HOW SUSTAINABLE ARE EUROPE'S TROPICAL TIMBER IMPORTS?

Estimating the market share of verified sustainable tropical timber on the European market

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the sustainable trade initiative

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the sustainable trade initiative

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STTC
EUROPEAN SUSTAINABLE TROPICAL TIMBER COALITION

EXECUTIVE SUMMARY

This report identifies trends in the trade of tropical timber on the European market, and explores how a European commitment to 100% verified sustainable tropical timber, can contribute to deforestation-free supply chains and help meet climate change mitigation targets.

The report was commissioned by IDH, the Sustainable Trade Initiative, convenor and key funder of the European Sustainable Tropical Timber Coalition (STTC, www.europeansttc.com), and developed by Probos, a not-for-profit, Dutch consultancy specialized in the forest and timber sector with extensive international experience in timber market and wood flow research.

The report looks at trends in primary tropical timber imports of key EU markets and the current market share of certified sustainable tropical timber. It presents as key findings that:

1. **In 2016, it is estimated that only 30% of primary tropical timber products on the EU market were verified sustainable.**
2. **If the seven main timber-consuming countries (Amsterdam Declaration countries Germany, France, the UK, Netherlands and Italy plus Belgium and Spain) sourced only verified sustainable primary tropical timber, an estimated additional 5.3 million ha of tropical forests can be impacted.**
3. **More European ambition and public-private action is needed to push up the market share of verified sustainable tropical timber to 100%.**

Increased European ambition needed

Maintaining forest cover and forest quality requires incentives for sound stewardship. Strong demand for verified sustainable tropical timber, through certified sustainable forestry, where possible combined with FLEGT-licensing, can spur the growth and spread of responsible forest management in tropical countries.

Forestry operators and countries that have committed to sustainable forest management practices and principles, continue to experience a lack of reliable demand for sustainably produced tropical timber.

STRONG DEMAND FOR VERIFIED SUSTAINABLE TROPICAL TIMBER CAN SPUR THE GROWTH OF RESPONSIBLE FOREST MANAGEMENT IN TROPICAL COUNTRIES AND SAFEGUARD TROPICAL FORESTS

The Amsterdam Declaration has for the first time brought leading European governments together on a deforestation free commodity agenda, with the aim of eliminating deforestation from agricultural commodity chains with European countries.

Tropical timber has not featured in the recent deforestation-free supply chains debate to the same extent as the 'deforestation commodities' palm oil, soy, beef and more recently cocoa.

This could be due to the steep decline in consumption of tropical timber in the EU28 market between 2006 and 2009-2010.

The countries that signed the Amsterdam Declaration account for 68.5% of total EU28 tropical primary timber consumption. If Belgium were added, this figure increases to 81% of all EU28 tropical primary timber consumption.

Main European consumer countries of tropical timber in 2016

Key findings of the current report is that total EU28 consumption of primary tropical timber products (roundwood, sawnwood, veneer, plywood) began to recover in 2016.

The report also shows that the vast majority of European tropical timber imports remains uncertified.

The majority of Europe's tropical roundwood, sawnwood and veneer is imported from Africa. The majority of the tropical plywood entering the EU market originates from Asian countries.

In 2016, France was by far the largest European consumer of tropical roundwood and veneer, as well as tropical timber overall. In tropical sawn wood, Belgium and The Netherlands were significant consumers, while the UK replaced France as the biggest tropical plywood consumer.

TABLE 1. POTENTIAL TO INCREASE THE MARKET SHARE OF SUSTAINABLY SOURCED TROPICAL TIMBER

Country	Signed Amsterdam Declaration	National government all agencies TPP?	Timber trade federation policy plan on sustainable sourcing	Market share of verified sustainable primary tropical timber products (year)[3]
Denmark	Y	Y	Y[1]	Unknown
France	Y	Y	Y[1, 2]	12% (´16)
Germany	Y	Y		20% (´16)
The Netherlands	Y	Y	Y	63% (´15)[4]
Norway	Y	Y		Unknown
United Kingdom	Y	Y	Y	49 %[5]
Italy	Y	Y		5% (´16)
Belgium		Y		12% (´12)[6]
Spain		Y	Y[1]	4% (´17)

1 Developed with support the STTC
2 Only for their main tropical timber importers
3 Probos estimates, based on external link (pdf) and updated since
4 External link (pdf) & External link (pdf)
5 External link (doc)
6 External link (pdf)

Market share of Verified Sustainable Tropical Timber

This report for the first time provides estimates of the market share of verified sustainable tropical timber in Europe's main tropical timber importing countries.

The market share of verified sustainable tropical timber in France and Belgium is estimated to be as low as 12%.

IN 2016, ONLY 30% OF PRIMARY TROPICAL TIMBER PRODUCTS ON THE EU MARKET WERE VERIFIED SUSTAINABLE

Figures for the UK and the Netherlands look better, with 48% and 63% respectively, but are also still far from 100%.

