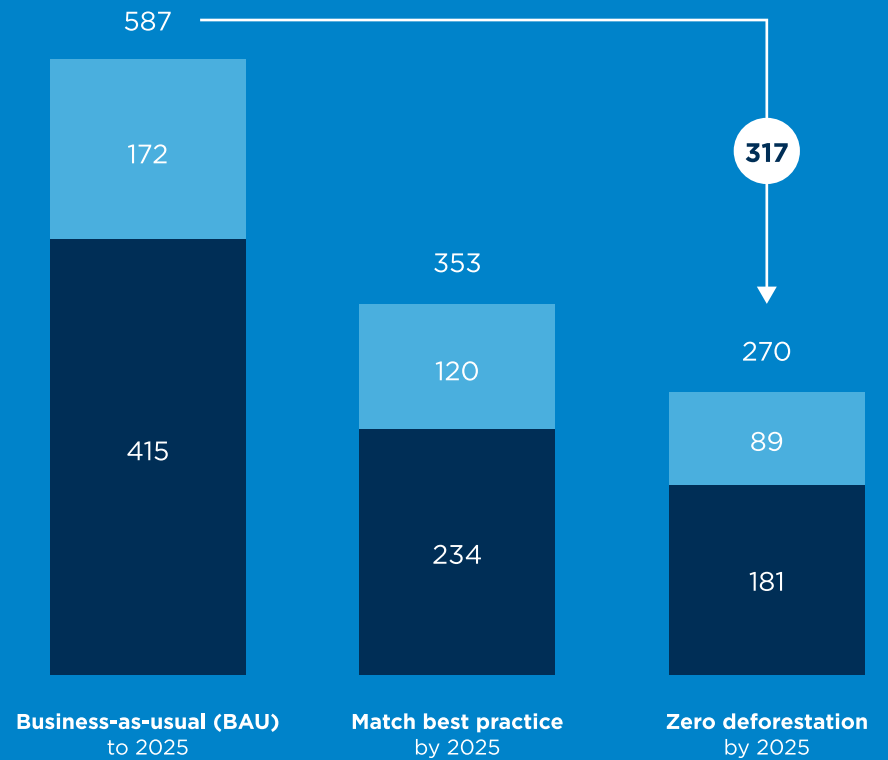
**EXHIBIT 14**

**CUMULATIVE EMISSIONS CAUSED BY EUROPEAN MARKET DEMAND BETWEEN 2018 AND 2025<sup>A</sup>**

317 metric megatonnes of CO<sub>2</sub>e emissions could be avoided over the next 7 years via accelerated action on sustainable sourcing



Metric megatonnes  
(1 metric megatonne = 1,000,000 metric tonne)



(A) Estimates for 12 European markets: Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Poland, Portugal, Spain, Switzerland, and the United Kingdom.

Source: Henders et. al.(2015); FAO STAT; USDA; Global Forest Watch; AlphaBeta analysis

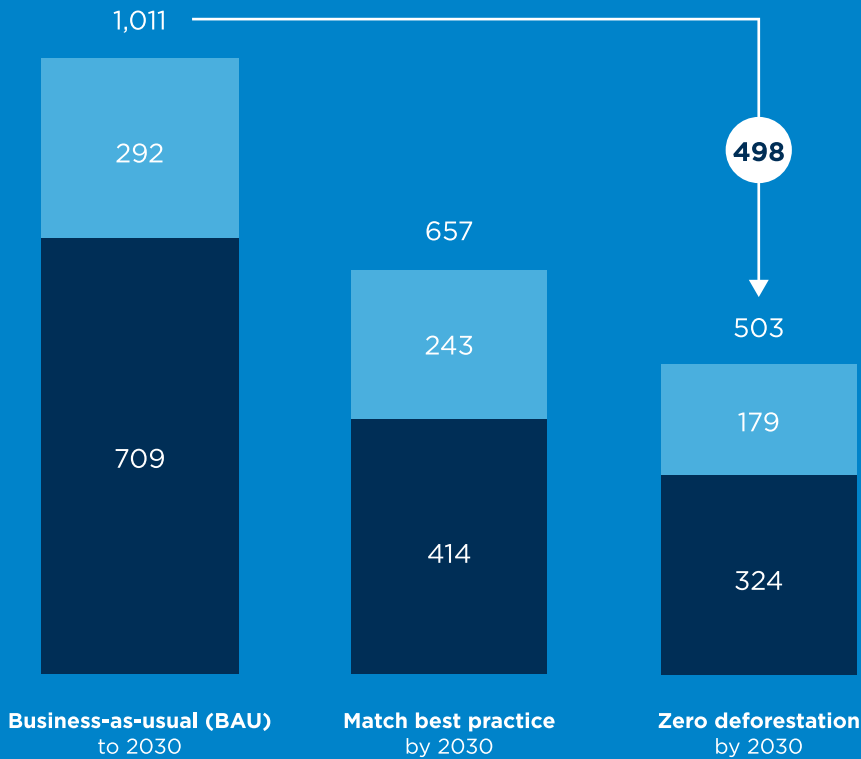
**EXHIBIT 15**

**CUMULATIVE EMISSIONS CAUSED BY EUROPEAN MARKET DEMAND BETWEEN 2018 AND 2030<sup>A</sup>**

498 metric megatonnes of CO<sub>2</sub>e emissions could be avoided over the next 12 years via accelerated action on sustainable sourcing



Metric megatonnes  
(1 metric megatonne = 1,000,000 metric tonne)



(A) Estimates for 12 European markets: Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Poland, Portugal, Spain, Switzerland, and the United Kingdom.

Source: Henders et. al.(2015); FAO STAT; USDA; Global Forest Watch; AlphaBeta analysis

Exhibit 15 estimates the corresponding cumulative emissions caused by European demand under the next three scenarios under the 2018 - 2030 timeline. By moving from “Business-as-usual to 2030” to the “Zero deforestation by 2030” scenario, about 498 Mt of CO<sub>2</sub>e could be avoided between 2018 and 2030, equivalent to the emissions reduction of taking more than 8.8 million passenger vehicles off the roads annually for 12 years (or taking roughly 35 percent of Europe’s 299 million passenger vehicles off the road for one year).<sup>187</sup> Compared to the European Union’s Nationally Determined Contribution (NDC), the potential emissions savings sum to about 22 percent of the 2030 reduction targets.<sup>188</sup>

The impacts of achieving zero deforestation caused by European consumption of soy and palm are tremendous. The date for achieving deforestation-free supply chains is also extraordinarily relevant to net deforestation caused. As much as 3.5 Mha of deforestation can be avoided if the target is achieved in 2025 rather than 2030, with impacts on carbon emissions of up to 500 MtCO<sub>2</sub>e over the next decade.

As these scenarios don’t account for rubber, timber, pulp and paper, beef, coffee, and cocoa, the deforestation caused by European imports is even higher than shown in this analysis. This also means that if sustainable, deforestation-free sourcing could be achieved for all commodities covered by this report, the area of avoided deforestation would be larger than the figures shown in Exhibit 12, 13, 14, and 15 above. The scenarios show that accelerating progress on sourcing of sustainable, deforestation-free commodities and setting clear targets dates makes a significant difference to tropical forest deforestation associated with European commodity imports.

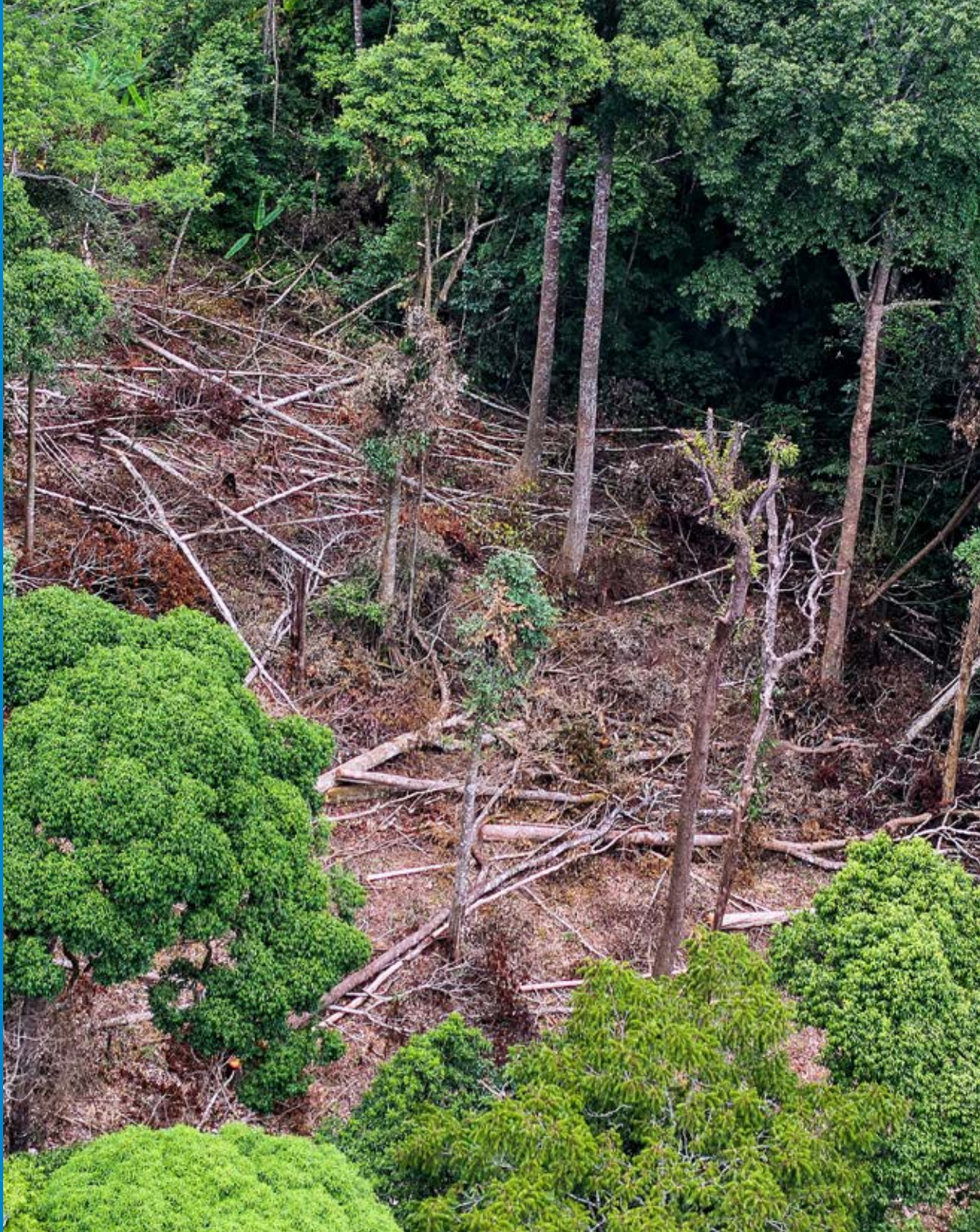
187. EPA (2019), “Greenhouse Gas Equivalencies Calculator”. Available at: <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>  
 188. The European Union has committed to a binding target of at least 40 percent domestic reduction in greenhouse gas emissions (compared to 1990 levels) by 2030. This is about a reduction of 2,200 million tonnes of CO<sub>2</sub>e. UNFCCC (2015), “Intended Nationally Determined Contribution of the EU and its Member States”. Available at: <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/European%20Union%20First/LV-03-06-EU%20INDC.pdf> and EEA (2018), “Annual European Union greenhouse gas inventory 1990-2016 and inventory report 2018”. Available at: <https://www.eea.europa.eu/publications/european-union-greenhouse-gas-inventory-2018>



# 6

## Achieving urgently needed action to end commodity-driven deforestation

In the wake of ever-rising greenhouse-gas emissions and crumbling global ecosystems, the urgency to act to reduce deforestation is undeniable. Based on the findings presented in previous chapters, this chapter identifies key levers of change to accelerate the reduction of commodity-driven deforestation. The recommendations described here are not comprehensive or concrete, rather they serve as an action-oriented agenda to catalyze rapid shifts to reduce commodity-driven deforestation.







## Urgent action is needed

**The world needs to urgently address the critical loss of its tropical forests. Under the status quo, large areas of forest are erased each year in frontline “hotspots” in South America and Southeast Asia (especially Brazil and Indonesia). New deforestation frontiers are opening up in Africa, and to a lesser extent in parts of Latin America and South East Asia previously spared from deforestation. DR Congo is already the tropical country with the third highest forest loss today and 6 of the 9 new deforestation hotspots are African. Where efforts to curb deforestation have previously targeted Brazilian and Indonesian deforestation, especially on soy and palm oil, the opening up of new frontiers suggest an urgent need to expand efforts to more areas and commodities.**

In the countries home to these forests, the data shows that deforestation is primarily driven by agricultural expansion. Both large-scale commodity production and smallholder agriculture to satisfy local demand are eroding forest ecosystems. Zooming into the individual producer countries (see profiles), it’s clear that the drivers are not the same everywhere – while large-scale commercial agriculture for beef and soy drives deforestation in Brazil, small-scale agriculture and timber extraction destroy the DR Congo’s forests. Palm Oil, once confined to plantations in Indonesia and Malaysia, is expanding into new frontiers in Africa, Latin America, and other parts of Asia. The different patterns of deforestation mean that there is no “one-size-fits-all” solution. Policies and interventions must be tailored to the local contexts and developed collaboratively between all stakeholders. We must end unsustainable land use and deforestation, and halt their legacy of enormous greenhouse-gas emissions, devastation of nature and biodiversity, and disenfranchisement of local people.

It’s clear that forest conversion to agricultural land is largely driven by demand from consumer markets. European national inventories may not account for the externalities of imports, but as one of the largest importers of commodities linked to deforestation Europe is directly responsible for tropical deforestation. However, the emissions caused by imported commodities do not enter European national inventories. Long unacknowledged, this contribution goes unaddressed in national targets and commitments by European countries. And for countries attempting a reckoning, efforts lag. The Amsterdam Declaration signatories and partners will not meet their 2020 commitments, and many companies with similar targets will also fall-short of goals. The recently published five-year progress report on the New York Declaration on Forests reinforces this point – despite global support from governments, industry, and NGOs, the NYDF will not meet its 2020 target to halve deforestation, requiring drastic changes if the 2030 target of ending global deforestation is to be met.<sup>189</sup> Against this backdrop, it is more important than ever to accelerate action on sustainable sourcing and sustainable land-use management. This fight needs leaders, and Europe’s efforts have the potential to inspire the world to action.

Until now, voluntary certifications and standards have been the main lever for sustainable commodity shifts. Varying definitions of sustainable and responsible production make comparisons difficult and lead to uncertainty among involved actors. Cost and lack of consumer demand has further limited uptake (there are exceptions). Still, these tools offer assurance, and adoption must be grown on supply and demand side while complementary or alternative mechanisms like Verified Sourcing Areas are being developed.<sup>190</sup> The transformation to sustainable commodity production necessitates a multipronged effort relying on the strengths of the different tools available.

189. More information can be found on the NYDF website: <https://forestdeclaration.org/summary>

190. For further information, see <https://www.idhsustainabletrade.com/verified-sourcing-areas/>





Other tools have been implemented, but fostering collaboration and better enforcement are crucial to outcomes. Producer countries initiatives, sometimes linked to supply chain approaches and consumer markets, are often uncoordinated and driven by national interests. Financial support and capacity building efforts are not scaled sufficiently in many areas (especially in emerging hotspots). Private sector commitments are increasingly widespread, but most commitments are weak and lack clear targets and implementation measures – companies are not on target to meet their 2020-deadlines and additional measures should be implemented by the private sector immediately. Interventions from the 12 EU consumer countries are generally weak and insufficient, and mainly build on voluntary efforts, multi-stakeholder dialogues, and capacity building in producer countries. Stronger measures – with France’s recent deforestation initiative a possible exception – are generally lacking.

Current progress to reduce deforestation is not sufficient. We must accelerate our ambitions and combine our efforts. Innovating new mechanisms and breaking down sectorial and country barriers to action will create significant benefits, contribute to tackling deforestation and climate change, and improve economic livelihoods and development in producer countries and regions. Making it happen will require industry, NGOs, and governments working together to implement the nine recommendations below.

## Several immediate actions to reduce deforestation exist

*To curb deforestation, increase sustainable production and support farmers, this report provides nine recommendations for urgent action. This is not a comprehensive discussion of all available opportunities.*

*The recommendations introduce policy ideas, (some of) which can become part of an ambitious agenda by countries to reduce commodity-driven deforestation. This can help achieve sustainable sourcing of commodities in line with the Amsterdam Declaration targets and ambitions. There is an pressing need to introduce policy measures to accelerate the progress on meeting the targets set by governments and companies. The absence of regulation of deforestation provides for an uneven playing field. Those working on achieving deforestation-free supply chains are put at a disadvantage compared to those who maintain destructive practices. By introducing legislation, European governments can support actors that seek to promote sustainable commodity production and consumption.*

The recommendations presented here can hopefully foster discussion and lead to agreement among stakeholders to allow all parties to take responsibility, collaborate, and strengthen actions. In line with this, the EU and Member States could use the upcoming process to establish a legislative framework to address deforestation. As an import hub for deforestation-risk commodities, Europe has a large role in developing solutions, fostering dialogue, and enacting change to address deforestation. Any policy action on deforestation, sustainable production, and farmer support should be coherent in its approach and create alignment between different platforms and actions. The findings presented in this study suggest that action is urgently needed, and introducing legislation on deforestation could also help the EU deliver on its international commitments, such as the Sustainable Development Goals and the Paris Agreement. Countries and supply chain actors must learn from and inspire each other. The combined knowledge of governments, private actors, and NGOs is needed to act leverage opportunities across the value chain and design interventions to combat deforestation in identified hotspots.

1

## Adopt mandatory reporting guidelines and due diligence

*Adopt mandatory reporting guidelines and due diligence for firms importing (and using) large commodity volumes to drive transparency and market-shifts, requiring companies to assess the risk of deforestation in their supply chains. Efforts should build on experience from France's Vigilance Law, which is part of its national strategy to address imported deforestation.*

Action on deforestation is currently not supported by legislation across member states, but reliant on voluntary commitments from private sector. To spur the sector into further action on sustainable sourcing and value chain governance, governments could establish reporting guidelines and mandate firms to report their volumes of imports, their sources, and the share that is sustainably sourced. Such mandatory reporting requirements are being used in other industries to effective change – for example, 45 countries globally (of which 35 are in Europe) have mandatory reporting requirements for packaging. By including a due diligence aspect, companies would be required to assess the risk of deforestation in their respective value chains and take remedial actions. Legislation requires technical support and training for firms (particularly smaller companies) to help them understand how to meet obligations, and a lengthy implementation period to allow companies to scrutinize suppliers and change operating practices.

2

## Introduce mandatory sustainable sourcing requirements for public procurement across the EU

*Introduce mandatory sustainable sourcing requirements in public procurement for all commodities throughout the EU to drive market uptake growth towards 100%.*

Currently, not all commodities are covered by a clear standard defining sustainable sourcing, and where standards exist they are not leading to 100% sustainable sourcing. Governments' public procurement and policy efforts to support sustainable sourcing have several major gaps, and implementation remains challenging in practice. Revised sustainable sourcing requirements in public procurement for all commodities throughout the EU would drive market uptake for sustainable commodities. The focus of these revisions should be on integrated and coordinated approaches that target the interconnected aspects of deforestation and take account of alternative production options and trade partners. Alternative options for sourcing requirements could be trialed in ADP countries.



