Estonia: A deforestation exposure assessment

Headlines

2,580 ha

Estonia's average annual deforestation exposure in 2021–2023, from **direct trade**

2,360 ha

Estonia's average annual deforestation exposure in 2021–2023, **adjusted for re-exports**
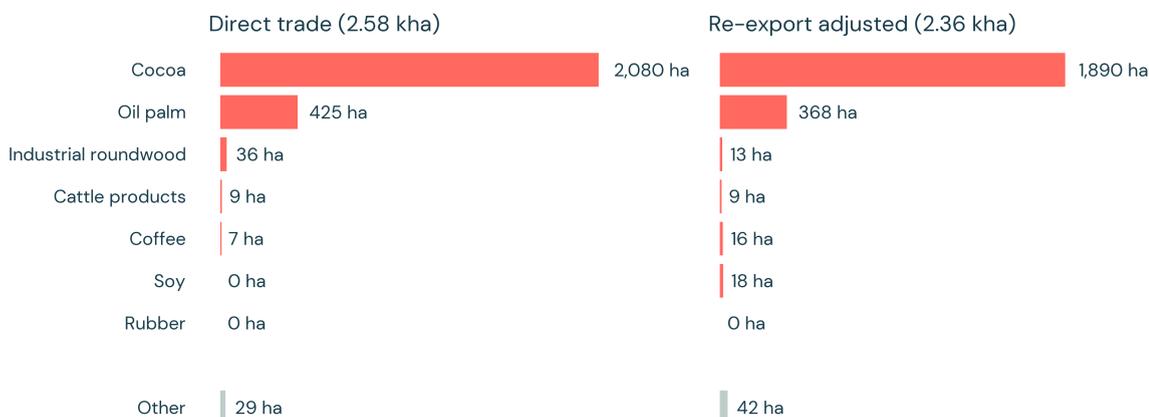
–48.3%

change in total deforestation exposure from 2014–2023, **adjusted for re-exports**

Methods note

This factsheet provides an estimate of the deforestation footprint of Estonia's imports, combining data on global bilateral trade and the deforestation associated with 160+ different agricultural commodities. It is intended to help identify the most likely sources, trends and hotspots in global deforestation exposure. Deforestation exposure is likely to be underestimated for commodities that are often imported in more processed forms, particularly wood and rubber products. Please refer to the end of the factsheet for some key considerations, or read the full underlined methods note for more detail on data sources and limitations.
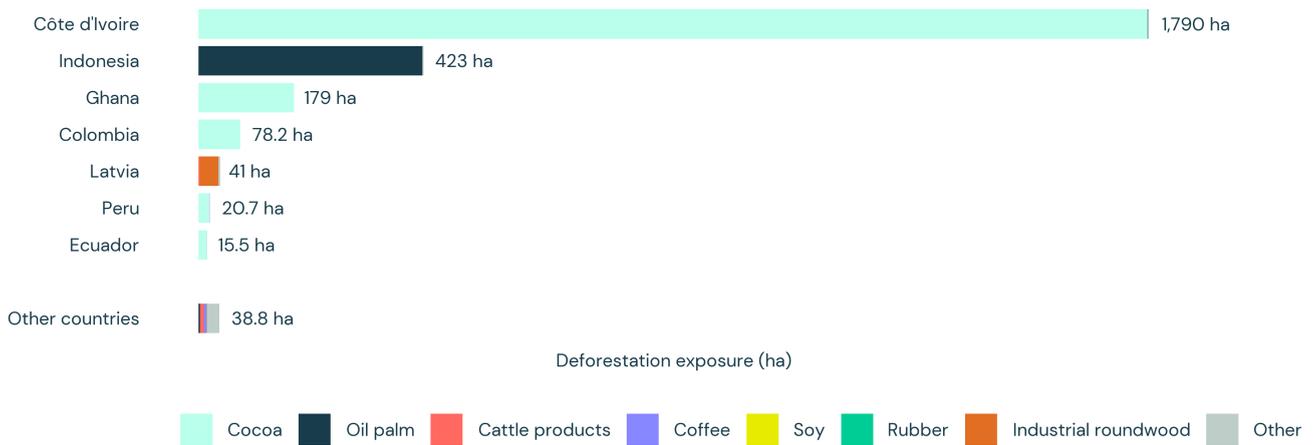
Deforestation exposure by commodity and trade perspective

Estonia's total deforestation exposure was larger from the direct trade perspective (2,580 ha per year) and smaller from the re-export adjusted perspective (2,360 ha per year). The re-export adjustment process uses a mass-balance approach to estimate the likely true origins and destinations of products where supply chains involve multiple trade steps. For more information, see the accompanying methods note. Numbers are average annual exposure from 2021 to 2023.