Sourcing of verified sustainable timber and therewith incentivising sound forest stewardship is a key component for an effective strategy to combat imported deforestation.

Concretely, if the consumption of primary tropical timber products remained stable and all seven main consuming countries (France, the UK, the Netherlands, Belgium, Italy, Spain and Germany) sourced 100% verified sustainable timber, an additional approximately 5.3 million ha of tropical forest would be impacted.

Across Europe, there is significant scope for increasing the market share of verified sustainable tropical timber.

IDH supports similar initiatives related to agricultural commodities such as palm oil, soy and cocoa with the aim to get to 100% verified sustainable imports for the entire EU.

For timber, in partnership with the private and public sector in producing and sourcing countries, similar scale and impact can be achieved.

1. https://www.euandgvc.nl/documents/publications/2015/december/7/declarations-palm-oil and https://www.idhsustainabletrade.com/news/italian-government-signs-amsterdam-palm-oil-declaration/

About IDH and the European STTC

IDH Sustainable Trade Initiative works with public and private partners to develop strategies which encourage forest protection in supply chains, and promote sounds forest governance. To this end, in the period 2010 to 2016, IDH contributed to the certification of 8.5 million hectares of tropical forests for sustainable forest management. Equal to 80% of all tropical forest certification at the time.

Lagging demand for verified sustainable tropical timber on the European market end, however, was increasingly undermining the business case for forestry operators for certification of sustainable forest management (SFM).

In 2014, responding to this lagging demand, IDH with a number of key partners including the European Timber Trade Federation, ATIBT, FSC and PEFC therefor established the European Sustainable Tropical Timber Coalition, with the aim to accelerate European market demand for SFM timber products. The objective of the STTC is to have at least 50% of all European tropical timber imports come from sustainably managed forests by 2020.

The European STTC currently counts with about 80 members, mainly private sector companies and municipal governments. It has made significant progress towards its goal of building partnerships for growing the European market for verified sustainable tropical timber.

Up to the end of 2016, the STTC supported the timber trade federations of France, Spain, Germany and Denmark to work with their members on promoting market update of sustainable tropical timber. In addition, specific action plans of companies and organizations across Europe, aimed at increasing the demand for verified sustainable tropical timber were implemented.

The IDH convened European Sustainable Tropical Timber Coalition (STTC) recognizes the need for increased government action and public-private ambitions to push up market share of verified sustainable timber.

To support improved transparency and monitoring of sustainable tropical timber market developments, reports on the market share of verified sustainable tropical timber on the EU28 market for the years 2016, 2018 and 2020.

NEXT STEPS

- **If we are serious about halting imported deforestation, governments, NGOs and the private sector in EU timber importing countries need a deforestation agenda that includes a target on sourcing 100% verified sustainable tropical timber**
- **More ambition is needed from European governments, the European Commission, NGOs and the private sector in EU timber importing countries, to increase market share of verified sustainable tropical timber.**
- **The IDH convened European Sustainable Tropical Timber Coalition (STTC) recognizes the need for increasing the market share of verified sustainable timber, as well as improved transparency and monitoring of sustainable tropical timber market developments.**
- **As part of this effort, the European STTC will aim to report on the market share of verified sustainable tropical timber on the EU28 market for the years 2016, 2018 and 2020.**

RECOMMENDATIONS

- **While secondary (processed) timber products are out of the scope of this study, there is a trend to increase imports of such goods as profiled timber, window frames and doors from Asia. It is recommended that trade flows and the share of verified sustainable timber within this product group are studied further.**
- **Reliable market data on the market share of verified sustainable timber is needed. This will require sector-wide collaboration.**
- **FLEGT is a powerful instrument in improving forest governance in FLEGT VPA countries, and in promoting sustainable timber trade. Most stakeholders in the sector would agree that a combination of certified operators and a FLEGT-based legal system provides the best assurance for sustainable forest management. But there is an urgent need for a concerted message towards the market to avoid FLEGT replacing certified sustainable tropical timber, as this would reduce the overall market impact of both FLEGT and certified sustainable forest management.**

1.
BACKGROUND

The European Sustainable Tropical Timber Coalition (STTC) is an alliance of industry, business, government and NGOs dedicated to increasing European demand for sustainably sourced tropical timber. The coalition is convened and supported by IDH Sustainable Trade Initiative and backed by a number of key partners, including the European Timber Trade Federation (ETTF), the International Tropical Timber Technical Association (ATIBT), the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC).