3

### Sourcing from priority areas using jurisdictional approaches such as Verified Sourcing Areas

*Jurisdictional initiatives must target priority sourcing areas across deforestation hotspots to ensure inclusive sustainability efforts are implemented throughout regions. Establishing strong local governance and pooling market demand creates real incentives and rewards that mainstream sustainable production, protect forests, and support farmers to increase and diversify their income.*

Deforestation risk varies across commodities and production regions – effective interventions must target the commodities and regions where risk is highest. Jurisdictional approaches allow targeting of current and future deforestation hotspots. These approaches require establishing partnerships between buyers and local stakeholders to enhance sustainability and traceability. Sustainable improvements must be developed between private, public, and civil society stakeholders at the jurisdictional level, detailing priority sustainability topics, targets, and responsibilities, and seeking to make best use of the strengths of each of the partners involved. In the Verified Sourcing Area approach, local actors drive sustainable development and receive direct support and incentives by global markets for doing so. The work being done by stakeholders in the Lam Dong province in Vietnam provides a case study in best practices. Establishing strong local governance and a link to buying markets accelerate production and uptake of sustainable commodities.

4

### Establish G2G partnerships

*Establish G2G partnerships between European governments and governments in key producing regions to support capacity development in the land sector, strengthen enforcement, governance, and strategic land-use planning, and build technical capacity. Provide access to financing options and credit and utilize existing partnerships and programs to scale impacts.*

The countries producing the commodities associated with deforestation risk face a number of challenges in addressing the multiple causes and underlying drivers of deforestation. Capacity building remains an important way of improving production practices and reducing the risk of deforestation. Direct partnerships between consumer country governments and specific producer countries (or even regional governments for hotspot areas) can help tackle deforestation by addressing issues specific to the given region and commodity. Potential solutions to address governance challenges include support for strategic planning, technical assistance and capacity building, financing options and access to credit, and strengthening governance capacity in risk regions. The EU and other large consuming countries already have existing partnerships with several producer countries like the African Caribbean Partnership group on a range of topics related to sustainable development and economic integration.

5

## Develop sustainable sourcing roadmaps to guide industry efforts

*Develop sustainable sourcing roadmaps for industry associations with clear and realistic targets for working towards 100% sustainable sourcing. Governments can provide incentive packages, while NGOs and academia support with knowledge, reporting, and verification.*

While government regulations can incentivize change, value chain shifts must be powered by private companies involved in the production, trade, export, transport, storage, procurement, and modification of the commodities driving deforestation. Many companies have adopted sustainable sourcing targets and initiatives, but there is a lack of coordinated industry-wide action to support change. Government entities, academia, and NGOs should support the work by setting clear targets and frameworks, providing recommendations and technical knowledge, ensuring reporting and verification, and supporting concerted action. Supporting collaboration, especially targeting major chains and companies and encouraging work on joint technical guidelines and procurement procedures for products with high deforestation risk is key.

6

## Enhance traceability and transparency along the entire value chain

*Enhance traceability and transparency across value chains to enable private-sector actors to assess the risk of deforestation in their supply chain, and civil society and governments to stay informed on the progress and conduct of businesses sourcing deforestation-risk commodities. Support existing transparency and traceability initiatives across sectors and commodities.*

Across many value chains, transparency is lacking, traceability is impossible or extremely difficult, clarity is obfuscated by numerous standards and criteria, and data on sustainability is scarce. Any buyer, trader, consumer, or interested third party based in consumer countries should be able to easily assess a company or producing region's status and progress on key sustainability targets without having to conduct their own assessments or rely on internal standards or certification. Supporting existing initiatives and tools, and scaling them to cover entire sectors and additional commodities can provide the depth and coverage needed to truly address the problems. Examples of existing tools include Trase, Mato Grosso's state monitoring via the PCI Monitor, and solutions provided by private-sector actors like Chainpoint.



7

## Leverage investments in sustainable production

*Increase investment in mainstreaming sustainable production, starting in the priority regions. This can be a combination of (inter)national public money and investment by supply chain companies and impact investors. Focus should be on developing project and finance structures that can be self-sustaining over time to ensure lasting impact. Leveraging public and private funds and pooling efforts and resources will drive real impact.*

Increased investment is needed to mainstream sustainable production by building capacity, improving technical production practices, and fostering development, especially in those regions that supply commodities to export markets and where pressure to convert forests is largest. Official Development Assistance (ODA) and Climate Finance from the ADP is significant, but additional efforts are needed. The substantial funds already invested in developing agriculture in producing regions should be targeted. Significant progress towards sustainable production can be achieved by pooling existing resources, bringing in private sector capital through blended finance structures, value chain finance, and impact investment.

8

## Introduce requirements for financial investments

*Commercial financial institutions are important actors to achieve deforestation-free, sustainable commodity production. Establishing sustainability requirements for financial investments in land, utilizing guidelines, setting criteria, and screening investments can de-risk the deforestation risk of the financial sector. This can include working with the financial sector on setting 'No deforestation'-targets.*

Commercial financial institutions fund agricultural and commodity production activities. Commercial banks and other financial institutions should commit to deforestation-free investment. Introducing requirements for financial investments and utilizing guidelines and criteria to screen these for deforestation risk, would enable financial institutions to play a crucial role in risk reduction and foster development of investments that promote sustainable commodity production. Financial institutions should set 'No deforestation' targets similar to those committed to by producers, traders, manufacturers, and retailers. This would have large ripple effects, cutting out financing for those actors still engaging in deforestation.

9

## Mainstream sustainable production and consumption

*Work towards mainstreaming sustainable production and consumption by introducing sustainability criteria in producing countries and working with importing markets outside Europe on supporting increased consumption of sustainable commodities. Work with producing countries on setting minimum sustainability criteria in the national law and improving these over time. Ensure market access for sustainable commodities by reducing tariffs on commodities compliant with these criteria, preferably across markets beyond Europe.*

European countries should work with producing countries on introducing sustainability criteria in their respective national laws and improving these over time. Market access can be supported by mechanisms like tariff reductions and quotas for increased sourcing of sustainably produced commodities from target regions. The EU could introduce specific support mechanisms like technical training and blended finance to help producer regions and countries meet the established sustainability criteria. The EU must avoid placing undue burden on smaller companies and farmers and proactively help them comply with sustainable production practices.

In absolute terms, imports of most deforestation-linked commodities are growing, and emerging markets like China and India play an increasingly large role in shaping demand. Work with these markets on developing sustainable sourcing requirements for key commodities (notably soy, beef, rubber, and palm oil) is increasingly important to ensuring sufficient demand for commodities meeting sustainability criteria. Without global action, deforestation rates will remain high, and facilitating cooperation with other importers to share lessons and explore collaboration based on shared needs and different realities is crucial to combating deforestation.





# Appendix A:

## Methodology for sustainability scenarios

Following is an overview of the methodology and key assumptions used in the scenario analysis in Chapter 5.





## Methodology and Data

### Unit of measurement

The deforestation is measured as cumulative hectares of deforestation either between 2018 and 2025 (for time period 2025) or between 2018 and 2030 (for time period 2030). The CO<sub>2</sub>e is measured over the respective time period depending on the scenarios.





# Commodity focus

The data availability for sustainable sourcing varies by commodity. Specifically:



## Palm oil

Based on the information retrieved from “*Choosing sustainable palm oil – progress report on the import and use of sustainable palm oil in Europe*” by the European Sustainable Palm Oil.<sup>191</sup>

Data is available for 10 of the 12 countries, namely:

- **Belgium.** The Belgian Alliance for Sustainable Palm Oil (BASP) notes for the 16 reporting companies deemed representative of the most significant food manufacturers and vegetable oil refiners in the country, 99 percent of palm oil is considered sustainably sourced in 2017. However, BASP only accounts for 15 to 50 percent of the Belgian market. Hence, the sustainable sourcing figure would be much lower (~32 percent).
- **Denmark.** A study by the Danish Ministry for Environment and Food and the University of Copenhagen estimates that 65 percent of the palm oil imported into Denmark for food is RSPO certified in 2017.
- **France.** The Alliance for the Preservation of Forests notes by the end of 2017, 99 percent of palm oil purchases by its members were certified to be sustainable. The market share of the alliance is estimated to be 70 percent.
- **Germany.** The Forum for Sustainable Palm Oil (FONAP) reports that 55 percent of total palm oil consumption (covering food, feed, laundry detergents, home care products and cosmetics, and chemistry/ pharmacy) in Germany in 2017 was sustainably certified.
- **Italy.** Estimates by the Italian Union for Sustainable Palm Oil, the most recent estimates based on data from Eurostat, members’ and other companies’ data provided to RSPO indicate that about 43 percent of the total palm oil used in food products in Italy in 2017 was certified to be sustainably sourced.
- **Netherlands.** The Dutch Alliance for Sustainable Palm Oil (DASPO) reports that 88 percent of the total volume processed by the Dutch food industry in 2017 is sustainably sourced.
- **Norway.** The Norwegian Initiative for Sustainable Palm Oil (NISPO) estimates that its signatories have largely achieved its sustainable sourcing targets (99 percent). However, NISPO is only representative of the food industry. Therefore, we have factored the market share of the food industry (which is about 45 percent) in our analysis of sustainable palm oil sourcing in Norway.<sup>192</sup>
- **Spain.** The Spanish Foundation for Sustainable Palm Oil estimates that the use of sustainable palm oil by the Spanish food industry reached 44 percent in 2018.
- **United Kingdom.** Efeca analysis of UK refinery data finds that 75 percent of total palm oil imports to the UK in 2017 are certified by RSPO.
- **Switzerland.** The State Secretariat for Economic Affairs estimates that the level of sustainably sourced palm oil is 90 to 100 percent. A conservative estimate of 90 percent is used for this analysis.
- For **Poland** and **Portugal** where no data is available, we took the most conservative assumption that none of its palm oil is sustainably sourced.

191. European Sustainable Palm Oil (2019). *Choosing sustainable palm oil – progress report on the import and use of sustainable palm oil in Europe*.

192. Germany's market share data was used as proxies for Norway.



## Soy

Based on the information retrieved from “*European soy monitor – insights on the European supply chain and the use of responsible and deforestation-free soy in 2017*” by the Sustainable Trade Initiative (IDH) and National Committee of the Netherlands (IUCN). Data on the share of soy from deforestation-free sources is available for 11 of the 12 countries:

- **Belgium** (43 percent)
- **Denmark** (20 percent)
- **France** (6 percent)
- **Germany** (16 percent)
- **Italy** (3 percent)
- **Netherlands** (50 percent)
- **Norway** (80 percent)
- **Portugal** (0 percent)
- **Spain** (0 percent)
- **Switzerland** (82 percent)
- **United Kingdom** (14 percent).
- For **Poland** where no data is available, we took the most conservative assumption that none of its soy is sustainably sourced.<sup>193</sup>

The above sustainable sourcing figures both for soy and palm oil have been derived through literature review and consultation with national experts.

<sup>193</sup>. This has also been verified through expert interviews.



## Cocoa

Sustainable production of cocoa was estimated to be about 42 percent in 2018 under the UTZ, Rainforest Alliance, and FairTrade certification schemes.<sup>194</sup> However, there is no disaggregation by the source of demand.<sup>195</sup>



## Coffee

Sustainable production of coffee certified under a range of Voluntary Sustainability Standards (VSS) – including the UTZ, Fairtrade, Nestle AAA, and Starbucks CAFÉ schemes – constituted 55 percent of global production in 2017.<sup>196</sup> However, there is no disaggregation by the source of demand.<sup>197</sup>



## Timber

Incomplete data by country; and only till 2015



## Beef

No data



## Rubber

No data

Given country-specific data is only available for soy and palm oil, this analysis only focuses on these two commodities. Furthermore, it is instructive to note that these sustainable sourcing shares are potentially an overestimate because it is based on a subset of the overall market (e.g. signatories of an NGO, or only for certain industries that could be representative of the market).

<sup>194</sup>. Antonie Fountain and Friedel Huetz-Adamas (2018), *Cocoa Barometer*. Available at: [http://www.cocoa-barometer.org/cocoa\\_barometer/Download\\_files/2018%20Cocoa%20Barometer%20180420.pdf](http://www.cocoa-barometer.org/cocoa_barometer/Download_files/2018%20Cocoa%20Barometer%20180420.pdf)

<sup>195</sup>. UTZ (2017). *UTZ Cocoa Statistics Report 2017*.

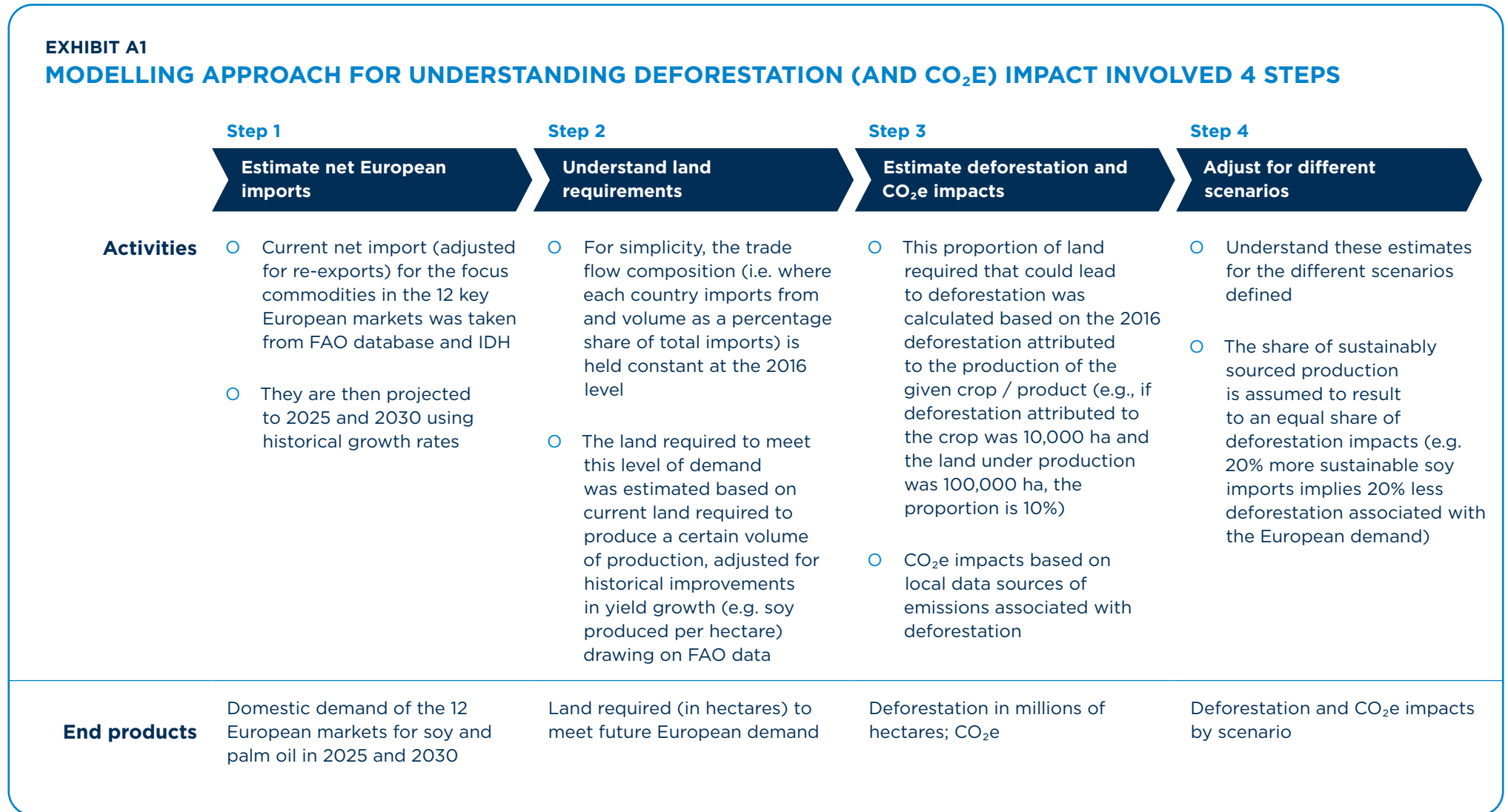
<sup>196</sup>. Sjoerd Panhuysen & Joost Pierrot (2018), *Coffee Barometer 2018*. Available at: <https://www.hivos.org/assets/2018/06/Coffee-Barometer-2018.pdf>

<sup>197</sup>. UTZ (2017). *UTZ Coffee Statistics Report 2017*.



# Overview of approach



A four-step approach is used to understand the sustainability impacts of the six different scenarios (Exhibit A1).



## Step 1: Estimate net European demand imports

Data from the Food and Agriculture Organization of the United Nations (FAO) and IDH was leveraged to calculate the net imports of demand for soy (includes soybean, soy meal and soy oil) and palm oil in the 12 European countries. As some countries are major re-exporters, it is important to properly account for imports that are meant for the domestic markets. This was done by stripping out exports that were produced locally, assuming that overall export to demand ratios apply to local production.

**Table 1: Sources and approach for historical net imports**

Area	Commodity	Source and approach
Net imports, adjusted for re-exports (in '000 tonnes)	 Soy	<ul style="list-style-type: none"> <li>FAO Database<sup>198</sup></li> <li>IDH<sup>199</sup></li> </ul>
	 Palm Oil	<ul style="list-style-type: none"> <li>FAO Database<sup>200</sup></li> </ul>

To estimate what the European demand for soy and palm oil in 2025 and 2030, historical data was used to provide weighted 5-year CAGRs which could be applied to the net import data of each of the 12 countries.<sup>201</sup>



198. Extracted from various FAO databases at: <http://www.fao.org/faostat/en/#data>

199. IDH and IUCN (2019), *European Soy Monitor*. Available at: <https://www.idhsustainabletrade.com/uploaded/2019/04/European-Soy-Monitor.pdf>

200. Extracted from various FAO databases at: <http://www.fao.org/faostat/en/#data>

201. OECD (2017), *OECD-FAO Agricultural Outlook 2018-2027*. Available at: <http://www.agri-outlook.org/>

**Table 2: Sources and approach for demand projections**

Area	Commodity	Source and approach
Projected growth rates of net imports (2018 - 2025 and 2018 - 2030)	 Soy	<ul style="list-style-type: none"> <li>Weighted 5-year average growth rates used to project future demand</li> <li>FAO Database using the growth rates of soybean as proxies</li> </ul>
	 Palm Oil	<ul style="list-style-type: none"> <li>Weighted 5-year average growth rates used to project future demand</li> <li>FAO Database<sup>202</sup></li> </ul>

202. Extracted from various FAO databases at: <http://www.fao.org/faostat/en/#data>



## Step 2: Understand land requirements

The objective of this step is to establish the amount of land (in hectares) required to support the aggregate volume of demand from the 12 European countries in each of those sourcing locations. Due to issues with disentangling re-exports (to understand the true source of production) and further data limitations to be explained in Step 3, the following assumptions must be made:

- First, the 12 European countries only source their soybean from Brazil and Argentina. This is a reasonable assumption because Brazil and Argentina together account for 87 percent of total exports from the 10 key producers to these European countries.
- Second, the 12 European countries only source their palm oil from Indonesia and Malaysia. This is a reasonable assumption because Indonesia and Malaysia together account for 93 percent of total exports from the 10 key producers to these European countries.
- Third, it is assumed the latest ratio of exports between the producers (Brazil and Argentina for soy, and Indonesia and Malaysia for palm oil) is constant for all 12 consuming European countries, and also constant for the projection period.