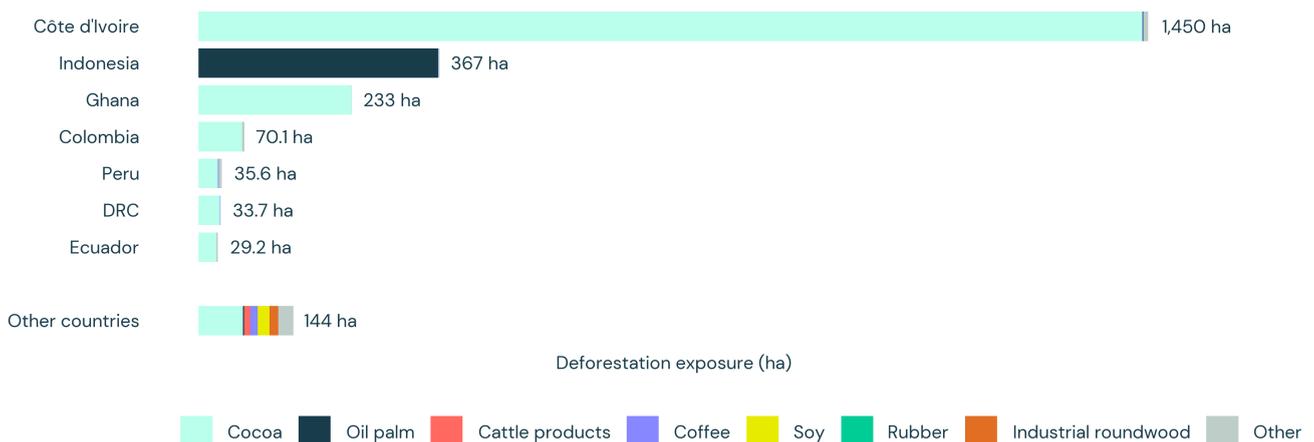|	Direct trade (2.58 kha)	Re-export adjusted (2.36 kha)
Cocoa	2,080 ha	1,890 ha
Oil palm	425 ha	368 ha
Industrial roundwood	36 ha	13 ha
Cattle products	9 ha	9 ha
Coffee	7 ha	16 ha
Soy	0 ha	18 ha
Rubber	0 ha	0 ha
Other	29 ha	42 ha

Direct trade deforestation exposure by origin country and commodity

From a direct trade perspective, on average between 2021 and 2023, Estonia was most exposed to deforestation in Côte d'Ivoire (1,790 ha, 69.1%), followed by Indonesia (423 ha, 16.4%) and Ghana (179 ha, 6.9%). Across all origin countries, the most important commodities were cocoa (2,080 ha, 80.4%), oil palm (425 ha, 16.4%) and industrial roundwood (35.5 ha, 1.4%). In Côte d'Ivoire, the most important commodity for Estonia's deforestation exposure was cocoa (1,780 ha, 99.9%), followed by oil palm (0.881 ha, 0%). In Indonesia, the most important commodity was oil palm (421 ha, 99.5%), followed by nutmeg, mace and cardamoms (1.91 ha, 0.5%).

Côte d'Ivoire	1,790 ha
Indonesia	423 ha
Ghana	179 ha
Colombia	78.2 ha
Latvia	41 ha
Peru	20.7 ha
Ecuador	15.5 ha
Other countries	38.8 ha

Deforestation exposure (ha)