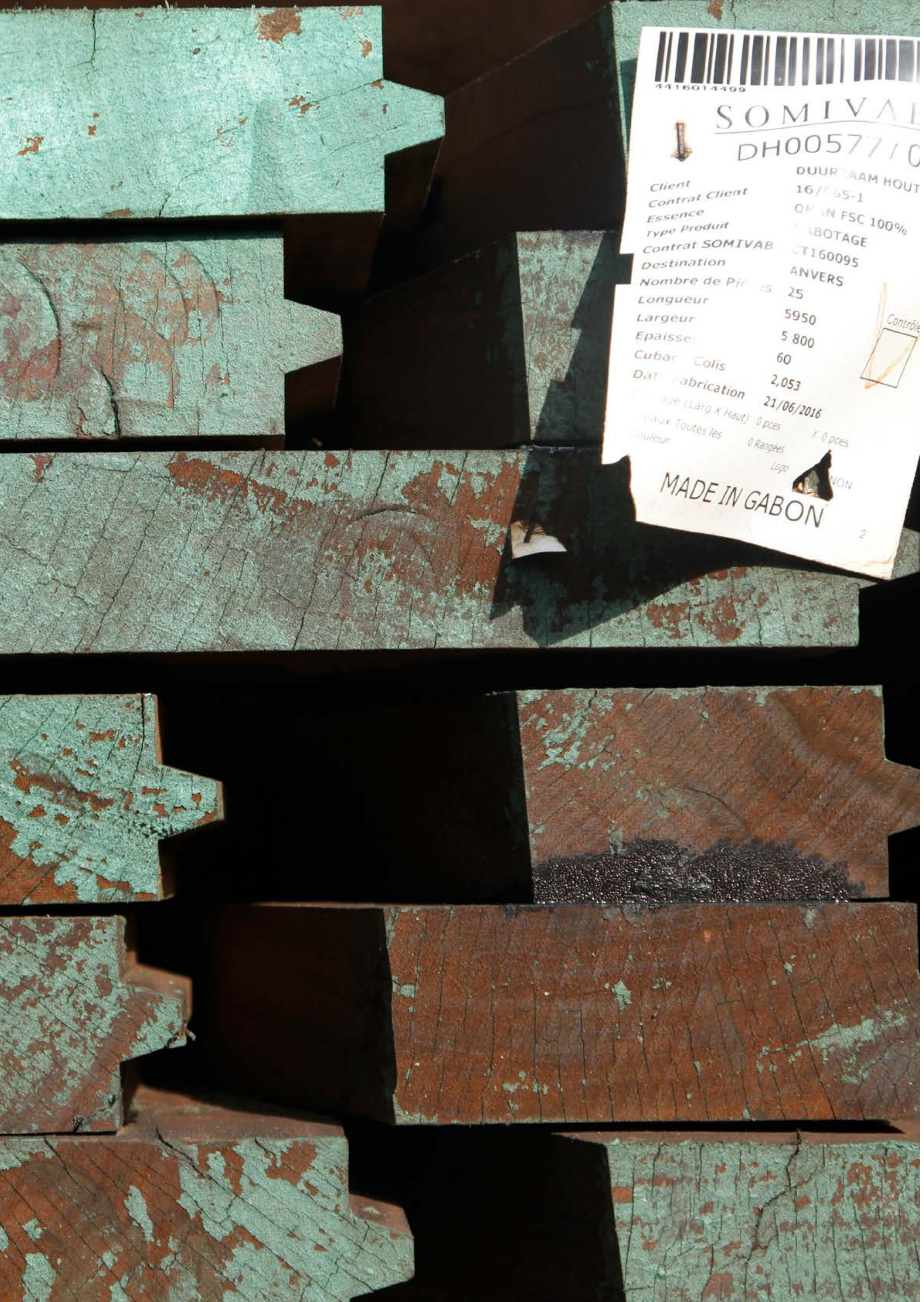
THE OBJECTIVE OF THE STTC IS TO INCREASE EUROPEAN VERIFIED SUSTAINABLE TROPICAL TIMBER SALES TO 50% BY 2020

The STTC's aim is to strengthen demand for verified sustainable tropical timber in order to incentivise the growth and spread of responsible forest management in tropical countries. The STTC works on the premise that growth of the market share of verified sustainable tropical timber supports responsible forest management, mitigates deforestation, and brings environmental and social benefits.

The stagnation of the European economy, and especially the construction sector, in the financial crisis led to a drop in demand for timber across the board. And within the downturn, lagging demand for verified sustainable tropical timber on the European market undermined the business case for forestry operators to commit to certification standards for sustainable forest management (SFM).

The European STTC currently comprises about 80 partners, mainly private sector companies and municipal governments. Core partners remain the European Timber Trade Federation (ETTF), the International Tropical Timber Technical Association (ATIBT), the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC), with IDH as secretariat supported by Probos.

The objective of the Coalition is to increase European verified sustainable tropical timber sales to 50% by 2020. As part of this, the organization and its core partners support monitoring of the market share of verified sustainable tropical timber, as part of ongoing efforts to continue to raise awareness of the multiple benefits of its use.



2. TROPICAL TIMBER CONSUMPTION

The following are results of analyses of a selection of European countries comprising:

1. **Countries which signed the Amsterdam Declaration – Denmark, France, Germany, the Netherlands, Norway, the UK and Italy.**
2. **Countries that have not yet signed the Amsterdam Declaration, but have a significant share of tropical timber consumption – Belgium, Portugal and Spain.**

The method used is presented in Annex A1.