To estimate the land requirements in each location to meet this volume of production, we calculated the historical yield rates of the respective commodities by comparing a country's total production against its total area harvested. This allowed us to estimate the probable yields for each crop in each producer jurisdiction and we assumed that the historical improvement in yield growth continues (thus reducing the total land required to meet a certain volume of supply). Box 1 highlights an additional assumption regarding calculating the land requirements for producing soy meal and soy oil. For palm oil, the extraction rate for palm oil is assumed at 23%. This figure is chosen because it is widely used in a number of other reports by international organizations or initiative, such as USDA and TFA.<sup>203</sup>

203. See for example, USDA (2018) Indonesia Oilseeds and Products Annual 2018. Available at: [https://apps.fas.usda.gov/new-gainapi/api/report/downloadreportbyfilename?filename=Oilseeds%20and%20Products%20Annual\\_Jakarta\\_Indonesia\\_3-15-2018.pdf](https://apps.fas.usda.gov/new-gainapi/api/report/downloadreportbyfilename?filename=Oilseeds%20and%20Products%20Annual_Jakarta_Indonesia_3-15-2018.pdf). For Malaysia, there are a range of numbers and all of them are below 0.23 (Star Online, MPOB, MPOB). For instance, the 2019 first 6-mth average was 0.20. Therefore, adjusting this will also reduce the yield and increase the deforestation savings figures.

## Calculating land requirements for soy meal and soy oil

To determine the amount of land required to grow the soy products in the producer countries, we assume that each tonne of soy meal or soy oil requires the same amount of land as one tonne of soybean (termed as the 1-to-1 conversion approach). This will lead to an underestimation of deforestation as we need more than one tonne of soybean to produce one tonne of soy meal or soy oil (based on research on crushing ratios, one soybean only contains 78.5 percent of soy meal and 18.5 percent of soy oil). However, using the crushing ratio approach might lead to significant double-counting, which is more problematic.

To illustrate the extent of double-counting, we consider the following example:

- Belgium imported **625,441 tonnes** of unsustainable soy products in 2017 under the “Business-as-usual (BAU) to 2025” scenario
- Using the breakdown of soy products in 2017, soybean took up 16 percent at about **100,071 tonnes**; soy meal 77 percent at about **481,590 tonnes**, and soy oil 7 percent at **43,781 tonnes**
- If we take the 1-to-1 conversion approach, we will find the land requirements to plant **625,441 tonnes** of soybean
- If we take the crushing ratio approach, for soy meal, it will take **613,490 tonnes** of soybeans to produce **481,590 tonnes** of soy meal and for soy oil, it will take **236,654 tonnes** of soybeans to produce **43,781 tonnes** of soy oil. Total land requirement for soybean will then be equivalent to **950,215 tonnes** (about 1.5 times the 1-to-1 conversion approach)
- Therefore, due to the potential significant overlaps, we have decided to use the 1-to-1 conversion approach

### Step 3: Estimate deforestation and CO<sub>2</sub>e impacts

Historical annual deforestation data for soy and palm oil in each of the sourcing countries was extracted from a report by the USDA.<sup>204</sup> This report collected and standardized deforestation data from a variety of sources including government sources such as the Brazilian INPE PRODES project and other well-regarded research papers on the topic such as Henders et al (2015).<sup>205</sup> Such data is generally unavailable across all the sourcing locations – another reason for the assumption that soy and palm oil for the 12 European countries was only sourced from Argentina and Brazil, and Indonesia and Malaysia respectively. Furthermore, since there is no time series data, the latest estimates were assumed to hold constant for the projection period.

**Table 3: Inputs and sources for historical deforestation data**

Area	Country	Source and approach
Share of deforestation attributable to palm production	Indonesia	<ul style="list-style-type: none"> <li>USDA Economic Research Service</li> <li>Henders et al</li> <li>Gunarso et al<sup>206</sup></li> </ul>
	Malaysia	<ul style="list-style-type: none"> <li>USDA Economic Research Service</li> <li>Henders et al</li> </ul>
Share of deforestation attributable to soy production	Argentina	<ul style="list-style-type: none"> <li>USDA Economic Research Service</li> <li>Henders et al</li> </ul>
	Brazil	<ul style="list-style-type: none"> <li>USDA Economic Research Service</li> <li>Henders et al</li> </ul>

In order to estimate the 2025/2030 deforestation attributable to each commodity in each sourcing location, the 2025/2030 land use requirements are compared against the 2018 requirements, and the share of deforestation that is attributable to each commodity at the 2018 level is held constant.

To estimate the CO<sub>2</sub>e associated with deforestation in each production location, we used time series data on emissions per hectare of tree cover loss from the Global Forest Watch. The data is available for Indonesia, Malaysia and Brazil. We assumed that Argentina's emissions profile is similar to Brazil given that recent deforestation in Brazil is mostly located in the Cerrado grassland.

The CO<sub>2</sub>e emissions associated with the cumulative demand in the projection periods are then calculated by applying the average emissions per hectare of tree cover loss (2001 and 2017) across the projected years.<sup>207</sup>

### Step 4: Adjust for different scenarios

Finally, the deforestation and CO<sub>2</sub>e impacts were adjusted for the different sustainable sourcing scenarios. This was done in a proportional manner. For example, 20 percent more sustainable soy imports imply 20 percent less deforestation associated with the European demand.

204. USDA (2017), *International Trade and Deforestation*. Available at: <https://www.ers.usda.gov/publications/pub-details/?pubid=83298>

205. Henders et al (2015), *Trading Forests: Land-Use Change and Carbon Emissions Embodied in Production and Exports of Forest-Risk Commodities*. Available at: <https://iopscience.iop.org/article/10.1088/1748-9326/10/12/125012/pdf>

206. Gunarso et al (2013), *Oil Palm and Land Use Change in Indonesia, Malaysia and Papua New Guinea*. Available at: <https://www.tropenbos.org/resources/publications/oil+palm+and+land+use+change+in+indonesia%2C+malaysia+and+papua+new+guinea>

207. 100 metric megatonnes per million hectares in Indonesia, 108 metric megatonnes tonnes per million hectares in Malaysia, and 83 metric megatonnes tonnes per million hectares in Brazil.



## Appendix B:

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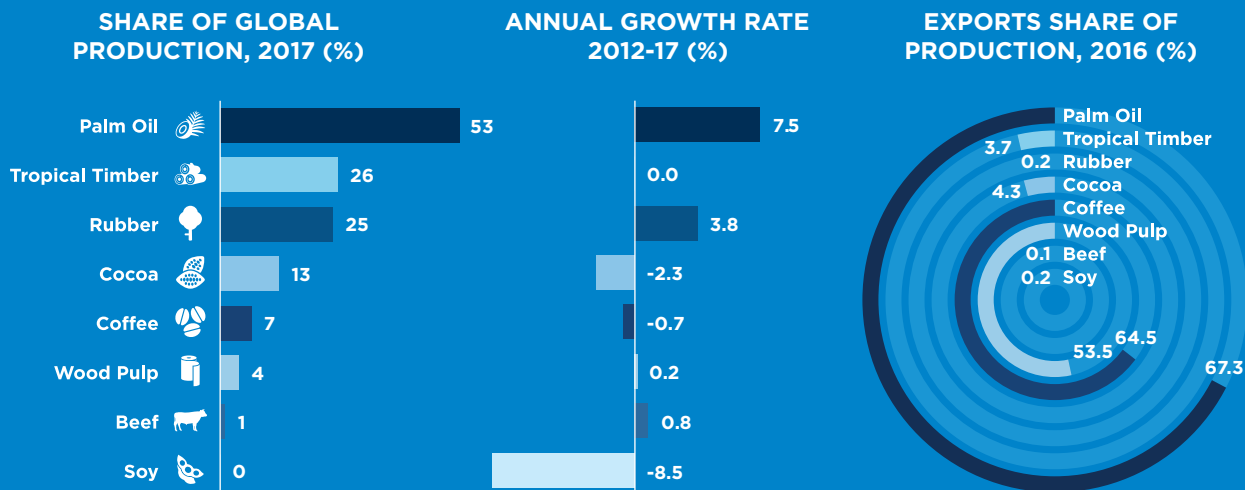
Producer  
country profiles



# Indonesia



## PRODUCTION TRENDS



## EXAMPLES OF ONGOING INITIATIVES

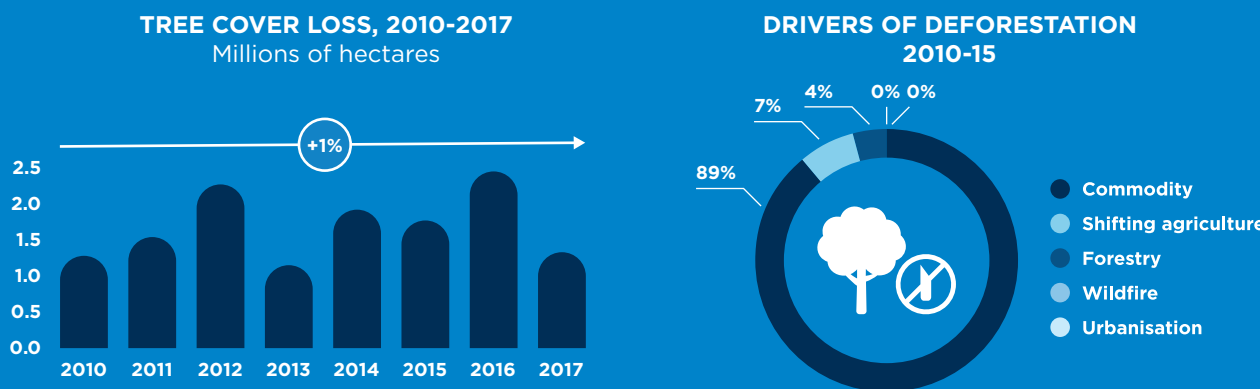
### NATIONAL LEVEL

- **Indonesian Sustainable Palm Oil (ISPO)** mandatory certification
- **Palm oil license moratorium** announced in 2018 by President Jokowi for three years
- **LTKL**: Sustainable District Association, under APKASI
- **UN REDD+**: 30 planned or ongoing initiatives; FCPF member

### SUBNATIONAL LEVEL

- **11 provinces** in Indonesia currently have developing or active jurisdictional programs at various administrative levels. Initiatives include:
  - **Central Kalimantan**: Smallholder RSPO certification in Seruyan and Kotawaringin Barat districts
  - **Riau**: Green Regency Initiative in Kab. Hijau; “Coalition” of seven palm oil suppliers in Siak and Pelalawan
  - **South Sumatra**: South Sumatra Eco-Region Alliance - large PPP with donor and NGO support
  - **Jambi**: BioCarbon Fund Initiative (ISFL)

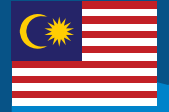
## DEFORESTATION TRENDS



(A) Production data is sourced from the UN Food & Agricultural Organisation (FAO), Roundtable for Sustainable Palm Oil (RSPO), Round Table for Responsible Soy (RTRS), United States Department of Agriculture (USDA), International Tropical Timber Organisation (ITTO), UTZ, and existing AlphaBeta research. Palm oil data for 2017 is projected using annual growth data in production from 2010-14 i.e. latest available FAO data. Latest data available for tropical timber is 2016. (B) Data on deforestation trends is sourced from the Global Forest Watch (GFW). (C) Data on ongoing initiatives is non-exhaustive. Data is sourced from a literature review of key sources of jurisdictional programs including the FCPF, Governor’s Climate and Forest Task Force (GCF-TF), IDH Sustainable Landscapes initiative, existing Tropical Forest Alliance (TFA2020) and AlphaBeta research, and expert interviews.

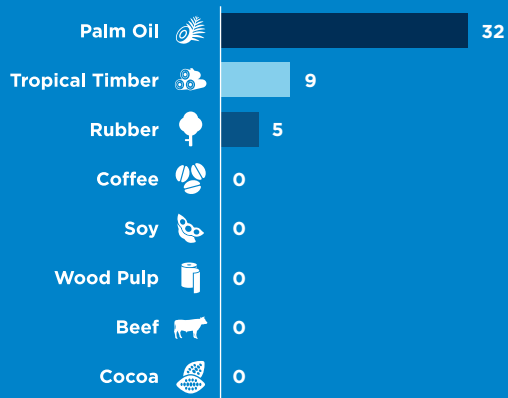


# Malaysia

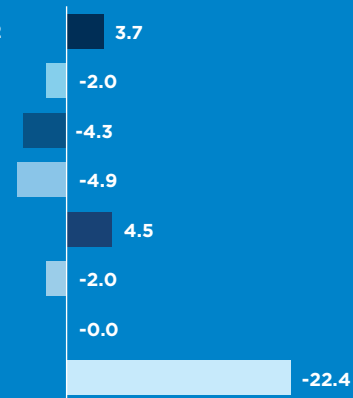


## PRODUCTION TRENDS

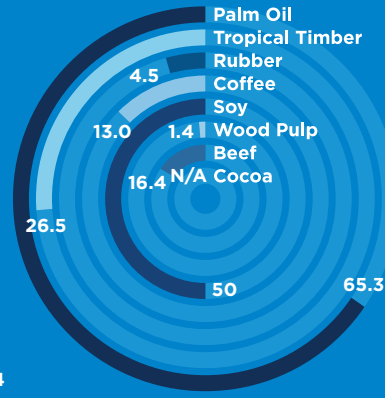
SHARE OF GLOBAL PRODUCTION, 2017 (%)



ANNUAL GROWTH RATE 2012-17 (%)



EXPORTS SHARE OF PRODUCTION, 2016 (%)



## EXAMPLES OF ONGOING INITIATIVES

### NATIONAL LEVEL

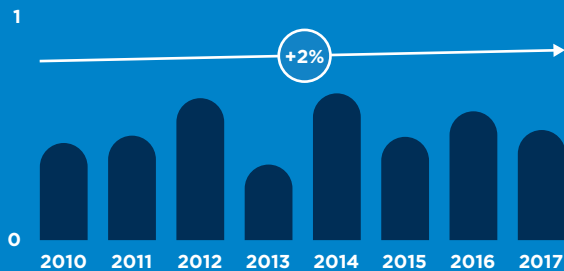
- **Malaysian Sustainable Palm Oil (MSPO):** mandatory smallholder [certification](#)
- **Malaysian Timber Certification Scheme (MTCS):** [assessment](#) of forest management practices
- **UN REDD+:** [observer country](#); “National REDD+ Readiness in Malaysia” [plan](#)
- **Conference of the Parties (COP):** [pledged](#) to reduce carbon intensity by 40% by 2020

### SUBNATIONAL LEVEL

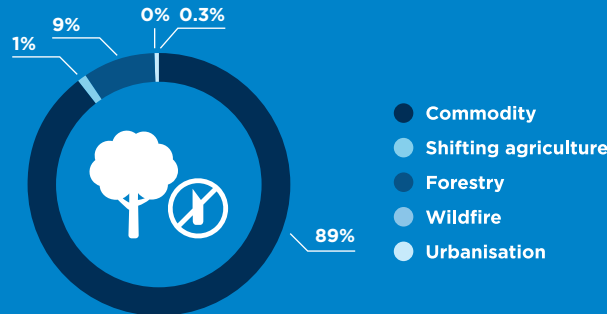
- **Sabah:** Sabah is home to Malaysia’s only jurisdictional programme. Initiatives include: REDD+ [Roadmap](#); smallholder RSPO certification ([2025 target](#)); increasing totally protected areas (TPAs); EU’s 2-year [REDD+ demonstration](#); The Sustainable Palm Oil and Traceability in Sabah (SPOTS) programme with L’Oréal, Wilmar and Clariant; [Forever Sabah](#)
- **Sarawak:** [The Borneo Project](#); [pledges](#) by Wilmar and Unilever to ensure sustainable production sourcing

## DEFORESTATION TRENDS

TREE COVER LOSS, 2010-2017  
Millions of hectares



DRIVERS OF DEFORESTATION 2010-15

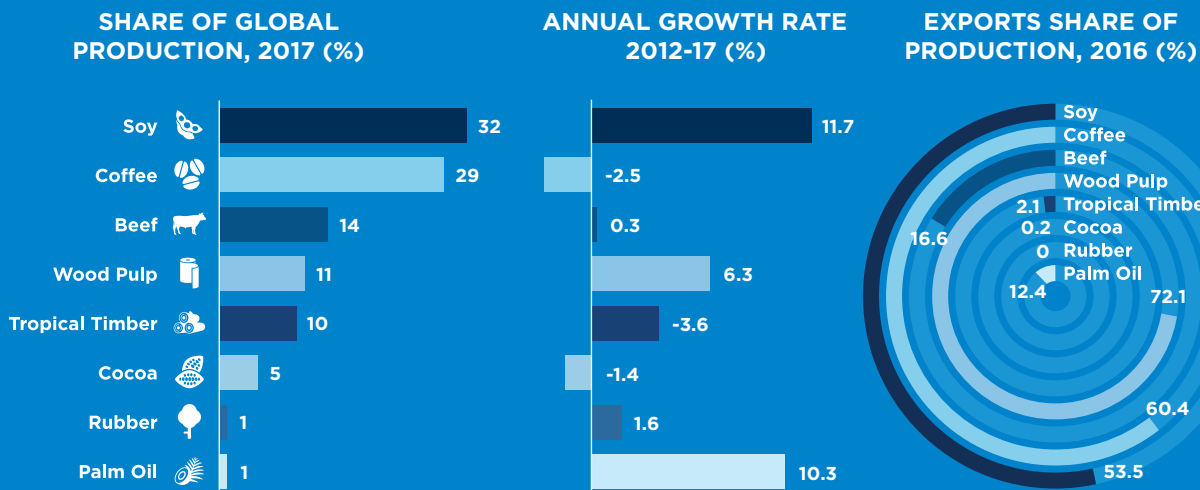


(A) Production data is sourced from the UN Food & Agricultural Organisation (FAO), Roundtable for Sustainable Palm Oil (RSPO), Round Table for Responsible Soy (RTRS), United States Department of Agriculture (USDA), International Tropical Timber Organisation (ITTO), UTZ, and existing AlphaBeta research. Palm oil data for 2017 is projected using annual growth data in production from 2010-14 i.e. latest available FAO data. Latest data available for tropical timber is 2016. (B) Data on deforestation trends is sourced from the Global Forest Watch (GFW). (C) Data on ongoing initiatives is non-exhaustive. Data is sourced from a literature review of key sources of jurisdictional programs including the FCPF, Governor’s Climate and Forest Task Force (GCF-TF), IDH Sustainable Landscapes initiative, existing Tropical Forest Alliance (TFA2020) and AlphaBeta research, and expert interviews.