Cocoa   Oil palm   Cattle products   Coffee   Soy   Rubber   Industrial roundwood   Other
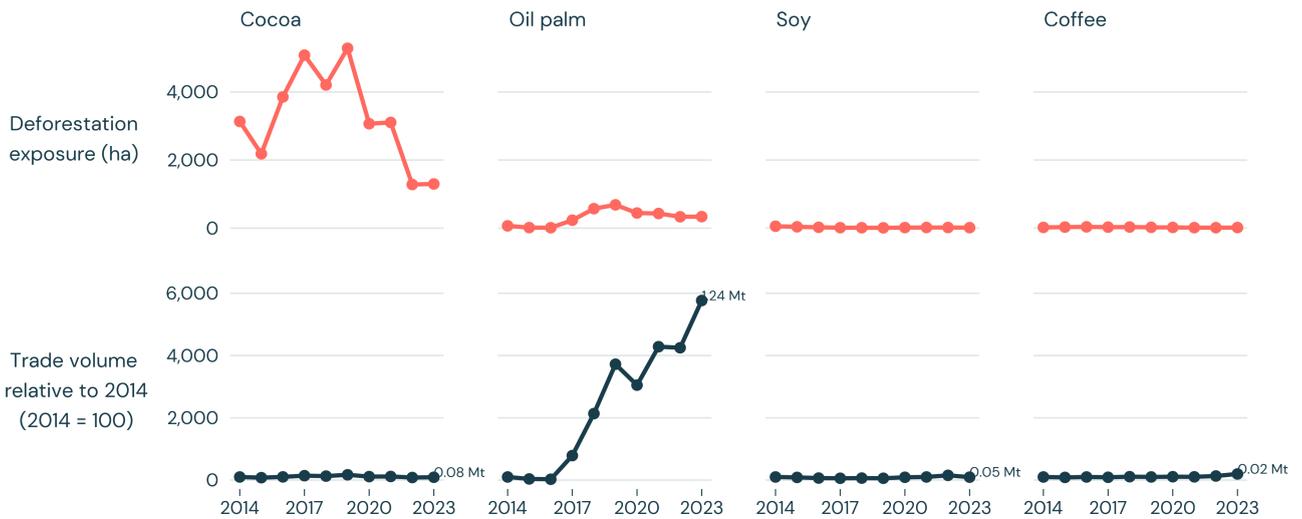
Re-export adjusted deforestation exposure by origin country and commodity

After adjusting for re-exports, on average between 2021 and 2023, Estonia was most exposed to deforestation in Côte d'Ivoire (1,450 ha, 61.3%), followed by Indonesia (367 ha, 15.6%) and Ghana (233 ha, 9.9%). Across all origin countries, the most important commodities were cocoa (1,890 ha, 80.3%), oil palm (368 ha, 15.6%) and soy (17.8 ha, 0.8%). In Côte d'Ivoire, the most important commodity for Estonia's deforestation exposure was cocoa (1,440 ha, 99.4%), followed by cashew nuts (5.03 ha, 0.3%). In Indonesia, the most important commodity was oil palm (365 ha, 99.5%), followed by nutmeg, mace and cardamoms (1.32 ha, 0.4%).

Côte d'Ivoire	1,450 ha
Indonesia	367 ha
Ghana	233 ha
Colombia	70.1 ha
Peru	35.6 ha
DRC	33.7 ha
Ecuador	29.2 ha
Other countries	144 ha

Deforestation exposure (ha)

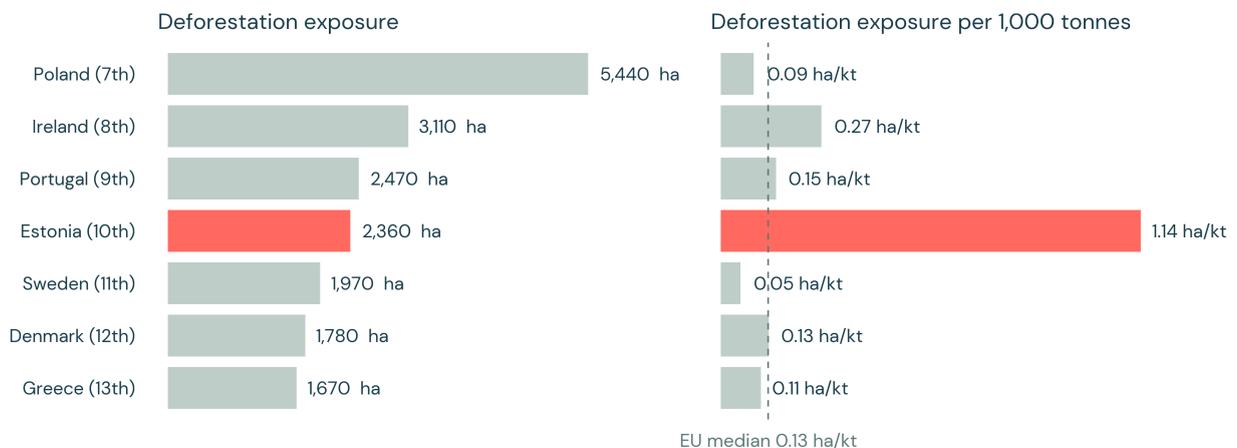Cocoa   Oil palm   Cattle products   Coffee   Soy   Rubber   Industrial roundwood   Other