The total consumption of primary tropical timber products (roundwood, sawnwood, veneer, plywood) shows an overall decline in the years up to 2015, with an upturn starting in 2016. (see Figure 1). The main trend for most of the countries is a steep decline in consumption between 2006 and 2009-2010, likely due to the overall financial crisis, which started in 2007 and levelled off after 2010.

The high total consumption for France has been mainly accounted for by trends in tropical roundwood demand. France is an important producer of Okoume plywood, so has been a significant consumer of Okoume roundwood. However, the main West African supplying countries of Okoume roundwood have implemented roundwood export bans and are increasingly producing plywood themselves. France subsequently imported more veneer, but this has still resulted a strong overall decline in tropical timber imports.

EUROPEAN CONSUMPTION OF PRIMARY TROPICAL TIMBER PRODUCTS INCREASED IN 2016

Italy and Spain, meanwhile, show a similar peak in consumption in 2007 and a steep decline afterwards, due to the same economic crisis. Consumption levels in general seem to steady around 2013 and increase again slightly since 2015. The trend in overall consumption in the UK is striking, since it remained fairly stable compared to the other larger tropical timber importing countries. In fact it overtook the Netherlands in 2016 as second largest European consumer of primary tropical timber products, with Belgium fourth and Italy fifth.

TABLE 2. CONSUMPTION VOLUMES OF TROPICAL TIMBER IN 2016

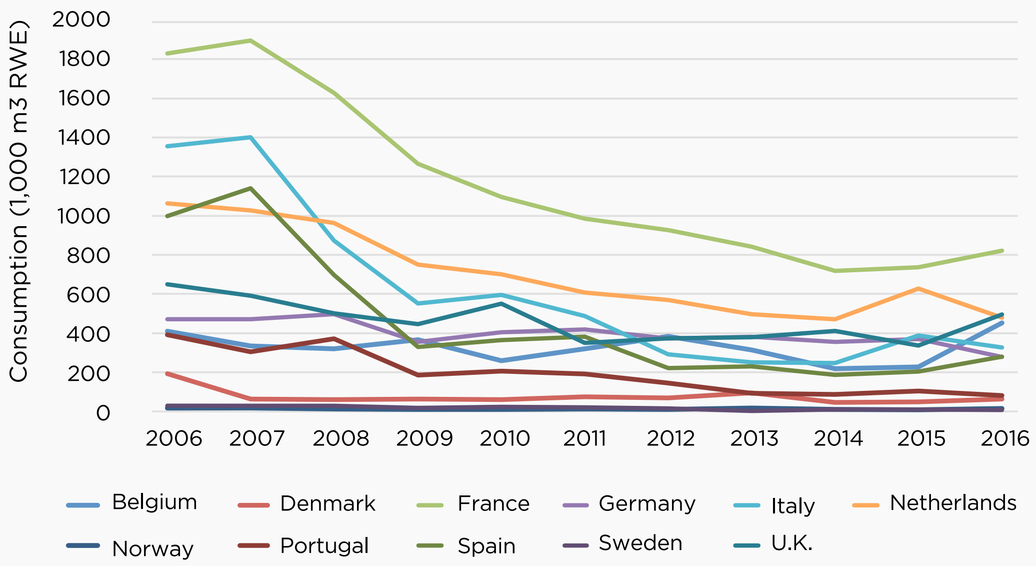
	Roundwood	Sawn wood	Veneer	Plywood	Total consumption
France	71	360	130	261	822
U.K.	12	186	13	285	496
Netherlands	8	299	9	163	479
Belgium	3	354	11	86	454
Italy	28	223	68	7	325
Spain	5	129	62	83	279
Germany	10	100	10	158	278
Portugal	21	47	4	8	80
Denmark	1	33	7	23	64
Norway	0	3	0	12	16
Sweden	0	0	1	5	7
EU28	**189**	**1,866**	**365**	**1,202**	**3,623**

Consumption volumes of tropical timber in 2016 in 1,000 m3 RWE per product group and total tropical timber consumption for 2016. Source: UNECE, FAO and ITTO databases, compiled and edited by Probos.

Source: UNECE, FAO and ITTO databases, compiled and edited by Probos

Table 2 shows consumption volumes of total tropical timber consumption and consumption per tropical timber product group for 2016. France remains by far the largest consumer, both in terms of total consumption and in the specific product groups of tropical roundwood and tropical veneer. For tropical sawn wood, Belgium and the Netherlands, too, were large consumers in 2016. Annex A2 presents various figures showing trends per product group . For tropical plywood, France comes second after the UK in 2016. However, the latter only became largest consumer in 2016 due to a strong increase in plywood demand that year, almost achieving pre-crises import levels. On average, for 2006-2016, France has had the largest total consumption over the years (see Figure 1). The share of total EU28 tropical timber consumption per country included in this study is shown in Figure 2.