# Brazil



## PRODUCTION TRENDS



## EXAMPLES OF ONGOING INITIATIVES

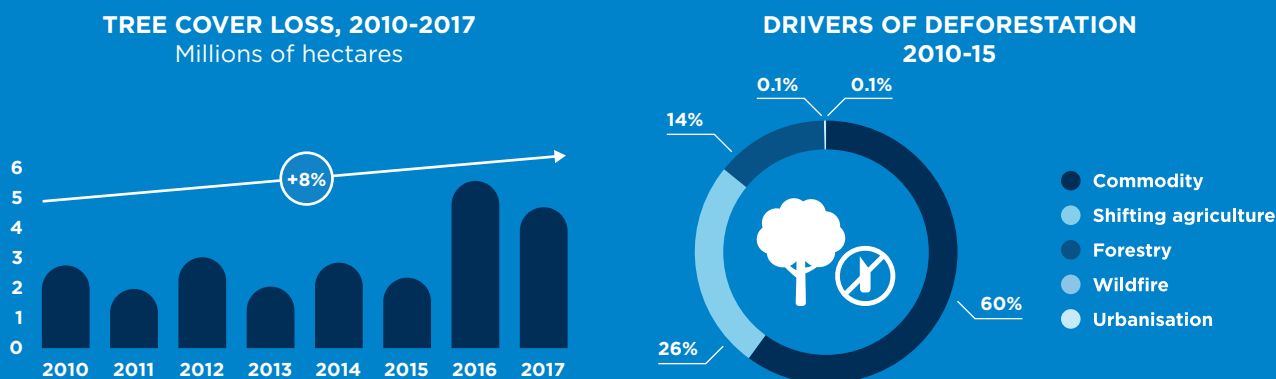
### NATIONAL LEVEL

- **Amazon soy moratorium** signed in 2006; including Cargill, Bunge, Amaggi
- **Cargill's South America Sustainable Soy Policy** covers Brazil
- **Green Climate Fund:** received first results-based payments in 2019 to launch [Floresta+](#)
- **World Bank Forest Investment Programme (FIP):** [pilot country](#)
- **The Amazon Fund:** [compensation](#)

### SUBNATIONAL LEVEL

- **9 states** in Brazil have developing or active jurisdictional programmes at various administrative levels. Initiatives include:
- **Mato Grosso:** [Produce, Conserve and Include Strategy \(PCI\) strategy](#) jurisdictional programme; [Programa Mato-Grossense de Municípios Sustentáveis \(PMS\)](#); [Project Gigaton](#) with Unilever and Walmart
- **Pará:** [Pará 2030](#) jurisdictional programme
- **Minas Gerais:** 3-year sourcing programme by USAID, Walmart, TransFair USA and SEBRAE
- **Bahia:** [Soja Plus Programme](#) by Cargill; Bahia is part of the [MATOPIBA](#) region in the Cerrado – key soy production frontier

## DEFORESTATION TRENDS



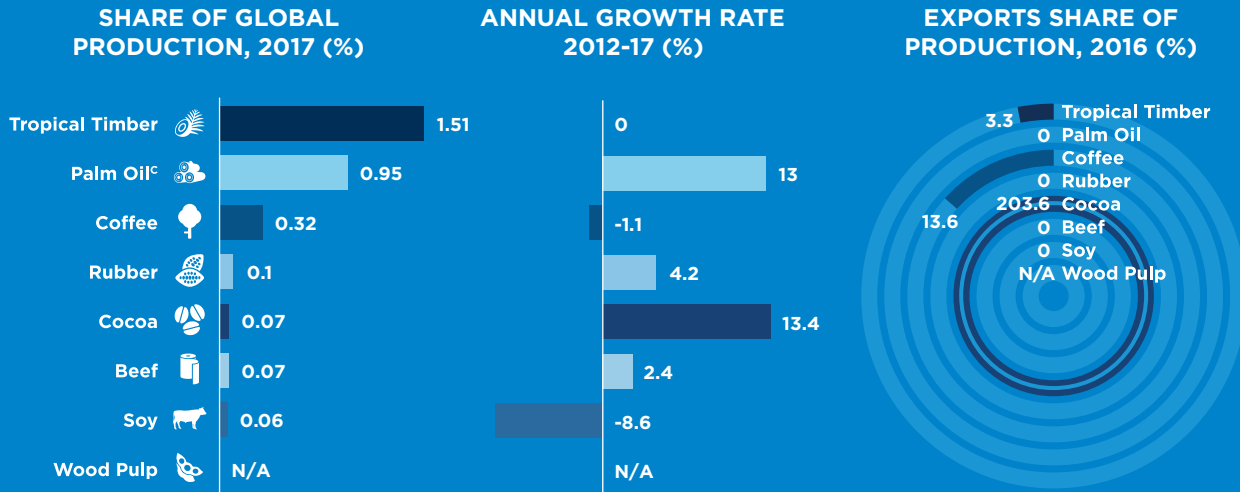
(A) Production data is sourced from the UN Food & Agricultural Organisation (FAO), Roundtable for Sustainable Palm Oil (RSPO), Round Table for Responsible Soy (RTRS), United States Department of Agriculture (USDA), International Tropical Timber Organisation (ITTO), UTZ, and existing AlphaBeta research. Palm oil data for 2017 is projected using annual growth data in production from 2010-14 i.e. latest available FAO data. Latest data available for tropical timber is 2016. (B) Data on deforestation trends is sourced from the Global Forest Watch (GFW). (C) Data on ongoing initiatives is non-exhaustive. Data is sourced from a literature review of key sources of jurisdictional programs including the FCPF, Governor's Climate and Forest Task Force (GCF-TF), IDH Sustainable Landscapes initiative, existing Tropical Forest Alliance (TFA2020) and AlphaBeta research, and expert interviews.



# DR Congo



## PRODUCTION TRENDS



## EXAMPLES OF ONGOING INITIATIVES

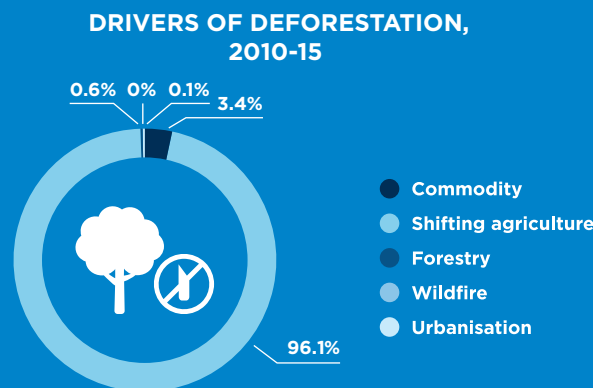
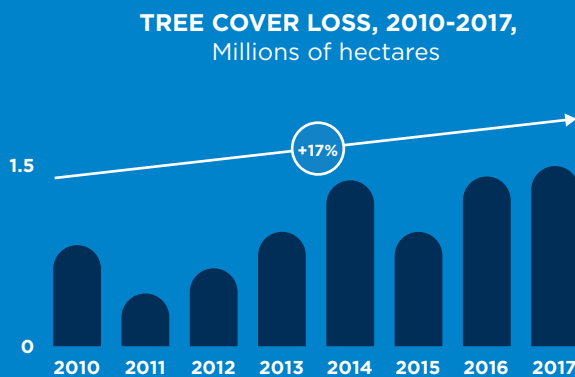
### NATIONAL LEVEL

- **UN REDD+** [national strategy](#) adopted in 2012
- **Forest Carbon Partnership Facility (FCPF)** [member](#); Readiness Fund package endorsed
- **The Congo Basin Program** is a large-scale PPP led by IDH aiming to increase the responsible production and trade of tropical timber. The program supports concession holders on their way to sustainable forest management and the certification thereof. Key partners are WWF/GFTN, ICCO and Fair Tropical Timber.

### SUBNATIONAL LEVEL

- **8 geographically integrated REDD+** [pilot projects](#) with NGOs and private companies
- **Starbucks Reserve Eastern DR Congo Lake Kivu coffee program**: works with smallholder farmers to ensure ethical sourcing of coffee. Part of global commitment to train 200k farmers by 2020

## DEFORESTATION TRENDS

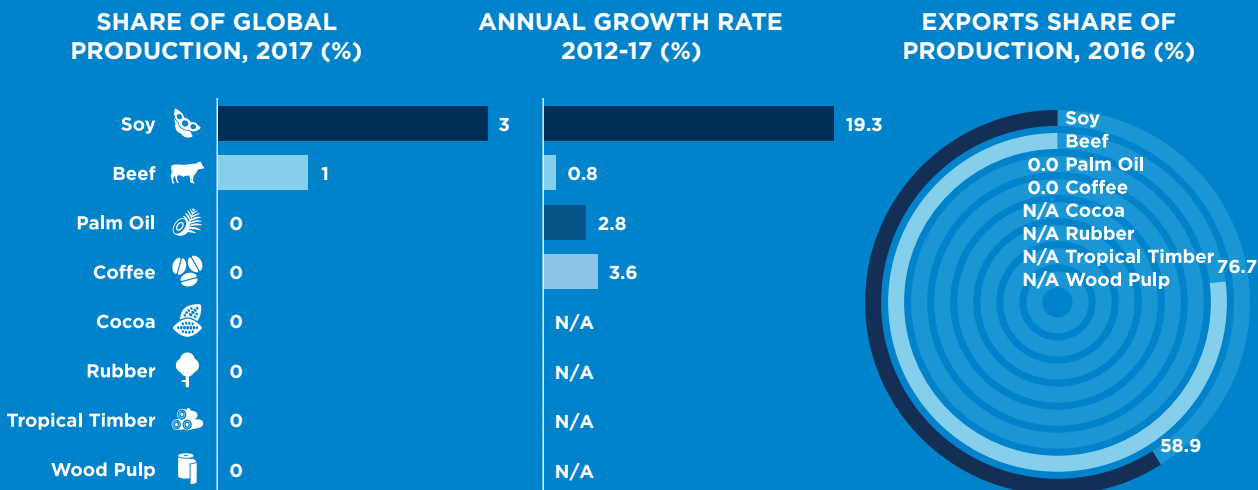


(A) Production data is sourced from the UN Food & Agricultural Organisation (FAO), Roundtable for Sustainable Palm Oil (RSPO), Round Table for Responsible Soy (RTRS), United States Department of Agriculture (USDA), International Tropical Timber Organisation (ITTO), UTZ, and existing AlphaBeta research. Palm oil data for 2017 is projected using annual growth data in production from 2010-14 i.e. latest available FAO data. Latest data available for tropical timber is 2016. (B) Data on deforestation trends is sourced from the Global Forest Watch (GFW). (C) Data on ongoing initiatives is non-exhaustive. Data is sourced from a literature review of key sources of jurisdictional programs including the FCPF, Governor's Climate and Forest Task Force (GCF-TF), IDH Sustainable Landscapes initiative, existing Tropical Forest Alliance (TFA2020) and AlphaBeta research, and expert interviews.

# Paraguay



## PRODUCTION TRENDS

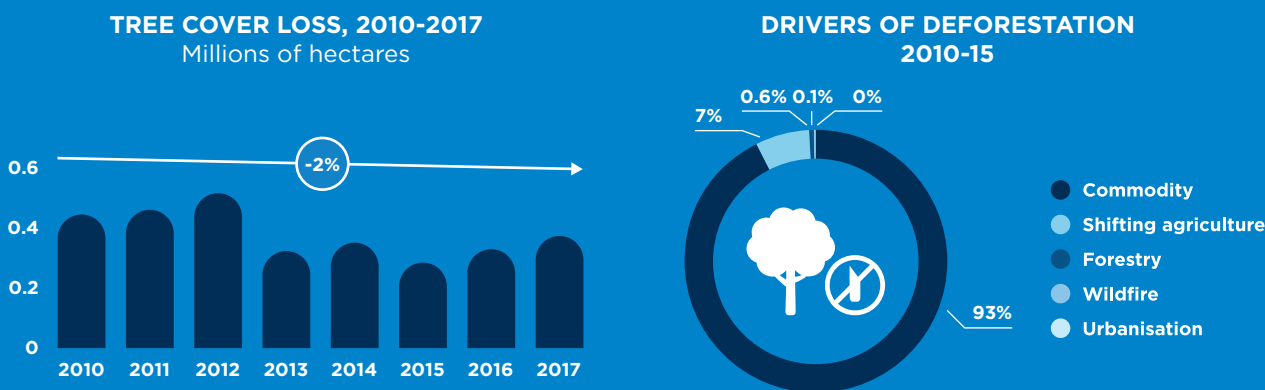


## EXAMPLES OF ONGOING INITIATIVES

### NATIONAL LEVEL

- **Government of Paraguay** [legislation](#) to protect natural forests, prevent deforestation and forest restoration
- **Collaboration for Forests and Agriculture (CFA)** is a [joint effort](#) between National Wildlife Federation and NGO partners for sustainable beef supply
- **Cargill** [commitment](#) (with WRI support) to manage deforestation risk in soybean supply chain; also covered by **South America Sustainable Soy Policy**
- **UN REDD+** framework adopted in 2008; several initiatives promoted by UNDP including PROMESA Chaco, Green Productive Landscapes, etc.
- **Forest Carbon Partnership Facility (FCPF)** [member](#)

## DEFORESTATION TRENDS



### SUBNATIONAL LEVEL

- **Atlantic Forests/ Chaco biome:** jurisdictional approach by UNDP Green Commodities Programme for soy and cattle through Roundtable for Sustainable Finance with partners including ADM, Bunge, Cargill, Dreyfus, JBS, USAID;
- **COFCO** implemented 100% sustainable soybean sourcing [programme](#)

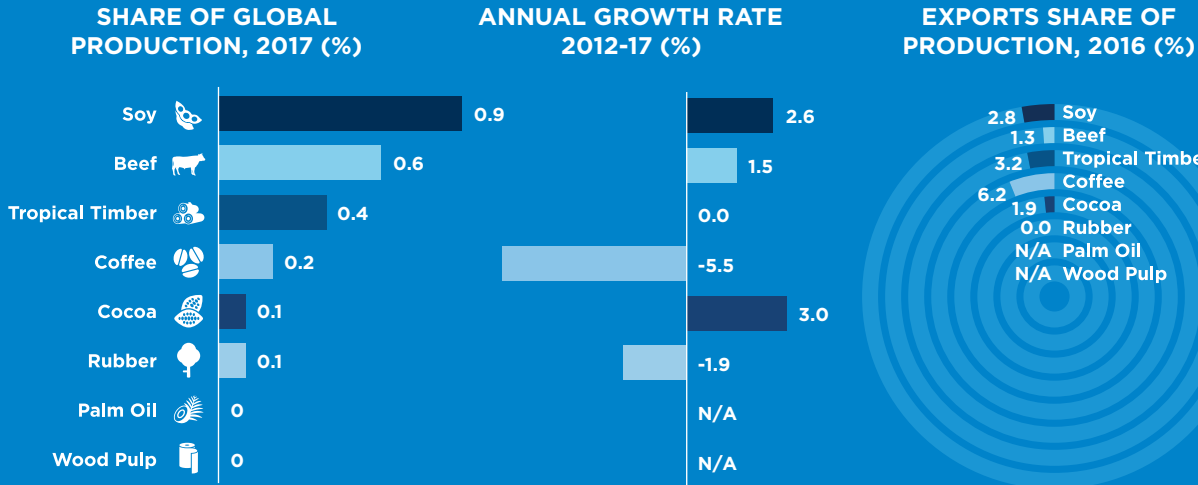
(A) Production data is sourced from the UN Food & Agricultural Organisation (FAO), Roundtable for Sustainable Palm Oil (RSPO), Round Table for Responsible Soy (RTRS), United States Department of Agriculture (USDA), International Tropical Timber Organisation (ITTO), UTZ, and existing AlphaBeta research. Palm oil data for 2017 is projected using annual growth data in production from 2010-14 i.e. latest available FAO data. Latest data available for tropical timber is 2016. (B) Data on deforestation trends is sourced from the Global Forest Watch (GFW). (C) Data on ongoing initiatives is non-exhaustive. Data is sourced from a literature review of key sources of jurisdictional programs including the FCPF, Governor's Climate and Forest Task Force (GCF-TF), IDH Sustainable Landscapes initiative, existing Tropical Forest Alliance (TFA2020) and AlphaBeta research, and expert interviews.



# Bolivia



## PRODUCTION TRENDS



## EXAMPLES OF ONGOING INITIATIVES

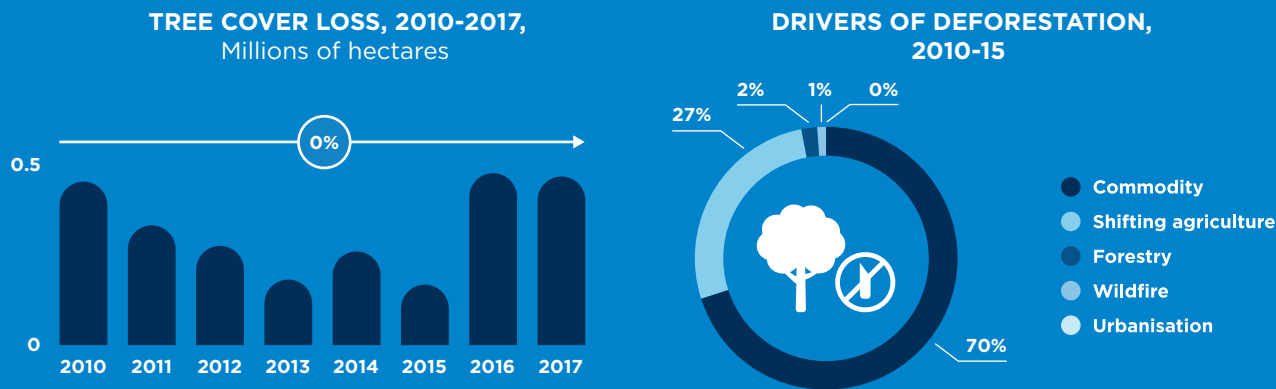
### NATIONAL LEVEL

- **Joint Mitigation and Adaptation Mechanism (JMA)** for sustainable management of forests under the national programme (REDD+ alternative)
- **National timber certification system** under Authority for Social Control and Control of Forests and Land for 100% legal timber production by 2020
- **WWF** partnering Bolivia in exchange programme with Acre, Brazil to develop management of forest information flows
- **ArBolivia** smallholder farmers initiative for reforestation of pasture and farmland with native tree species
- **Cargill's South America Sustainable Soy Policy** covers Bolivia

### SUBNATIONAL LEVEL

- **La Paz department:** JMA pilots in Ixiamas and San Bueaventura municipalities
- **Santa Cruz and Beni departments:** Key regions for Forests of the World in supporting indigenous people develop sustainable forest management, environmental surveillance and education of young climate activists

## DEFORESTATION TRENDS



(A) Production data is sourced from the UN Food & Agricultural Organisation (FAO), Roundtable for Sustainable Palm Oil (RSPO), Round Table for Responsible Soy (RTRS), United States Department of Agriculture (USDA), International Tropical Timber Organisation (ITTO), UTZ, and existing AlphaBeta research. Palm oil data for 2017 is projected using annual growth data in production from 2010-14 i.e. latest available FAO data. Latest data available for tropical timber is 2016. (B) Data on deforestation trends is sourced from the Global Forest Watch (GFW). (C) Data on ongoing initiatives is non-exhaustive. Data is sourced from a literature review of key sources of jurisdictional programs including the FCPF, Governor's Climate and Forest Task Force (GCF-TF), IDH Sustainable Landscapes initiative, existing Tropical Forest Alliance (TFA2020) and AlphaBeta research, and expert interviews.