Trends in deforestation exposure and trade volume for top commodities

The following charts show trends in re-export adjusted deforestation exposure and trade volume for the top four commodities (selected based on total deforestation exposure over the last three years of the time series). Overall, Estonia's total exposure decreased between 2014 and 2023 by 1,610 ha, a change of −48.3%. Of the top seven commodities, the biggest change in absolute terms was for cocoa, which saw a decrease of −1,830 ha over the time series (−58.6%). The biggest change in relative terms was for oil palm, which saw an increase of 400.4% (271 ha) over the time series.

Comparison with deforestation exposure of other EU countries

After adjusting for re-exports, Estonia ranks 10th among EU countries for deforestation exposure, accounting for 2.2% of the EU27 total. Looking at the deforestation per 1,000 tonnes of imported material, Estonia ranks 1st at 1.14 ha/kt, higher than the EU median of 0.13 ha/kt.
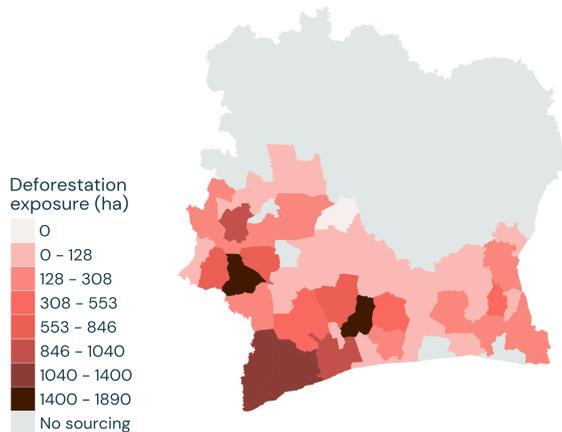
Subnational deforestation exposure

Estimates of subnational deforestation exposure presented in this section will differ from the national-level estimates presented earlier in the factsheet and are not directly comparable. This reflects different definitions of deforestation (in Brazil, for example, the subnational data includes the conversion of any native vegetation, including ecosystems such as the Cerrado), and other methodological differences (e.g. the time periods used to attribute deforestation to commodities can vary susbstantially between Trase's subnational data and the global dataset used for this factsheet, and can lead to large differences in estimates). See the methods note accompanying the factsheet for more information.
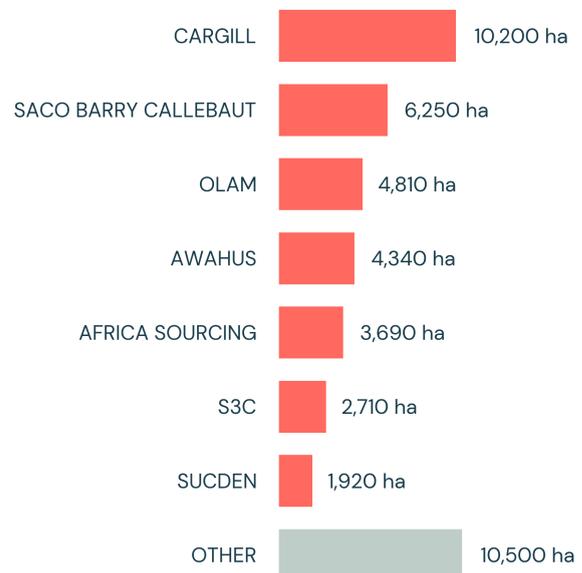
Côte d'Ivoire cocoa: Subnational detail

Trase data estimates that Estonia was exposed to 44,400 ha of deforestation from its direct imports of Côte d'Ivoire cocoa in 2021, the most recent year with subnational data available. Estonia's deforestation exposure was highest in the departments of Lakota (1,890 ha, 4.3%), Guiglo (1,710 ha, 3.9%) and San-Pedro (1,400 ha, 3.2%). Indirect sourcing accounted for 43.3% (19,200 ha) of Estonia's deforestation exposure, where it was not possible to determine the department of production. In total, Estonia imported Côte d'Ivoire cocoa from 23 exporters in 2021. The exporter groups most exposed to deforestation were CARGILL, SACO BARRY CALLEBAUT and OLAM, which together accounted for 47.8% of Estonia's deforestation exposure. To explore the data in more detail, visit trase.earth