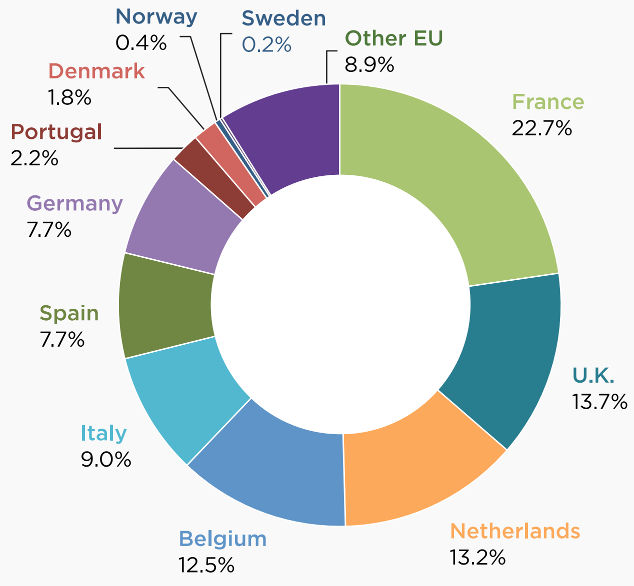
FIGURE 1. TOTAL CONSUMPTION OF TROPICAL PRIMARY TIMBER PRODUCTS 2006-2016



Total consumption of tropical primary timber products (Roundwood, sawn wood, veneer, plywood) in 1,000 m3 Roundwood equivalents (RWE[2]) during the period 2006 to 2016, per country. Source: UNECE, FAO and ITTO databases, compiled and edited by Probos..

2. RWE: a roundwood equivalent is the amount of roundwood needed to make a certain amount of a product.

FIGURE 2. COUNTRY'S TROPICAL TIMBER CONSUMPTION AS % OF TOTAL EU28 IN 2016



The relative share of country's tropical timber consumption in the total EU28 tropical timber consumption in 2016. Source: UNECE, FAO and ITTO databases, compiled and edited by Probos.

3. SUSTAINABLE SOURCING

Certification

Sourcing of verified sustainable timber and therewith incentivising sound forest stewardship is a key component for an effective strategy to combat imported deforestation.

An important development for sustainable sourcing of primary tropical timber products has been the establishment of certification schemes for sustainable forest management. Developed since the mid 90's, these currently cover 429 million hectares[3] worldwide, which equals about 20%[4] of the global forest area where timber production is one of its functions. The combined total for Africa, Latin America, Asia and Oceania amounts to 15% of all certified forest area worldwide.

CERTIFICATION SCHEMES FOR SUSTAINABLE FOREST MANAGEMENT CURRENTLY COVER ABOUT 20% OF THE GLOBAL FORESTRY AREA

Sustainable Timber Procurement Policies (STPPs)

STPPs have proved useful tools in helping to steer the market. They can be developed and introduced relatively quickly and send a strong signal to the market, helping persuade other actors to adopt sustainable sourcing practices too. But, for STPPs to have a strong impact on the market, it is important to have a strong policy enforcement mechanism.

The number of national governments with Sustainable Timber Procurement Policies (STPPs) has increased substantially from nine in 2008 to over 25 in 2015, of which 19 are within the EU.[5] There has also been a significant increase in the number of companies with an STPP. And this, in turn, has also contributed to a strong increase in Chain of Custody (CoC) certified companies. In various countries, CoC-certification has become effectively a license to operate. A number of European timber trade federations have recently developed membership policies, under which CoC certification and achieving a certain percentage of sustainable sourcing have become mandatory.

Green building schemes

Another trend which impacts sustainable sourcing is the strong development of green building assessment schemes, such as LEED, BREEAM and the Green Building Council. Under these assessment schemes, timber only scores well if it is sustainably sourced. Increasingly Life Cycle Analyses (LCA) have also been added to the equation to demonstrate the environmental impact of various commodities and help score building materials more precisely under green building assessment schemes.

FLEGT-licensed timber

The development of the EU FLEGT (Forest Law Enforcement Governance and Trade) Action Plan in 2003 and the implementation of the EU Timber Regulation (EUTR) in 2013 are further milestones in the promotion of sustainable sourcing of tropical timber.

While not necessarily considered evidence of sustainability, FLEGT licensing is widely recognized as an important tool for promoting sustainable forest management. Most stakeholders in the sector would agree that a combination of certified operators and a FLEGT-based legal system provides the best assurance for sustainable forest management.

At the end of 2016, the first shipment of FLEGT-licensed timber arrived in Europe. With the arrival of FLEGT timber on the EU market, there is an urgent need for a concerted message to the market to avoid FLEGT-licensed material substituting certified sustainable tropical timber, as this would reduce the overall market impact of both FLEGT and certified sustainable forest management.

So far, only Luxembourg and UK governments have accepted FLEGT-licensed timber as compliant with their timber procurement policies. This may be due to the fact that FLEGT-licensed timber is difficult to follow once on the market. There is no CoC mechanism tracking it after it has entered the EU, making it complicated for procurement officers to verify whether the timber actually meets their procurement policy.