# Argentina

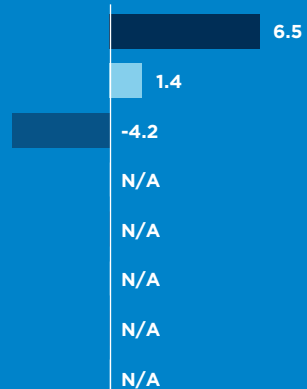


## PRODUCTION TRENDS

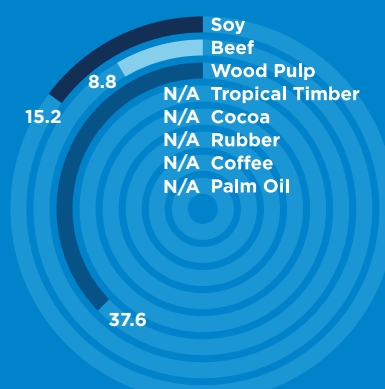
SHARE OF GLOBAL PRODUCTION, 2017 (%)



ANNUAL GROWTH RATE 2012-17 (%)



EXPORTS SHARE OF PRODUCTION, 2016 (%)



## EXAMPLES OF ONGOING INITIATIVES

### NATIONAL LEVEL

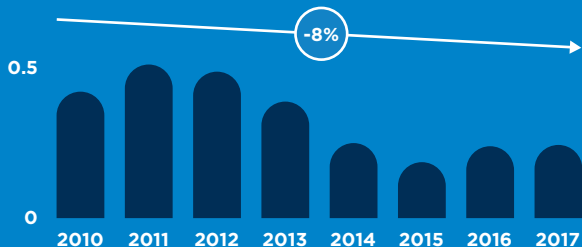
- **Cargill South America Sustainable Soy Policy** commits to sustainable soy supply chains in South America, including in Argentina
- **Louis Dreyfus and US EPA program** drove 40% of their soybean (for biodiesel) sourced from Argentina to be sustainable
- **UN REDD+ national strategy** "National Action Plan on Forests and Climate Change (PANByCC)" finalised and presented to UNFCCC in January 2018, progress report on Forest Reference Emissions Level submitted in January 2019. National target to reduce 27MTCO<sub>2</sub>eq by 2030
- **Forest Carbon Partnership Facility (FCPF) member**; participation agreement signed in 2018

### SUBNATIONAL LEVEL

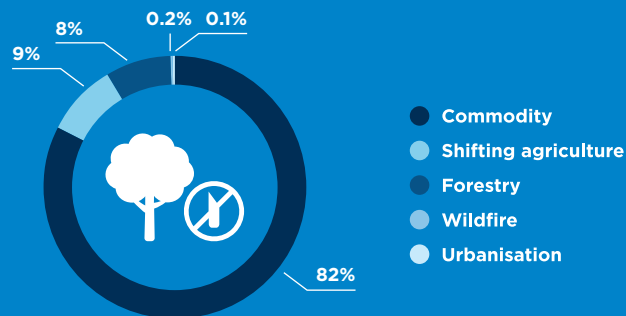
- **Salta and Tucuman:** Bunge sustainable sourcing program for 100% traceable, deforestation-free palm oil in the Gran Chaco regions of Argentina, Paraguay and Brazil in 2017

## DEFORESTATION TRENDS

TREE COVER LOSS, 2010-2017  
Millions of hectares



DRIVERS OF DEFORESTATION 2010-15



(A) Production data is sourced from the UN Food & Agricultural Organisation (FAO), Roundtable for Sustainable Palm Oil (RSPO), Round Table for Responsible Soy (RTRS), United States Department of Agriculture (USDA), International Tropical Timber Organisation (ITTO), UTZ, and existing AlphaBeta research. Palm oil data for 2017 is projected using annual growth data in production from 2010-14 i.e. latest available FAO data. Latest data available for tropical timber is 2016. (B) Data on deforestation trends is sourced from the Global Forest Watch (GFW). (C) Data on ongoing initiatives is non-exhaustive. Data is sourced from a literature review of key sources of jurisdictional programs including the FCPF, Governor's Climate and Forest Task Force (GCF-TF), IDH Sustainable Landscapes initiative, existing Tropical Forest Alliance (TFA2020) and AlphaBeta research, and expert interviews.



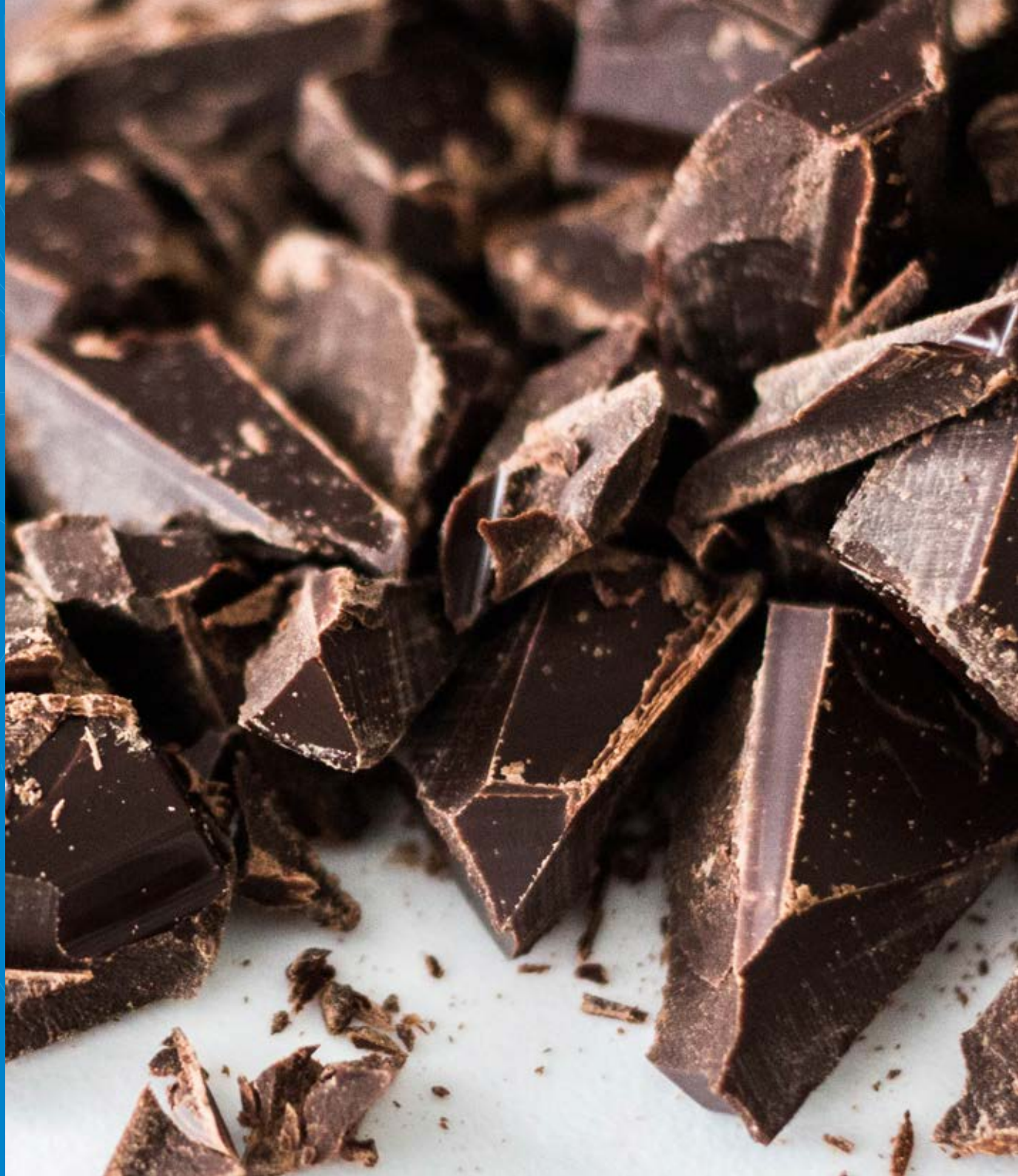




## Appendix C:

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Consumer  
country profiles



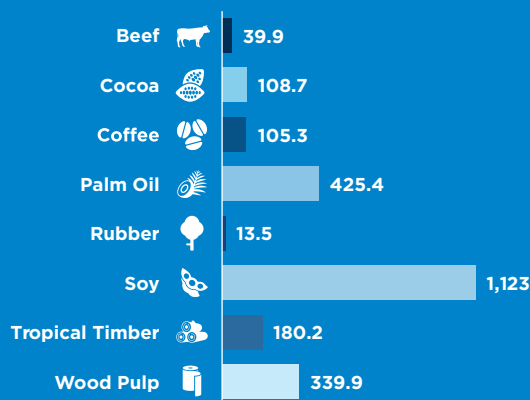


# Belgium

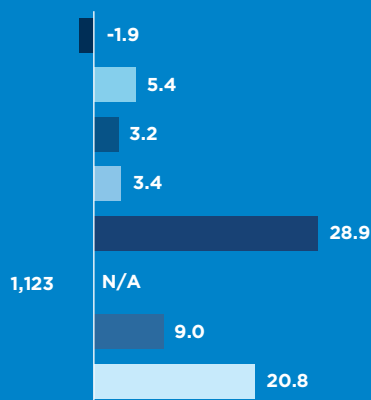


## DEMAND & IMPORTS TRENDS

AVERAGE ANNUAL NET IMPORTS, 2011-16, '000 TONNES



AVERAGE NET IMPORT YOY GROWTH, 2011-16, (%)



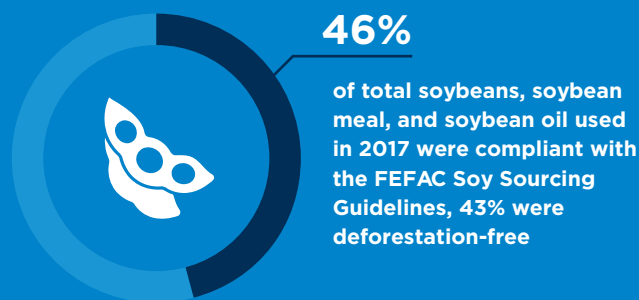
SHARE OF REGIONAL NET IMPORTS, 2011-16, (%)



## TOP SOURCES OF SUPPLY 2018

Beef	France	Netherlands	UK
Cocoa	Côte d'Ivoire	Nigeria	Ghana
Coffee	Brazil	Viet Nam	Honduras
Palm Oil	Netherlands	Indonesia	Malaysia
Rubber	Indonesia	Côte d'Ivoire	Thailand
Soy	Brazil	Canada	Netherlands
Tropical Timber	Cameroon	Gabon	Brazil
Wood Pulp	USA	Brazil	Netherlands

## SUSTAINABILITY SOURCING PERFORMANCE



(A) Import data is sourced from Food and Agriculture Organisation (FAO), International Tropical Timber Organisation (ITTO), and IDH. Net imports refer to total imports adjusted for re-exports. For tropical timber, the unit of measurement for net imports is 1000m3. For soy, net imports are based on 2017 data. Regional import data was aggregated from data of 28 European Union (EU) countries and 4 European Free Trade Association (EFTA) countries where data is available. Intra-regional trade is included in the regional figures. Data on top sources of supply is sourced from International Trade Centre (ITC). Data for wood pulp is based on import value, data for other commodities is based on import quantity. Re-exporters are included. (B) Data on sustainable sourcing performance is sourced from IDH.

## GOVERNMENT & PRIVATE SECTOR INITIATIVES

### EXAMPLES OF GOVERNMENT & PRIVATE SECTOR INITIATIVES



- “Beyond Chocolate” partnership to combat deforestation and ensure a liveable income for cocoa producers



- Belgian Alliance for Sustainable Palm Oil (BASP) supports members to ensure that by 2020 all food products containing palm oil, and intended for the Belgian market, contain only sustainable palm oil.
- Solvay has committed to source 100% of its palm oil sustainably



- Since 2016, Colruyt Group has 100% of its soy compensated by the Round Table on Responsible Soy (RTRS)



- Public procurement policy requiring sustainable sourcing of timber
- Agreement between the government and the timber industry to increase the market share of responsibly sourced timber in Belgium
- Participation in the multi-stakeholder platform Congo Basin Forest Partnership
- Vandemoortele has committed 100% of its packaging to be recycled or FSC/PEFC certified by 2020

### COMPANIES, WWF ASSESSMENT, 2016



Palm Oil



Soy

<b>Colruyt Group</b>	9/9	13/24
<b>Lotus</b>	9/9	N/A
<b>Aigremont</b>	8/9	N/A
<b>Vandemoortele</b>	8/9	4/24
<b>Belgian Pork Group</b>	N/A	0/24

No Belgian companies were assessed by Forest 500 in 2018



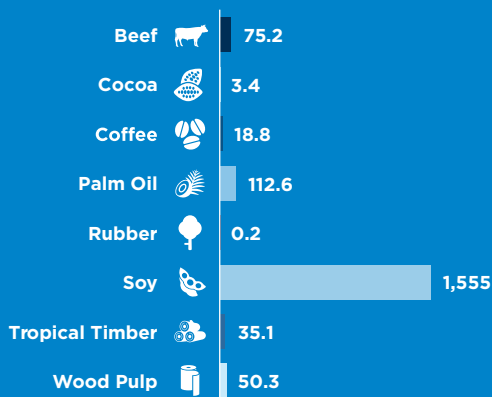


# Denmark

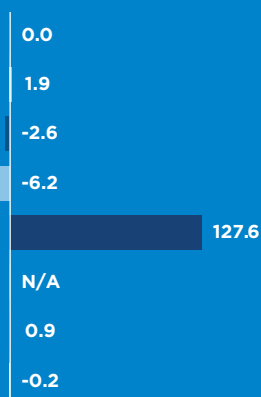


## DEMAND & IMPORTS TRENDS

AVERAGE ANNUAL NET IMPORTS, 2011-16, '000 TONNES



AVERAGE NET IMPORT YOY GROWTH, 2011-16, (%)



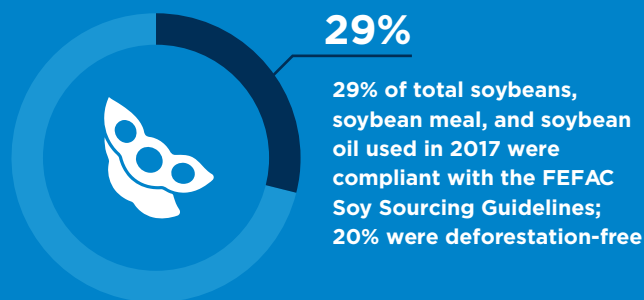
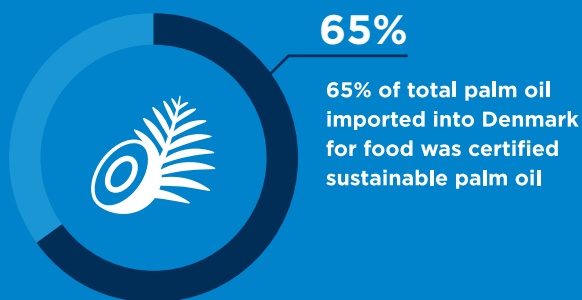
SHARE OF REGIONAL NET IMPORTS, 2011-16, (%)



TOP SOURCES OF SUPPLY 2018

Commodity	Source 1	Source 2	Source 3
Beef	Netherlands	Germany	Poland
Cocoa	UK	Nicaragua	Peru
Coffee	Sweden	Germany	Brazil
Palm Oil	Indonesia	Germany	Malaysia
Rubber	Germany	Sweden	Netherlands
Soy	China	Germany	Italy
Tropical Timber	Brazil	Germany	Peru
Wood Pulp	USA	Finland	Germany

## SUSTAINABILITY SOURCING PERFORMANCE



(A) Import data is sourced from Food and Agriculture Organisation (FAO), International Tropical Timber Organisation (ITTO), and IDH. Net imports refer to total imports adjusted for re-exports. For tropical timber, the unit of measurement for net imports is 1000m3. For soy, net imports are based on 2017 data. Regional import data was aggregated from data of 28 European Union (EU) countries and 4 European Free Trade Association (EFTA) countries where data is available. Intra-regional trade is included in the regional figures. Data on top sources of supply is sourced from International Trade Centre (ITC). Data for wood pulp is based on import value, data for other commodities is based on import quantity. Re-exporters are included. (B) Data on sustainable sourcing performance is sourced from IDH.

## GOVERNMENT & PRIVATE SECTOR INITIATIVES

### EXAMPLES OF GOVERNMENT & PRIVATE SECTOR INITIATIVES



- DANIDA sponsored research to improve cocoa fermenting techniques in Ghana



- Partnership for Green Public Procurement / Forum on Sustainable Procurement
- Danish government supported a training programme for Indonesian palm oil firms
- Danish Food and Drink Federation Initiative for Sustainable Palm Oil



- Danish International Development Agency (DANIDA) supported the “Responsible Sourcing of Soy, Cattle and Palm Oil Project”
- The Danish Ethical Trade Initiative launched a working group on soy



- Public procurement policy requiring legal and sustainable sourcing of timber

### COMPANIES, FOREST 500 ASSESSMENT, 2018



Palm Oil



Soy



Tropical Timber

Total Score

	Palm Oil	Soy	Tropical Timber	Total Score
<b>Arla Foods</b>	✓	✓	✓	3/5
<b>Biomar</b>	✓	✓	✗	2/5
<b>DLG Denmark</b>	✓	✓	✗	2/5
<b>Bestseller A/S</b>			✗	1/5
<b>Danish Agro</b>	✗	✗	✓	1/5
<b>Hamlet Protein</b>		✓	✗	1/5

(C) Data on government & private sector initiatives is sourced from Forest 500, IDH and literature review for cocoa, palm oil, soy, and timber & paper. For data sourced from Forest 500, timber and paper were combined. Forest 500 selected companies based on: (1) risk of being linked to deforestation; and (2) influence within the political economy of deforestation. Ticks indicate commodity specific policies. Companies are assessed based on: (1) Intent & Awareness; (2) Commodity Commitments; (3) Scope & Ambition; (4) Reporting, Monitoring & Implementation; and (5) Social Commitments. Companies are scored out of 100 points, and these points are converted to between zero and five points.



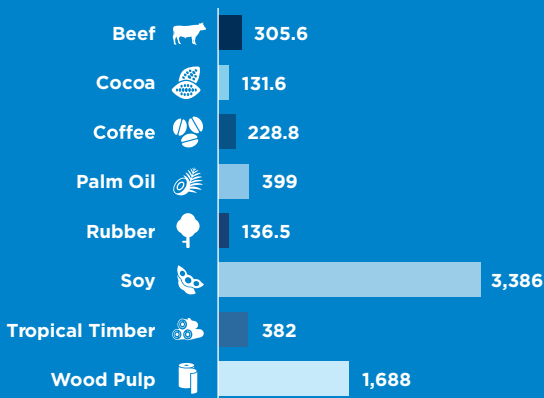


# France

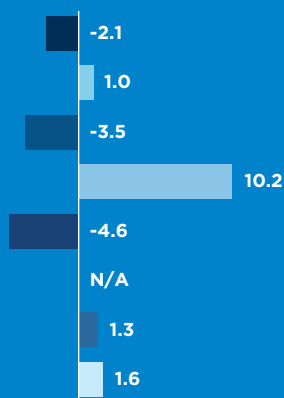


## DEMAND & IMPORTS TRENDS

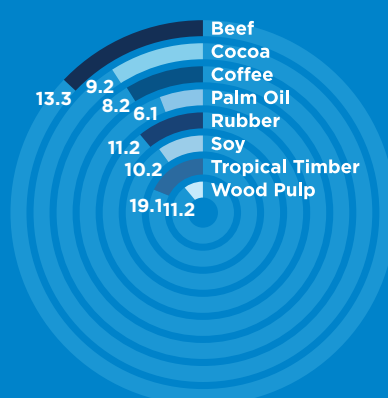
AVERAGE ANNUAL NET IMPORTS, 2011-16, '000 TONNES



AVERAGE NET IMPORT YOY GROWTH, 2011-16, (%)



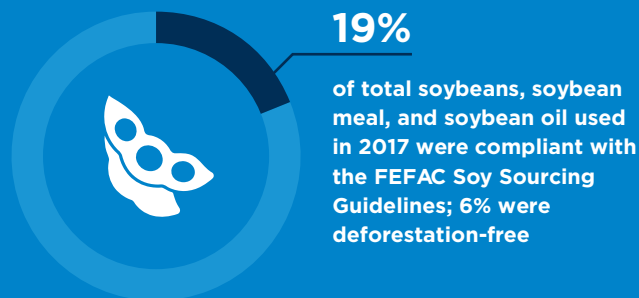
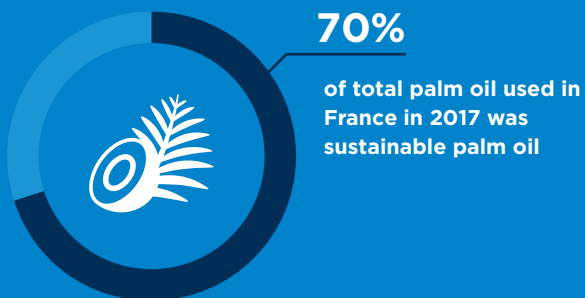
SHARE OF REGIONAL NET IMPORTS, 2011-16, (%)



## TOP SOURCES OF SUPPLY 2018

	<b>Beef</b>	Netherlands	Belgium	Germany
	<b>Cocoa</b>	Côte d'Ivoire	Ghana	Belgium
	<b>Coffee</b>	Brazil	Switzerland	Viet Nam
	<b>Palm Oil</b>	Netherlands	Indonesia	Malaysia
	<b>Rubber</b>	Indonesia	Thailand	Côte d'Ivoire
	<b>Soy</b>	Brazil	USA	Canada
	<b>Tropical Timber</b>	Cameroon	Brazil	Belgium
	<b>Wood Pulp</b>	Brazil	Sweden	Finland

## SUSTAINABILITY SOURCING PERFORMANCE



(A) Import data is sourced from Food and Agriculture Organisation (FAO), International Tropical Timber Organisation (ITTO), and IDH. Net imports refer to total imports adjusted for re-exports. For tropical timber, the unit of measurement for net imports is 1000m3. For soy, net imports are based on 2017 data. Regional import data was aggregated from data of 28 European Union (EU) countries and 4 European Free Trade Association (EFTA) countries where data is available. Intra-regional trade is included in the regional figures. Data on top sources of supply is sourced from International Trade Centre (ITC). Data for wood pulp is based on import value, data for other commodities is based on import quantity. Re-exporters are included. (B) Data on sustainable sourcing performance is sourced from IDH.