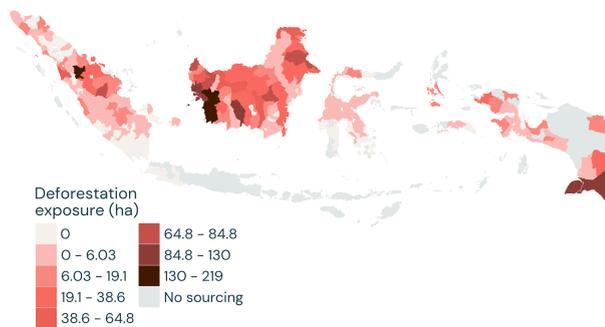**Deforestation hotspots for exports to Estonia**

Deforestation exposure (ha)

- 0
- 0 – 128
- 128 – 308
- 308 – 553
- 553 – 846
- 846 – 1040
- 1040 – 1400
- 1400 – 1890
- No sourcing

Exporter exposure for exports to Estonia

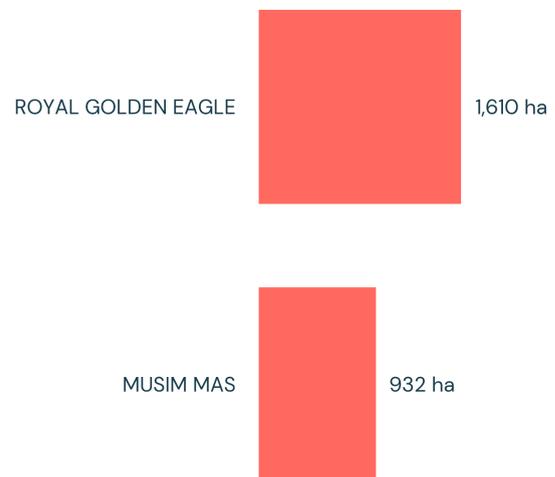| Exporter	Exposure
CARGILL	10,200 ha
SACO BARRY CALLEBAUT	6,250 ha
OLAM	4,810 ha
AWAHUS	4,340 ha
AFRICA SOURCING	3,690 ha
S3C	2,710 ha
SUCDEN	1,920 ha
OTHER	10,500 ha

Indonesia palm oil: Subnational detail

Trase data estimates that Estonia was exposed to 2,540 ha of deforestation from its direct imports of Indonesia palm oil in 2022, the most recent year with subnational data available. Estonia's deforestation exposure was highest in the provinces of Kalimantan Barat (749 ha, 29.5%), Riau (443 ha, 17.4%) and Kalimantan Tengah (412 ha, 16.2%). Zooming in to a finer spatial scale, Estonia sourced Indonesia palm oil from 245 kabupaten, while 80% of Estonia's exposure was spread across 33 kabupaten. In total, Estonia imported Indonesia palm oil from 2 exporters in 2022. Two exporter groups were exposed to deforestation: ROYAL GOLDEN EAGLE and MUSIM MAS. To explore the data in more detail, visit trase.earth

Deforestation hotspots for exports to Estonia

Deforestation exposure (ha)

0	64.8 – 84.8
0 – 6.03	84.8 – 130
6.03 – 19.1	130 – 219
19.1 – 38.6	No sourcing
38.6 – 64.8	

Exporter exposure for exports to Estonia

ROYAL GOLDEN EAGLE   1,610 ha

MUSIM MAS   932 ha

Interpreting this factsheet

To identify the most important commodities and countries globally for Estonia's deforestation exposure, this factsheet uses the best available data linking commodities to deforestation at the global scale, based on conversion of natural forests with canopy cover of at least 25%. Due to data availability limitations, we are currently unable to include deforestation exposure estimates for the imports of more processed materials, meaning that deforestation exposure is likely to be underestimated for commodities typically imported in more processed forms – particularly affecting wood and rubber products. We refer you to our methods note for further details.

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For methods information, data sources, and frequently asked questions, please refer to the accompanying methods note.

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