3. Combined total of FSC and PEFC is 497 million hectares of certified forest, but 68,5 million hectares certified under more than one scheme.
4. http://www.bosenhoutcijfers.nl/bos-en-houtsector/boscertificering/
5. https://www.chathamhouse.org/publication/promoting-legal-and-sustainable-timber-using-public-procurement-policy
6. https://ic.fsc.org/en/news-updates/id/1884
7. https://www.unece.org/fileadmin/DAM/timber/publications/FPAMR2017AdvanceDraft.pdf, page 19
8. https://www.unece.org/fileadmin/DAM/timber/publications/FPAMR2017AdvanceDraft.pdf, page 19

STT market share

Reliable data on the production of verified sustainable tropical timber are hard to come by. For example, the Forest Stewardship Council (FSC) reports that FSC-certified forests, including natural forests and plantations, produce some 16% of the global timber volume and that over 17% of timber harvested in plantations is FSC-certified.[6] However, according to the Forest Products Annual Market Review 2016-2017[7], due to the large amount of double certified forest area (for example both FSC and PEFC-certified), it is hard to estimate the total global timber production based on data on the number of hectares of certified forests. Taking into account such uncertainties, in 2016, roundwood production in certified forests was estimated at 511 million m3, accounting for 29% of global production[8].

IN 2016, ONLY 30% OF PRIMARY TROPICAL TIMBER PRODUCTS ON THE EU MARKET WERE VERIFIED SUSTAINABLE

Reliable data on the market share of verified sustainable tropical timber on the EU28 market comes with similar challenges.

Currently, such data are only available for a limited number of countries – Belgium, the Netherlands, Spain and the UK.

CONSISTENT SOURCE APPROACH MONITORING

The Netherlands is one of the few countries where the market share of verified sustainable timber products is measured. Probos has now conducted its fifth study in ten years in the Netherlands and is currently working on its third study in Belgium. All these studies use the "source approach". This means that volumes of verified sustainable wood are determined as they enter the market. It's a comprehensive market share analysis approach, with every producer of timber, paper and/or paperboard being contacted for data, as well as all importers of sawnwood, wood based panels, paper and paperboard. The market share figures in the study can't be linked directly to the end user, but Probos's consistent approach means that data are comparable and year-on-year trends can be identified.

Important data sources on tropical timber trade flows are ITTO IMM, and data collected through national initiatives. However, while the market share of FLEGT timber is being monitored by IMM, there is no monitoring of the market share of certified tropical timber.

For the purpose of the current report, however, this market share was estimated for the main European tropical timber importing countries, as presented in table 3. This data can serve as an indicator to determine the potential for increasing market share of verified sustainable tropical timber within these countries.

More reliable data on the share of verified sustainable timber on the market can help considerably to determine the scope for improvement. With improved data, the sector stakeholders can identify areas/market segments where efforts to increase market share should be targeted.

And also overall, improved market data increases transparency and accountability in the sector.

TABLE 3. POTENTIAL TO INCREASE THE MARKET SHARE OF SUSTAINABLY SOURCED TROPICAL TIMBER

Country	Signed Amsterdam declaration	National government all agencies TPP?	Timber trade federation policy plan on sustainable sourcing	Market share verified sustainable primary tropical timber products (year)[3]
Denmark	Y	Y	Y[1]	Unknown
France	Y	Y	Y[1, 2]	12% ('16)
Germany	Y	Y		20% ('16)
The Netherlands	Y	Y	Y	63% (´15)[4]
Norway	Y	Y		Unknown
United Kingdom	Y	Y	Y	49%[5]
Italy	Y	Y		5% ('16)
Belgium		Y		12% (´12)[6]
Spain		Y	Y[1]	4% (´17)

1 Developed with support of the European Sustainable Tropical Timber Coalition (STTC)
2 Only for their main tropical timber importers
3 Probos estimates, based on external link and updated since
4 External link (pdf) & external link 2 (pdf)
5 External link (doc)
6 External link (pdf)

Table 3 shows that in all countries studied, there is clear room for improvement in increasing verified sustainable timber's market share. Some countries, like the Netherlands and the UK, already have comparatively more developed markets for verified sustainable timber. However, as their specifiers and consumers are environmentally conscious and their consumption of tropical timber is large, activities focused on these markets to further grow share can still have a significant impact.

THE COUNTRIES THAT SIGNED THE AMSTERDAM DECLARATION CONSUME 68.5% OF THE TOTAL EU28 TROPICAL PRIMARY TIMBER

Impact on tropical forests

If the consumption of primary tropical timber products remained stable and all seven countries mentioned would source 100% verified sustainable timber, an additional 5.3 million ha of tropical forest would be impacted.