## GOVERNMENT & PRIVATE SECTOR INITIATIVES

### EXAMPLES OF GOVERNMENT & PRIVATE SECTOR INITIATIVES



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- Danish government supported a training programme for Indonesian palm oil firms
- Danish Food and Drink Federation Initiative for Sustainable Palm Oil



- Danish International Development Agency (DANIDA) supported the “Responsible Sourcing of Soy, Cattle and Palm Oil Project”
- The Danish Ethical Trade Initiative launched a working group on soy



- Public procurement policy requiring legal and sustainable sourcing of timber

### COMPANIES, FOREST 500 ASSESSMENT, 2018



	Palm Oil	Soy	Tropical Timber	Total Score
<b>L’Oreal</b>	✓		✓	4/5
<b>Carrefour</b>	✓	✓	✓	3/5
<b>Danone</b>	✓	✓	✓	3/5
<b>AFM</b>	✓	✗	✓	2/5
<b>Casino Guichard Perrachon</b>	✓	✓	✓	2/5
<b>Groupe Avril</b>	✓	✓	✗	2/5
<b>Kering</b>			✓	2/5
<b>LVMH</b>	✓		✓	2/5
<b>Rougier Group</b>			✓	2/5
<b>Saint Gobain</b>			✓	2/5
<b>Fleury Michon, Groupe</b>		✗	✗	1/5
<b>Groupe Savencia</b>	✗	✗	✗	1/5
<b>Invivo</b>		✗	✗	1/5
<b>Groupe Lactalis</b>	✗	✗	✗	0/5
<b>Le Guessant</b>		✗	✗	0/5

(C) Data on government & private sector initiatives is sourced from Forest 500, IDH and literature review for cocoa, palm oil, soy, and timber & paper. For data sourced from Forest 500, timber and paper were combined. Forest 500 selected companies based on: (1) risk of being linked to deforestation; and (2) influence within the political economy of deforestation. Ticks indicate commodity specific policies. Companies are assessed based on: (1) Intent & Awareness; (2) Commodity Commitments; (3) Scope & Ambition; (4) Reporting, Monitoring & Implementation; and (5) Social Commitments. Companies are scored out of 100 points, and these points are converted to between zero and five points.



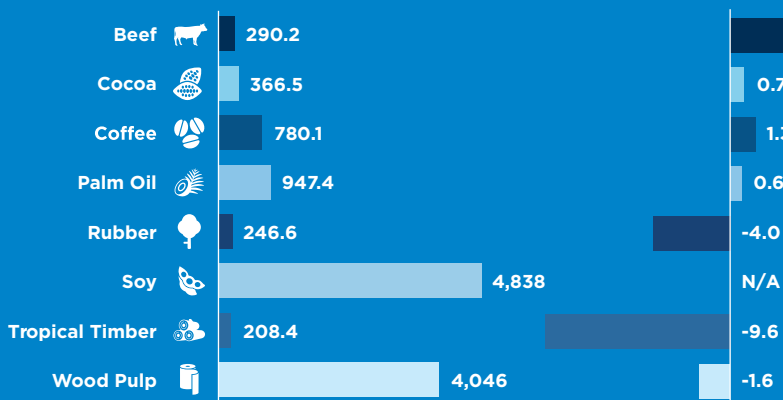


# Germany

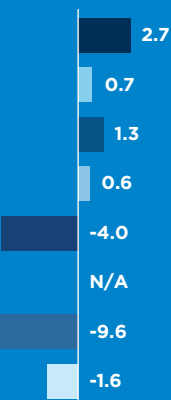


## DEMAND & IMPORTS TRENDS

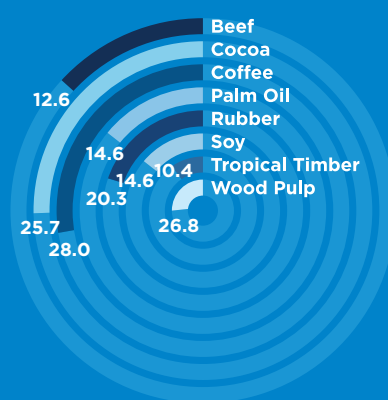
AVERAGE ANNUAL NET IMPORTS, 2011-16, '000 TONNES



AVERAGE NET IMPORT YOY GROWTH, 2011-16, (%)



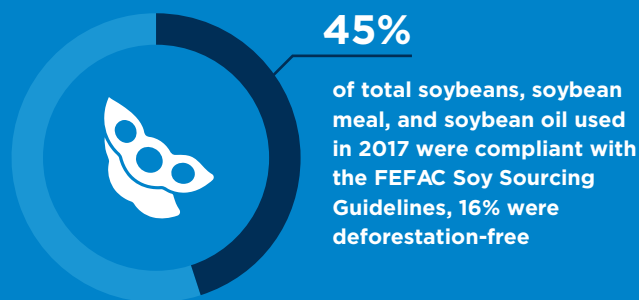
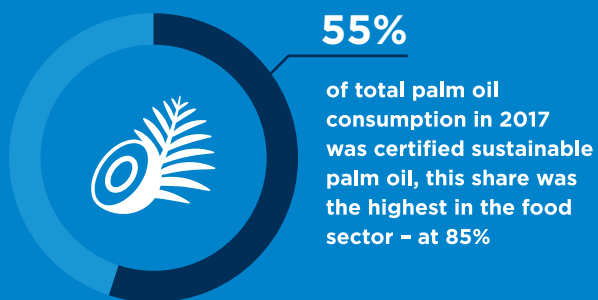
SHARE OF REGIONAL NET IMPORTS, 2011-16, (%)



## TOP SOURCES OF SUPPLY 2018

	<b>Beef</b>	Netherlands	France	Poland
	<b>Cocoa</b>	Côte d'Ivoire	Nigeria	Ghana
	<b>Coffee</b>	Brazil	Viet Nam	Honduras
	<b>Palm Oil</b>	Netherlands	Indonesia	Malaysia
	<b>Rubber</b>	Côte d'Ivoire	Indonesia	Malaysia
	<b>Soy</b>	USA	Brazil	Canada
	<b>Tropical Timber</b>	Cameroon	Ghana	Côte d'Ivoire
	<b>Wood Pulp</b>	Brazil	Sweden	Finland

## SUSTAINABILITY SOURCING PERFORMANCE



(A) Import data is sourced from Food and Agriculture Organisation (FAO), International Tropical Timber Organisation (ITTO), and IDH. Net imports refer to total imports adjusted for re-exports. For tropical timber, the unit of measurement for net imports is 1000m3. For soy, net imports are based on 2017 data. Regional import data was aggregated from data of 28 European Union (EU) countries and 4 European Free Trade Association (EFTA) countries where data is available. Intra-regional trade is included in the regional figures. Data on top sources of supply is sourced from International Trade Centre (ITC). Data for wood pulp is based on import value, data for other commodities is based on import quantity. Re-exporters are included. (B) Data on sustainable sourcing performance is sourced from IDH.

## GOVERNMENT & PRIVATE SECTOR INITIATIVES

### EXAMPLES OF GOVERNMENT & PRIVATE SECTOR INITIATIVES



- Multi-stakeholder platform “German Initiative on Sustainable Cocoa” supported by the Federal Ministry of Food and Agriculture (BMEL)



- Forum for Sustainable Palm Oil (FONAP) funded by BMEL
- Pilot implementation of a district-level sustainable oil palm program in Indonesia



- Forum Nachhaltigere Eiweissfuttermittel (Forum on More Sustainable Protein Feeds) supported by BMEL



- Public procurement policy requiring sustainable sourcing of timber
- Thünen Centre of Competence on the Origin of Timber
- Partnership with Norway and Peru to tackle deforestation

### COMPANIES, FOREST 500 ASSESSMENT, 2018



Palm Oil



Soy



Tropical Timber

Total Score

	Palm Oil	Soy	Tropical Timber	Total Score
<b>Henkel AG &amp; Co. KGaA</b>	✓		✓	4/5
<b>Bertelsmann SE &amp; Co. KGaA</b>			✓	3/5
<b>Adidas Group</b>			✗	2/5
<b>Aldi Group</b>	✓	✗	✓	2/5
<b>BASF SE</b>	✓		✗	2/5
<b>Maxingvest AG</b>	✓		✓	2/5
<b>Metro AG</b>	✓	✗	✓	2/5
<b>Rewe Group</b>	✓	✓	✓	2/5
<b>Schwarz Group</b>	✓	✓	✓	2/5
<b>Blondeau Group</b>			✓	1/5
<b>Deichmann Group</b>			✗	1/5
<b>Oetker-Gruppe</b>	✓	✗	✗	1/5
<b>PHW Group</b>	✓	✓	✗	1/5

(C) Data on government & private sector initiatives is sourced from Forest 500, IDH and literature review for cocoa, palm oil, soy, and timber & paper. For data sourced from Forest 500, timber and paper were combined. Forest 500 selected companies based on: (1) risk of being linked to deforestation; and (2) influence within the political economy of deforestation. Ticks indicate commodity specific policies. Companies are assessed based on: (1) Intent & Awareness; (2) Commodity Commitments; (3) Scope & Ambition; (4) Reporting, Monitoring & Implementation; and (5) Social Commitments. Companies are scored out of 100 points, and these points are converted to between zero and five points.

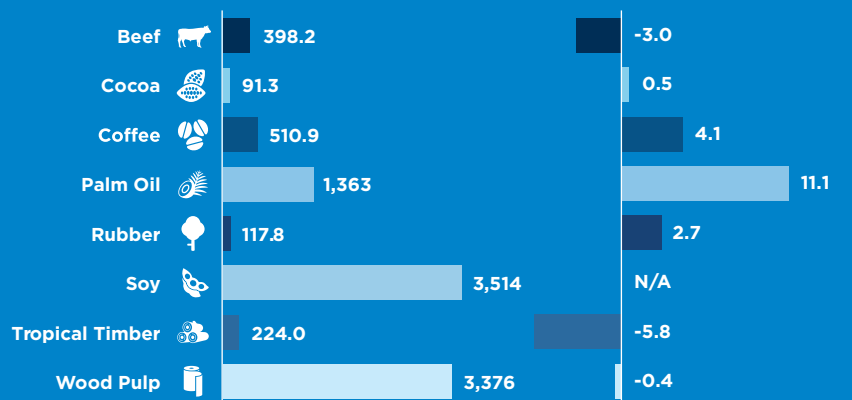


# Italy

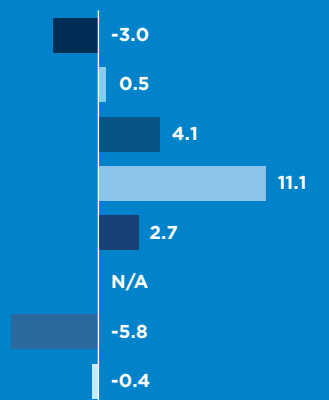


## DEMAND & IMPORTS TRENDS

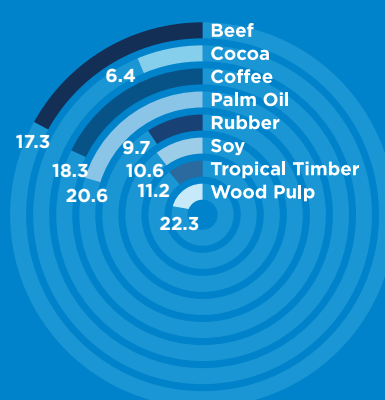
AVERAGE ANNUAL NET IMPORTS, 2011-16, '000 TONNES



AVERAGE NET IMPORT YOY GROWTH, 2011-16, (%)



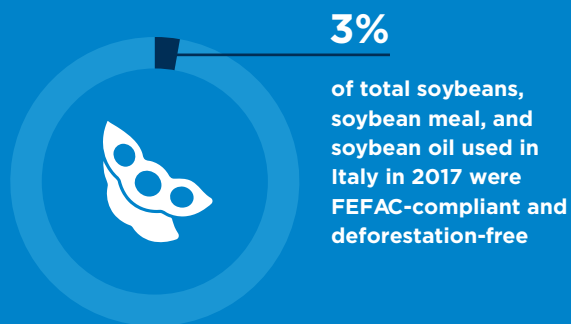
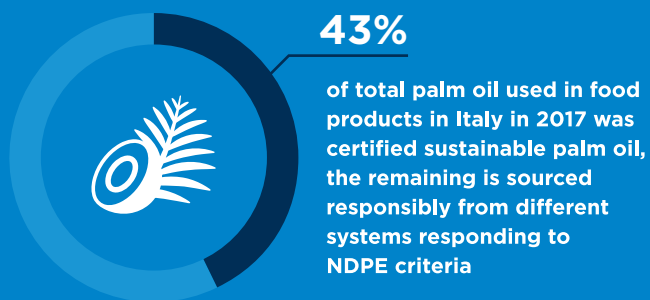
SHARE OF REGIONAL NET IMPORTS, 2011-16, (%)



## TOP SOURCES OF SUPPLY 2018

	<b>Beef</b>	France	Poland	Netherlands
	<b>Cocoa</b>	Côte d'Ivoire	Ghana	Peru
	<b>Coffee</b>	Brazil	Viet Nam	India
	<b>Palm Oil</b>	Indonesia	Malaysia	Netherlands
	<b>Rubber</b>	Thailand	Indonesia	Viet Nam
	<b>Soy</b>	USA	Canada	Brazil
	<b>Tropical Timber</b>	Cameroon	Gabon	Côte d'Ivoire
	<b>Wood Pulp</b>	Brazil	USA	Sweden

## SUSTAINABILITY SOURCING PERFORMANCE



(A) Import data is sourced from Food and Agriculture Organisation (FAO), International Tropical Timber Organisation (ITTO), and IDH. Net imports refer to total imports adjusted for re-exports. For tropical timber, the unit of measurement for net imports is 1000m3. For soy, net imports are based on 2017 data. Regional import data was aggregated from data of 28 European Union (EU) countries and 4 European Free Trade Association (EFTA) countries where data is available. Intra-regional trade is included in the regional figures. Data on top sources of supply is sourced from International Trade Centre (ITC). Data for wood pulp is based on import value, data for other commodities is based on import quantity. Re-exporters are included. (B) Data on sustainable sourcing performance is sourced from IDH.

## GOVERNMENT & PRIVATE SECTOR INITIATIVES

### EXAMPLES OF GOVERNMENT & PRIVATE SECTOR INITIATIVES



- Ferrero is a member of the Cocoa & Forests Initiative and is actively working on sustainable cocoa



- The Italian Union for Sustainable Palm Oil brings together companies and trade associations who are committed to 100% certified sustainable palm oil by 2020



- Public procurement policy for paper and furniture
- Members of Assocarta, the trade association of the paper industry, are committed to promoting the use of legal timber through the Codes of Good Practices
- Federlegno-Arredo, the Federation of Wood Furniture, Cork and Furnishing Italian Industries, signed cooperation agreements with Greenpeace and World Wildlife Fund to inform and promote the use of legal timber

### COMPANIES, FOREST 500 ASSESSMENT, 2018



Palm Oil



Soy



Tropical Timber

Total Score

<b>Barilla Holding SPA</b>	✓	✓	✓	3/5
<b>Ferrero Group</b>	✓	✗	✓	3/5
<b>Prada SPA</b>			✓	2/5
<b>Gruppo Veronesi</b>		✓	✗	1/5
<b>Natuzzi</b>			✓	1/5
<b>Gruppo Mastrotto SPA</b>			✗	0/5

(C) Data on government & private sector initiatives is sourced from Forest 500, IDH and literature review for cocoa, palm oil, soy, and timber & paper. For data sourced from Forest 500, timber and paper were combined. Forest 500 selected companies based on: (1) risk of being linked to deforestation; and (2) influence within the political economy of deforestation. Ticks indicate commodity specific policies. Companies are assessed based on: (1) Intent & Awareness; (2) Commodity Commitments; (3) Scope & Ambition; (4) Reporting, Monitoring & Implementation; and (5) Social Commitments. Companies are scored out of 100 points, and these points are converted to between zero and five points.