The potential contribution of sourcing 100% verified sustainable timber to certified sustainable forest management is roughly assessed using the following parameters:

1. total consumption of primary tropical timber products in RWE for France, United Kingdom, the Netherlands, Belgium, Italy, Spain and Germany (3,133,000 m3 RWE, table 2). Probos assumes that the market share verified sustainable primary tropical timber products in these countries has by 2016 grown to about 30%; and
2. the average harvest per ha in a certified sustainably managed forest with a rotation period of 30 years is calculated at approximately 0.55 m3 RWE based on monitoring figures of Probos compared with public summaries of certification reports. Probos estimates that approximately 75% of the average harvest is in theory suitable for export to Europe. This results in an average harvest of 0.41 m3 RWE per ha.

4. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. If France, the UK, Belgium and the Netherlands committed to 100% verified sustainable tropical timber sourcing, this could influence 62.1% of total EU28 tropical primary timber consumption.
2. If Italy (9%), Spain and Germany (each 7.7%) would also engage, this total rises to 86.5% of the total EU28 consumption.
3. If the seven main consuming countries would source only verified sustainable primary tropical timber products, it would have a positive impact on approximate-ly 5.3 million ha of tropical forests.
4. The countries that signed the Amsterdam Declaration consume 68.5% of the total EU28 tropical primary timber. If Belgium is added, 81% of total EU28 tropical primary timber consumption is potentially influenced.
5. Probos estimates that approximately 30% of all primary tropical timber products on the EU market are verified sustainable.
6. Given their market share and amount of consumption of sustainably sourced tropical timber, much could be gained by focusing on: France, Belgium, Italy and Spain. However the topic of sustainable sourcing is not a priority in all these countries. So it is also worthwhile focusing on environmentally conscious countries which use considerable amount of tropical timber products, such as the UK and the Netherlands.

Recommendations

1. If we are serious about halting imported deforestation, governments, NGOs and the private sector in EU timber importing countries need a deforestation agenda that includes a target on sourcing 100% verified sustainable tropical timber
2. Governments, NGOs and the private sector in EU timber importing countries need to focus more attention on increasing market share of verified sustainable tropical timber.
3. More reliable data on the market share of verified sustainable timber is needed, to improve transparency and accountability. Also on the imports of secondary timber products such as window frames and doors, currently outside the scope of this study.
4. There is room for a stepwise approach towards a 100% verified sustainable tropical timber market. As part of such a step-wise approach, a concerted message to the market to avoid FLEGT-licensed timber substituting certified sustainable tropical timber is needed.

ANNEX

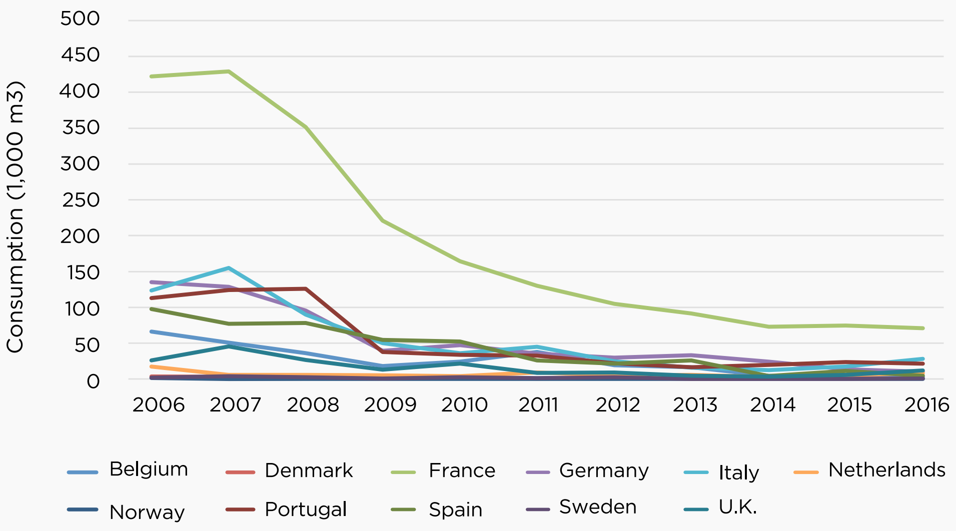
A1 METHOD

In order to give an overview of the consumption of primary timber products and to select those European countries with the highest shares in this consumption, the databases of UNECE, FAO and ITTO are used. These databases contain information on the production, import and export of, amongst others, primary tropical timber products. The apparent consumption is calculated by the addition of production and imports and subtraction of exports. The data in these databases are not perfect, so the plausibility of the data has been checked in order to present the best available estimate of consumption in all countries.

A plausibility check has also been performed by Probos on all trade data downloaded from the Comext database. The unit price is used for this.