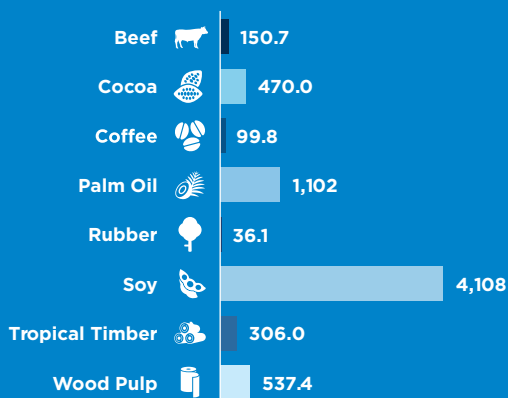


# Netherlands

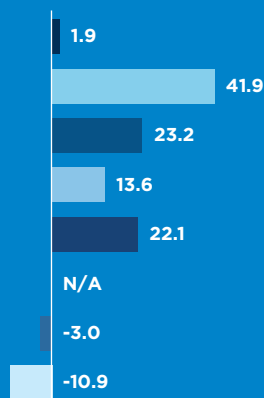


## DEMAND & IMPORTS TRENDS

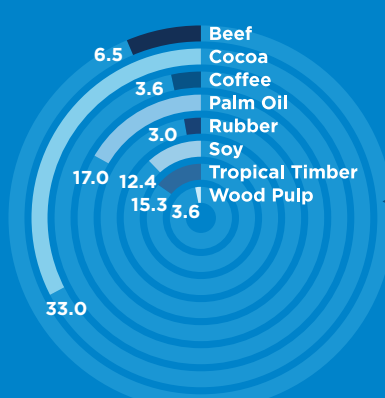
AVERAGE ANNUAL NET IMPORTS, 2011-16, '000 TONNES



AVERAGE NET IMPORT YOY GROWTH, 2011-16, (%)



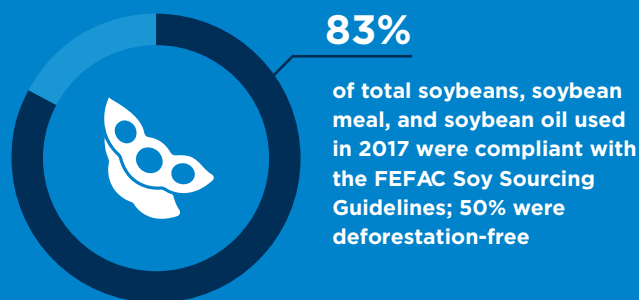
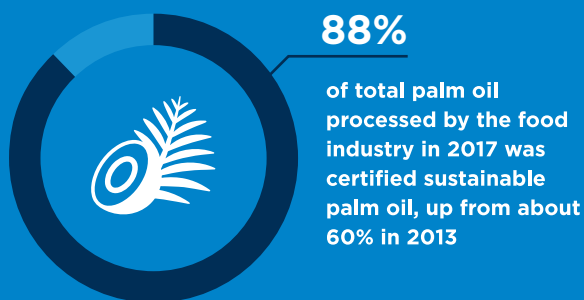
SHARE OF REGIONAL NET IMPORTS, 2011-16, (%)



## TOP SOURCES OF SUPPLY 2018

	<b>Beef</b>	Germany	Belgium	Ireland
	<b>Cocoa</b>	Côte d'Ivoire	Ghana	Nigeria
	<b>Coffee</b>	Belgium	Germany	Brazil
	<b>Palm Oil</b>	Malaysia	Indonesia	Papua New Guinea
	<b>Rubber</b>	Côte d'Ivoire	Malaysia	Germany
	<b>Soy</b>	USA	Brazil	Ukraine
	<b>Tropical Timber</b>	Belgium	Brazil	Cameroon
	<b>Wood Pulp</b>	Brazil	Uruguay	Finland

## SUSTAINABILITY SOURCING PERFORMANCE



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## GOVERNMENT & PRIVATE SECTOR INITIATIVES

### EXAMPLES OF GOVERNMENT & PRIVATE SECTOR INITIATIVES



- Cocoa Rehabilitation and Intensification Programme (CORIP) in Ghana
- Chocolate Working Group



- 95% of palm oil used in animal feed must be RSPO certified
- Partnership with Indonesian government
- The Dutch Alliance for Sustainable Palm Oil (DASPO)



- 95% of soy used in animal feed must be RTRS certified
- Global Producers Support Initiative
- The Dutch Soy Platform Initiative to promote certified deforestation-free soy



- Timber Procurement Assessment Committee (TPAC) to assess compliance with the Dutch timber procurement requirements
- The Green Deal initiative to promote certified sustainable timber

### COMPANIES, FOREST 500 ASSESSMENT, 2018



Palm Oil



Soy



Tropical Timber

Total Score

	Palm Oil	Soy	Tropical Timber	Total Score
<b>Louis Dreyfus</b>	✓	✓		4/5
<b>IKEA Group</b>	✓		✓	3/5
<b>FrieslandCampina</b>	✓	✓	✓	3/5
<b>Royal Dutch Shell</b>	✓	✓		3/5
<b>Ahold Delhaize</b>	✓	✓	✓	2/5
<b>DSM</b>	✓	✓	✓	2/5
<b>Agrifirm</b>	✓	✓	✗	1/5
<b>De Heus</b>	✓	✓	✗	1/5
<b>ForFarmers</b>	✓	✓	✗	1/5
<b>Plukon Food Group</b>		✓	✗	1/5
<b>SHV Holdings</b>	✓	✓	✗	1/5
<b>Spar International</b>	✗	✓	✗	1/5

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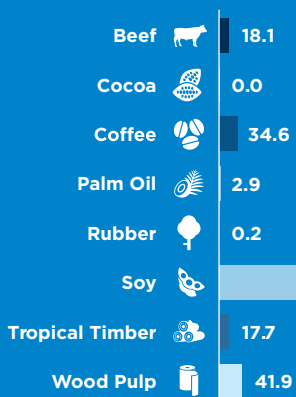


# Norway

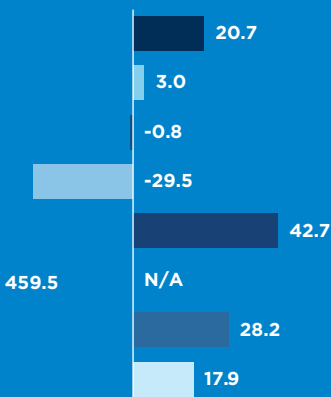


## DEMAND & IMPORTS TRENDS

AVERAGE ANNUAL NET IMPORTS, 2011-16, '000 TONNES



AVERAGE NET IMPORT YOY GROWTH, 2011-16, (%)



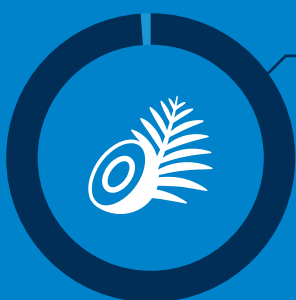
SHARE OF REGIONAL NET IMPORTS, 2011-16, (%)



TOP SOURCES OF SUPPLY 2018

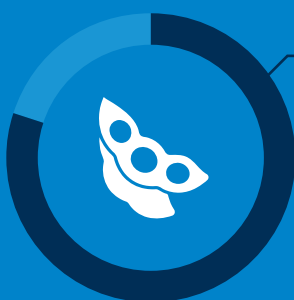
<b>Beef</b>	Germany	Botswana	Nambia
<b>Cocoa</b>	Peru	Ecuador	Belgium
<b>Coffee</b>	Brazil	Colombia	Sweden
<b>Palm Oil</b>	Sweden	Malaysia	Denmark
<b>Rubber</b>	Malaysia	USA	Sweden
<b>Soy</b>	Brazil	Canada	Ukraine
<b>Tropical Timber</b>	Germany	Brazil	Denmark
<b>Wood Pulp</b>	Sweden	Finland	Brazil

## SUSTAINABILITY SOURCING PERFORMANCE



99%

of total palm oil used by members of the Norwegian Initiative for Sustainable Palm Oil (NISPO) in 2017 was certified sustainable palm oil



80%

of total soybeans, soybean meal, and soybean oil used in 2017 were FEAC-compliant and deforestation-free

(A) Import data is sourced from Food and Agriculture Organisation (FAO), International Tropical Timber Organisation (ITTO), and IDH. Net imports refer to total imports adjusted for re-exports. For tropical timber, the unit of measurement for net imports is 1000m3. For soy, net imports are based on 2017 data. Regional import data was aggregated from data of 28 European Union (EU) countries and 4 European Free Trade Association (EFTA) countries where data is available. Intra-regional trade is included in the regional figures. Data on top sources of supply is sourced from International Trade Centre (ITC). Data for wood pulp is based on import value, data for other commodities is based on import quantity. Re-exporters are included. (B) Data on sustainable sourcing performance is sourced from IDH.

## GOVERNMENT & PRIVATE SECTOR INITIATIVES

### EXAMPLES OF GOVERNMENT & PRIVATE SECTOR INITIATIVES



- Orkla and Mondelez Norge are active in promoting sustainable cocoa



- Parliament decision to exclude the use of high-deforestation risk biofuels, like palm oil, by 2020
- Blended finance debt fund “&Green” funded by the Norwegian government
- Norwegian Initiative for Sustainable Palm Oil (NISPO)



- Research Council of Norway is developing alternatives to deforestation-linked soy
- Norway’s International Climate and Forest Initiative (NICFI) funded IDH landscape programme in Brazil
- Norwegian Roundtable on Responsible Soy



- Ban on the use of tropical timber in public sector buildings and construction works
- The government pledged 145M kroner (US\$17M) to help prevent illegal logging

### COMPANIES, FOREST 500 ASSESSMENT, 2018



Palm Oil



Soy



Tropical Timber

Total Score

Orkla Group



3/5

(C) Data on government & private sector initiatives is sourced from Forest 500, IDH and literature review for cocoa, palm oil, soy, and timber & paper. For data sourced from Forest 500, timber and paper were combined. Forest 500 selected companies based on: (1) risk of being linked to deforestation; and (2) influence within the political economy of deforestation. Ticks indicate commodity specific policies. Companies are assessed based on: (1) Intent & Awareness; (2) Commodity Commitments; (3) Scope & Ambition; (4) Reporting, Monitoring & Implementation; and (5) Social Commitments. Companies are scored out of 100 points, and these points are converted to between zero and five points.



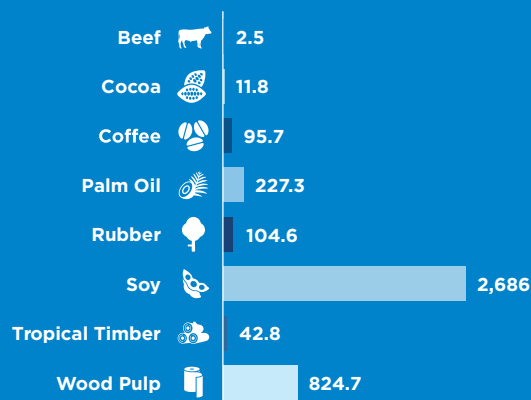


# Poland

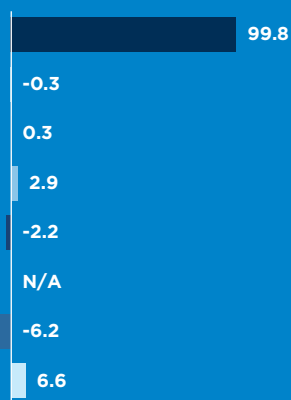


## DEMAND & IMPORTS TRENDS

AVERAGE ANNUAL NET IMPORTS, 2011-16, '000 TONNES



AVERAGE NET IMPORT YOY GROWTH, 2011-16, (%)



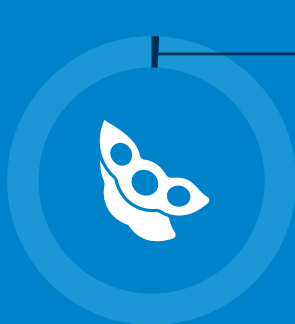
SHARE OF REGIONAL NET IMPORTS, 2011-16, (%)



## TOP SOURCES OF SUPPLY 2018

	<b>Beef</b>	Italy	Romania	UK
	<b>Cocoa</b>	Netherlands	Côte d'Ivoire	Germany
	<b>Coffee</b>	Germany	Viet Nam	Brazil
	<b>Palm Oil</b>	Germany	Netherlands	Italy
	<b>Rubber</b>	Côte d'Ivoire	Indonesia	Germany
	<b>Soy</b>	Ukraine	Germany	Belgium
	<b>Tropical Timber</b>	Netherlands	Germany	Belgium
	<b>Wood Pulp</b>	Finland	Sweden	USA

## SUSTAINABILITY SOURCING PERFORMANCE



1%

of total soybeans, soybean meal, and soybean oil used in 2017 were compliant with the FEFAC Soy Sourcing Guidelines, 0% were deforestation-free

(A) Import data is sourced from Food and Agriculture Organisation (FAO), International Tropical Timber Organisation (ITTO), and IDH. Net imports refer to total imports adjusted for re-exports. For tropical timber, the unit of measurement for net imports is 1000m3. For soy, net imports are based on 2017 data. Regional import data was aggregated from data of 28 European Union (EU) countries and 4 European Free Trade Association (EFTA) countries where data is available. Intra-regional trade is included in the regional figures. Data on top sources of supply is sourced from International Trade Centre (ITC). Data for wood pulp is based on import value, data for other commodities is based on import quantity. Re-exporters are included. (B) Data on sustainable sourcing performance is sourced from IDH.

## GOVERNMENT & PRIVATE SECTOR INITIATIVES

### EXAMPLES OF GOVERNMENT & PRIVATE SECTOR INITIATIVES



- The Polish Forum on Sustainable Palm Oil brought together over 90 stakeholders, including major retailers, consumer goods manufacturers, regional zoos and NGOs to discuss ways to promote sustainable palm oil.
- Betasoup has committed to 100% Roundtable on Sustainable Palm Oil (RSPO) certified palm oil by 2025

### COMPANIES, WWFASSESSMENT, 2016



Palm Oil

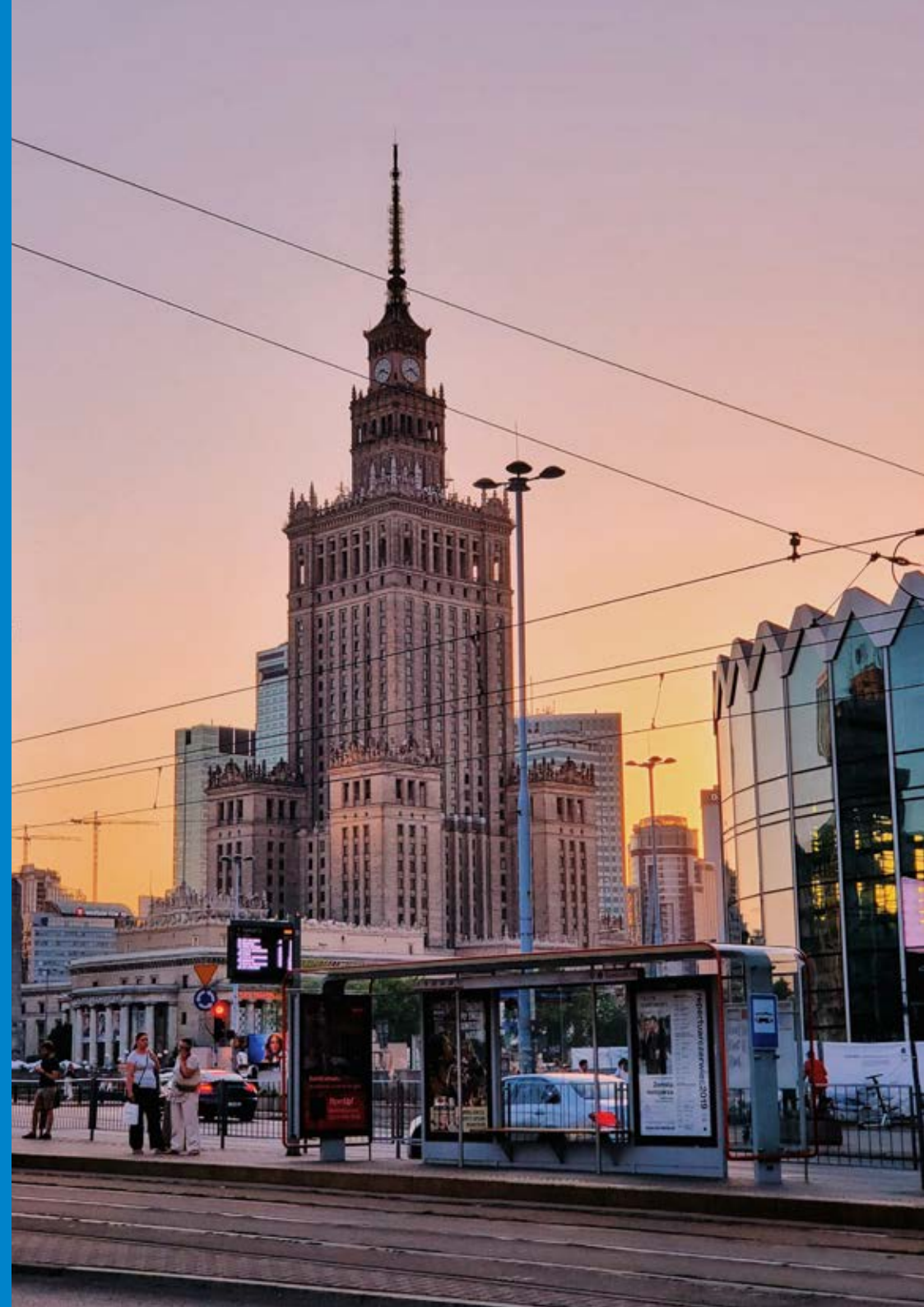


Soy

	Palm Oil	Soy
Grupa Mlekovita	N.A	0/24
Pini Polonia	N.A	0/24

No Polish companies were assessed by Forest 500 in 2018

(C) Data on government & private sector initiatives is sourced from Forest 500, IDH and literature review for cocoa, palm oil, soy, and timber & paper. For data sourced from Forest 500, timber and paper were combined. Forest 500 selected companies based on: (1) risk of being linked to deforestation; and (2) influence within the political economy of deforestation. Ticks indicate commodity specific policies. Companies are assessed based on: (1) Intent & Awareness; (2) Commodity Commitments; (3) Scope & Ambition; (4) Reporting, Monitoring & Implementation; and (5) Social Commitments. Companies are scored out of 100 points, and these points are converted to between zero and five points.



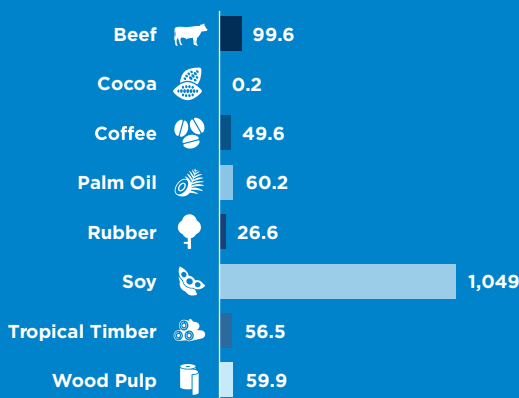


# Portugal

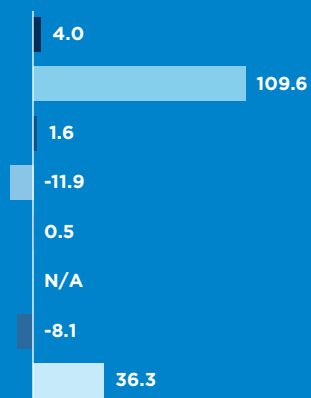


## DEMAND & IMPORTS TRENDS

AVERAGE ANNUAL NET IMPORTS, 2011-16, '000 TONNES



AVERAGE NET IMPORT YOY GROWTH, 2011-16, (%)



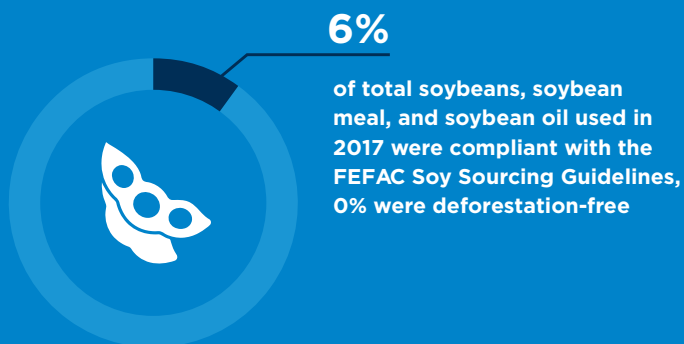
SHARE OF REGIONAL NET IMPORTS, 2011-16, (%)



## TOP SOURCES OF SUPPLY 2018

	<b>Beef</b>	Spain	Netherlands	Poland
	<b>Cocoa</b>	Spain	Peru	Netherlands
	<b>Coffee</b>	Viet Nam	Brazil	Spain
	<b>Palm Oil</b>	Spain	Philippines	Netherlands
	<b>Rubber</b>	Indonesia	Côte d'Ivoire	Malaysia
	<b>Soy</b>	USA	Brazil	Paraguay
	<b>Tropical Timber</b>	Brazil	Cameroon	Gabon
	<b>Wood Pulp</b>	Sweden	Spain	UK

## SUSTAINABILITY SOURCING PERFORMANCE



(A) Import data is sourced from Food and Agriculture Organisation (FAO), International Tropical Timber Organisation (ITTO), and IDH. Net imports refer to total imports adjusted for re-exports. For tropical timber, the unit of measurement for net imports is 1000m3. For soy, net imports are based on 2017 data. Regional import data was aggregated from data of 28 European Union (EU) countries and 4 European Free Trade Association (EFTA) countries where data is available. Intra-regional trade is included in the regional figures. Data on top sources of supply is sourced from International Trade Centre (ITC). Data for wood pulp is based on import value, data for other commodities is based on import quantity. Re-exporters are included. (B) Data on sustainable sourcing performance is sourced from IDH.

## GOVERNMENT & PRIVATE SECTOR INITIATIVES

### EXAMPLES OF GOVERNMENT & PRIVATE SECTOR INITIATIVES



- Jerónimo Martins has about 70% of its palm oil used certified by the Roundtable on Sustainable Palm Oil (RSPO) in 2018. The company aims to achieve its “Zero Net Deforestation Goal” by 2020



- The National Feed Manufacturers Association (IACA) is cooperating with soy producers in Mato Grosso for capacity building and fostering long-term supplies of sustainably produced soy
- Jerónimo Martins has 20% of its soy from countries at risk certified as Round Table on Responsible Soy (RTRS) or ProTerra in 2018



- In 2018, Jerónimo Martins has more than 90% of its timber and pulp products certified with standards such as the Forest Stewardship Council (FSC) and the Program for the Endorsement of Forest Certification (PEFC)

No Portuguese companies were assessed by WWF in 2016

No Portuguese companies were assessed by Forest 500 in 2018

(C) Data on government & private sector initiatives is sourced from Forest 500, IDH and literature review for cocoa, palm oil, soy, and timber & paper. For data sourced from Forest 500, timber and paper were combined. Forest 500 selected companies based on: (1) risk of being linked to deforestation; and (2) influence within the political economy of deforestation. Ticks indicate commodity specific policies. Companies are assessed based on: (1) Intent & Awareness; (2) Commodity Commitments; (3) Scope & Ambition; (4) Reporting, Monitoring & Implementation; and (5) Social Commitments. Companies are scored out of 100 points, and these points are converted to between zero and five points.



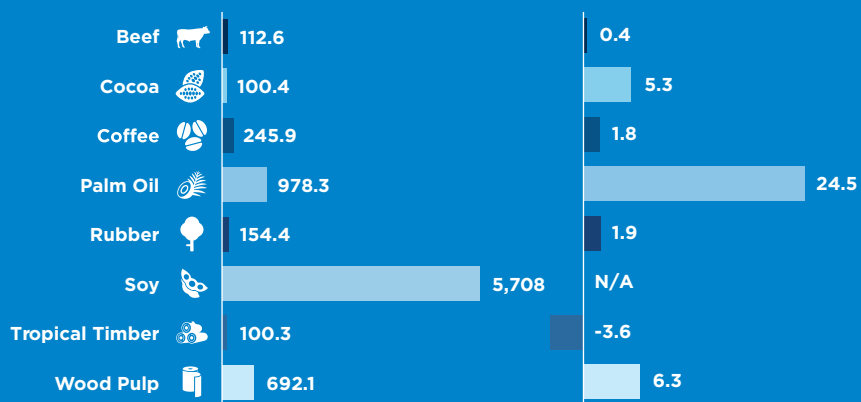


# Spain

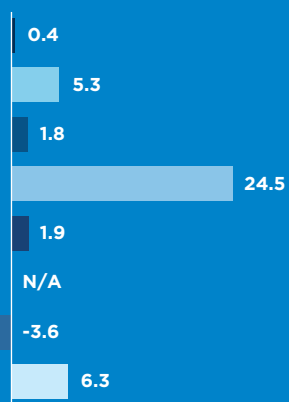


## DEMAND & IMPORTS TRENDS

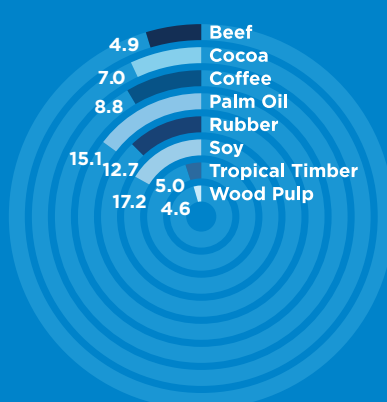
AVERAGE ANNUAL NET IMPORTS, 2011-16, '000 TONNES



AVERAGE NET IMPORT YOY GROWTH, 2011-16, (%)



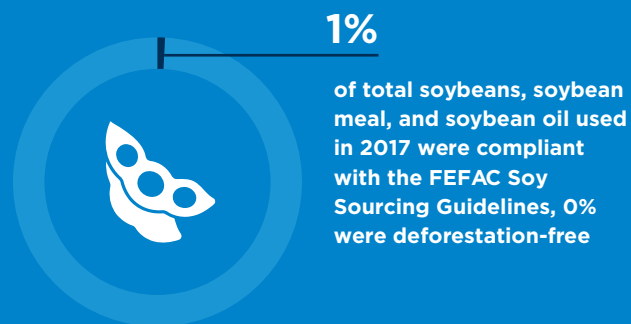
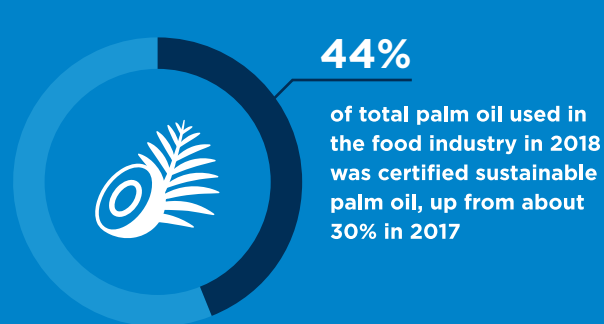
SHARE OF REGIONAL NET IMPORTS, 2011-16, (%)



## TOP SOURCES OF SUPPLY 2018

	<b>Beef</b>	Poland	Netherlands	Germany
	<b>Cocoa</b>	Côte d'Ivoire	Ghana	Cameroon
	<b>Coffee</b>	Viet Nam	Brazil	Germany
	<b>Palm Oil</b>	Indonesia	Malaysia	Colombia
	<b>Rubber</b>	Côte d'Ivoire	Indonesia	Thailand
	<b>Soy</b>	Brazil	USA	Ukraine
	<b>Tropical Timber</b>	Brazil	Cameroon	Peru
	<b>Wood Pulp</b>	France	Brazil	Portugal

## SUSTAINABILITY SOURCING PERFORMANCE



(A) Import data is sourced from Food and Agriculture Organisation (FAO), International Tropical Timber Organisation (ITTO), and IDH. Net imports refer to total imports adjusted for re-exports. For tropical timber, the unit of measurement for net imports is 1000m3. For soy, net imports are based on 2017 data. Regional import data was aggregated from data of 28 European Union (EU) countries and 4 European Free Trade Association (EFTA) countries where data is available. Intra-regional trade is included in the regional figures. Data on top sources of supply is sourced from International Trade Centre (ITC). Data for wood pulp is based on import value, data for other commodities is based on import quantity. Re-exporters are included. (B) Data on sustainable sourcing performance is sourced from IDH.

## GOVERNMENT & PRIVATE SECTOR INITIATIVES

### EXAMPLES OF GOVERNMENT & PRIVATE SECTOR INITIATIVES



- The Spanish Foundation for Sustainable Palm Oil aims to promote sustainable palm oil and balance the debate on health and sustainability issues through research, information sharing, and multi-stakeholder dialogues



- Public procurement policy requiring sustainable sourcing of furniture and paper products
- Madrid City Hall together with WWF Spain organised a workshop about public procurement as a tool for promoting sustainable forest management
- The Spanish Timber Trade Association (AEIM) offers a due diligence tool for timber buyers
- The Madera Justa platform aims to promote certified forest products and stop imports of illegal wood into Spain

### COMPANIES, FOREST 500 ASSESSMENT, 2018



Palm Oil



Soy



Tropical Timber

Total Score

	Palm Oil	Soy	Tropical Timber	Total Score
<b>Inditex S.A.</b>			✓	2/5
<b>Ebro Foods</b>	✗	✗	✗	1/5
<b>Alonso Group</b>			✗	0/5

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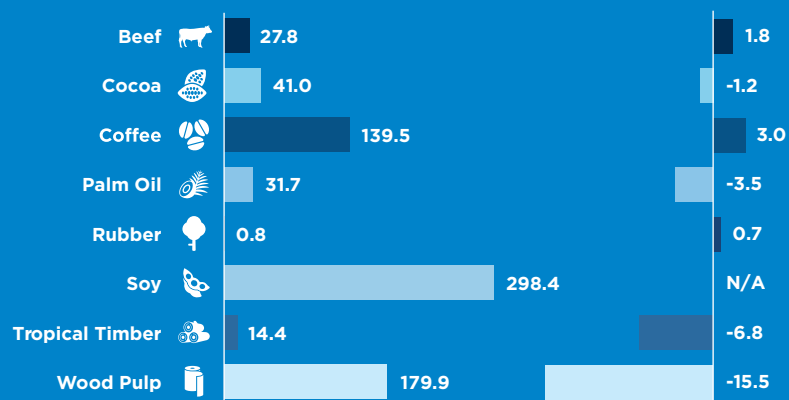


# Switzerland

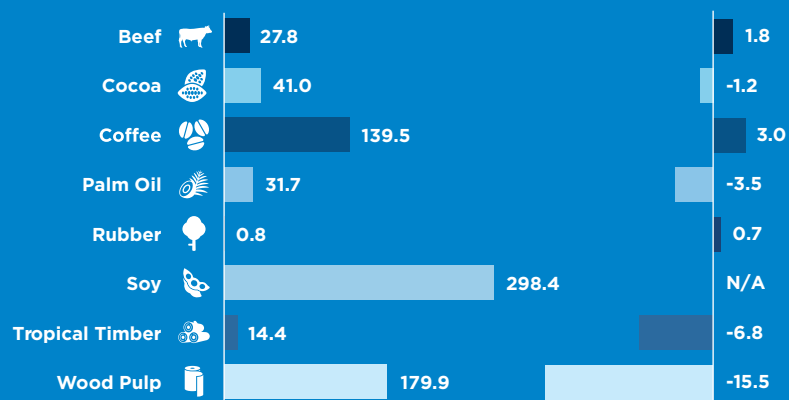


## DEMAND & IMPORTS TRENDS

AVERAGE ANNUAL NET IMPORTS, 2011-16, '000 TONNES



AVERAGE NET IMPORT YOY GROWTH, 2011-16, (%)



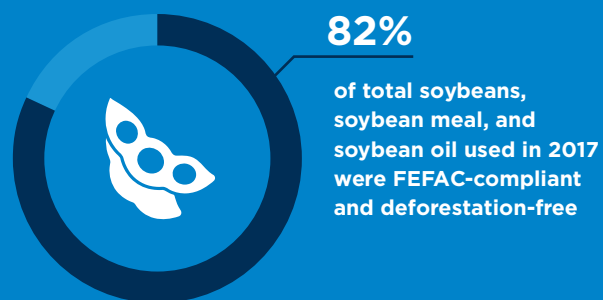
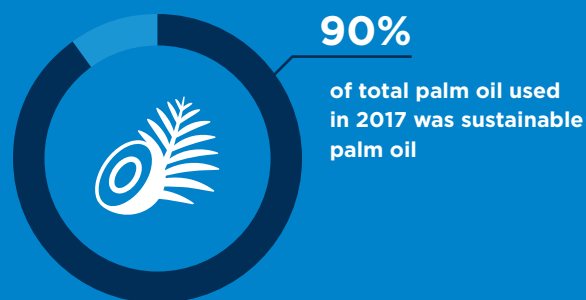
SHARE OF REGIONAL NET IMPORTS, 2011-16, (%)



## TOP SOURCES OF SUPPLY 2018

	<b>Beef</b>	Germany	Austria	Ireland
	<b>Cocoa</b>	Ghana	Ecuador	Côte d'Ivoire
	<b>Coffee</b>	Brazil	Colombia	Viet Nam
	<b>Palm Oil</b>	Malaysia	Solomon Islands	Papua New Guinea
	<b>Rubber</b>	Viet Nam	Thailand	Italy
	<b>Soy</b>	France	Ukraine	Austria
	<b>Tropical Timber</b>	Germany	Brazil	Congo
	<b>Wood Pulp</b>	Sweden	Germany	Brazil

## SUSTAINABILITY SOURCING PERFORMANCE



(A) Import data is sourced from Food and Agriculture Organisation (FAO), International Tropical Timber Organisation (ITTO), and IDH. Net imports refer to total imports adjusted for re-exports. For tropical timber, the unit of measurement for net imports is 1000m3. For soy, net imports are based on 2017 data. Regional import data was aggregated from data of 28 European Union (EU) countries and 4 European Free Trade Association (EFTA) countries where data is available. Intra-regional trade is included in the regional figures. Data on top sources of supply is sourced from International Trade Centre (ITC). Data for wood pulp is based on import value, data for other commodities is based on import quantity. Re-exporters are included. (B) Data on sustainable sourcing performance is sourced from IDH.

## GOVERNMENT & PRIVATE SECTOR INITIATIVES

### EXAMPLES OF GOVERNMENT & PRIVATE SECTOR INITIATIVES



- Swiss Platform for Sustainable Cocoa supported by Swiss Federal Government



- Trade agreement with Indonesia to ensure sustainable production of palm oil
- Swiss Palm Oil Coalition






- The European Soy Event “Challenges and opportunities for supermarkets” funded by Swiss State Secretariat for Economic Affairs
- The Soy Network provides criteria to ensure sustainable sourcing of soy for animal feed



- Public procurement policy requiring legal and sustainable sourcing of timber
- Swiss Declaration Requirement requiring companies to declare species of wood and country of origin
- Timber Products Switzerland (HWS) and Swiss Veneer Association (SFV) are promoting legal timber among their members and consumers

### COMPANIES, FOREST 500 ASSESSMENT, 2018

				Total Score
	Palm Oil	Soy	Tropical Timber	Total Score

<b>Nestlé S.A.</b>	✓	✓	✓	5/5
<b>Cofra</b>			✓	2/5
<b>Bata LTD.</b>			✗	1/5
<b>Danzer Group</b>			✓	1/5
<b>Glencore</b>	✗	✗		1/5
<b>Lindt &amp; Sprungli AG</b>	✓	✗	✗	1/5
<b>Precious Woods Holding AG</b>			✓	1/5
<b>Ameropa LTD.</b>	✗	✗		0/5

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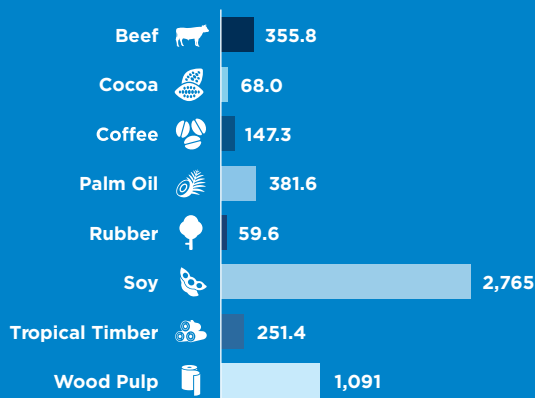


# United Kingdom

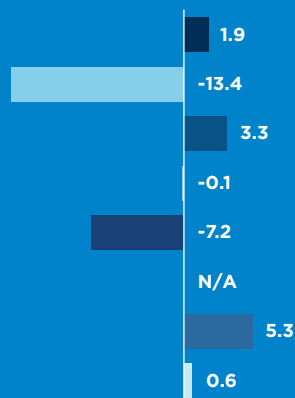


## DEMAND & IMPORTS TRENDS

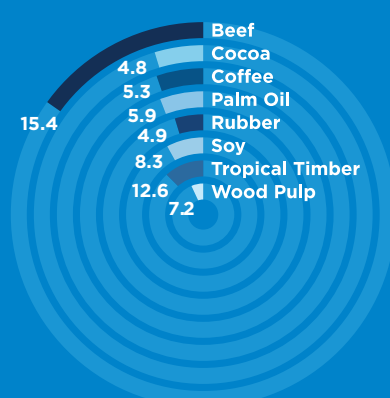
AVERAGE ANNUAL NET IMPORTS, 2011-16, '000 TONNES



AVERAGE NET IMPORT YOY GROWTH, 2011-16, (%)



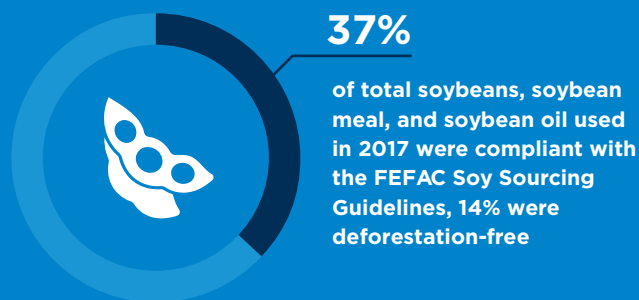
SHARE OF REGIONAL NET IMPORTS, 2011-16, (%)



## TOP SOURCES OF SUPPLY 2018

<b>Beef</b>	Ireland	Poland	Netherlands
<b>Cocoa</b>	Côte d'Ivoire	France	Ghana
<b>Coffee</b>	Brazil	Viet Nam	Colombia
<b>Palm Oil</b>	Papua New Guinea	Netherlands	Indonesia
<b>Rubber</b>	Malaysia	Thailand	Côte d'Ivoire
<b>Soy</b>	Brazil	USA	Belgium
<b>Tropical Timber</b>	Malaysia	Cameroon	Netherlands
<b>Wood Pulp</b>	Sweden	Brazil	Netherlands

## SUSTAINABILITY SOURCING PERFORMANCE



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## GOVERNMENT & PRIVATE SECTOR INITIATIVES

### EXAMPLES OF GOVERNMENT & PRIVATE SECTOR INITIATIVES



- Sustainable procurement policy requiring purchases of “fairly traded” chocolate
- Cocoa and Forests Initiative to end deforestation in West Africa
- Climate-smart cocoa agriculture in Ghana supported by UK aid



- UK Government Buying Standard
- Roundtable on Sourcing Sustainable Palm Oil
- Africa Palm Oil Initiative supported by the DFID



- Roundtable on Sustainable Soya
- UK Zero Deforestation Soy Transition Plan led by Tesco



- Timber Procurement Policy
- DFID supported ClientEarth in tackling illegal timber trade in Africa
- Responsible Purchasing Policy developed by the Timber Trade Federation (TTF)

### COMPANIES, FOREST 500 ASSESSMENT, 2018



Palm Oil



Soy



Tropical Timber

Total Score

	Palm Oil	Soy	Tropical Timber	Total Score
<b>Marks &amp; Spencer</b>	✓	✓	✓	4/5
<b>Unilever</b>	✓	✓	✓	4/5
<b>Kingfisher</b>			✓	3/5
<b>Pearson</b>			✓	3/5
<b>Reckitt Benckiser</b>	✓		✓	3/5
<b>Relx Group</b>			✓	3/5
<b>Associated British Foods</b>	✓	✓	✓	2/5
<b>Boparan Holdings</b>	✓	✓	✓	2/5
<b>GlaxoSmithKline</b>	✓		✓	2/5
<b>J Sainsbury's</b>	✓	✓	✓	2/5
<b>Tesco</b>	✓	✓	✓	2/5
<b>Wm Morrison Supermarkets</b>	✓	✓	✓	2/5
<b>C&amp;J Clark International</b>			✗	1/5
<b>Capri Holdings Limited</b>			✗	1/5
<b>INEOS Group</b>		✗		0/5

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the sustainable  
trade initiative