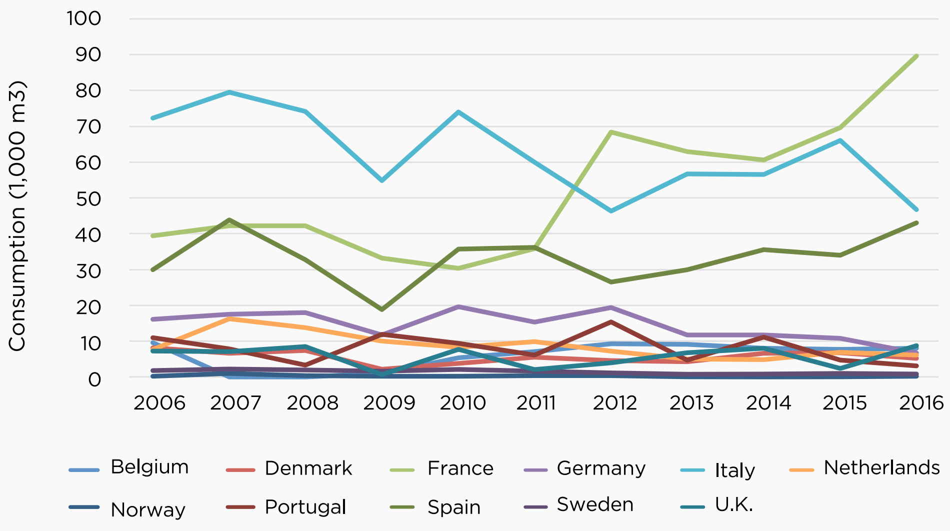
A2 TRENDS TROPICAL TIMBER PER PRODUCT GROUP

FIGURE 3 TROPICAL INDUSTRIAL ROUNDWOOD CONSUMPTION PER COUNTRY 2006-2016



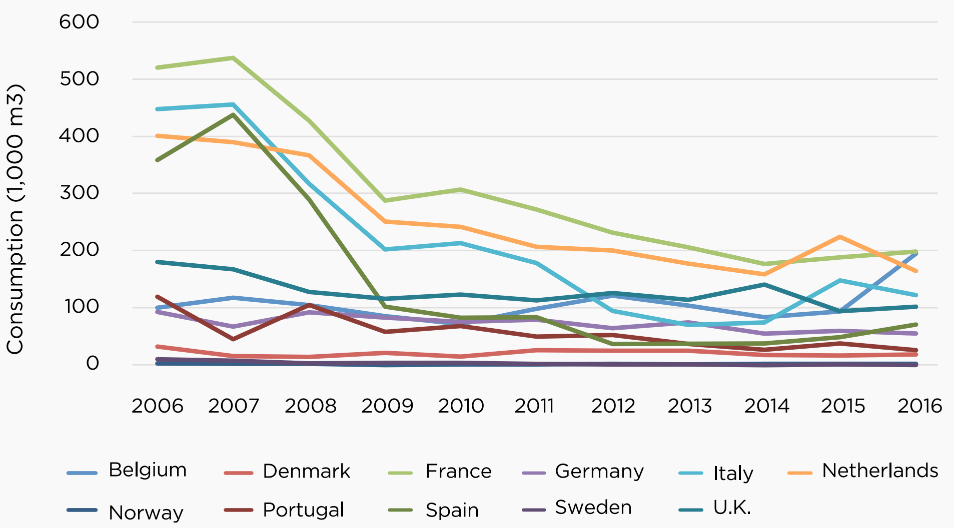
Trends in consumption quantity (in 1,000 m3) of tropical industrial roundwood per country for the period of 2006-2016. Source: ITTO database, compiled and edited by Probos.

FIGURE 4 TROPICAL INDUSTRIAL VENEER CONSUMPTION PER COUNTRY 2006-2016



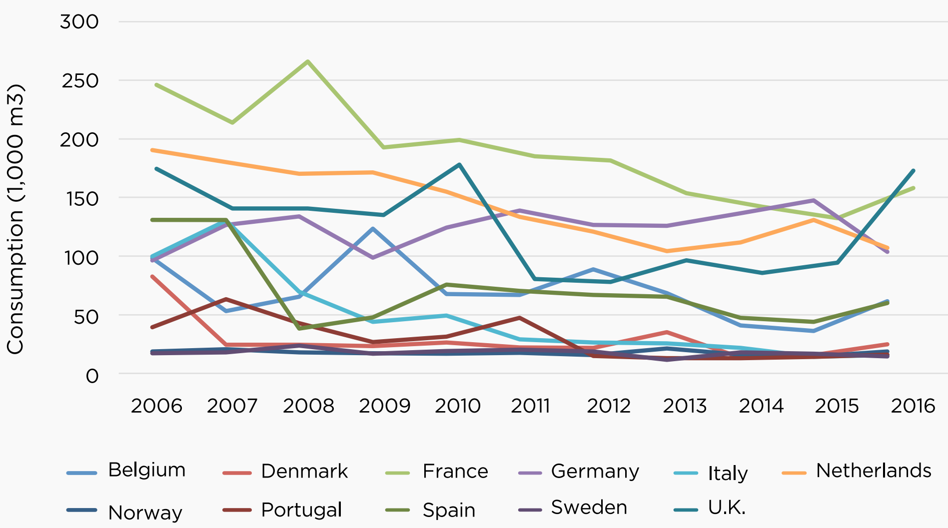
Trends in consumption quantity (in 1,000 m3) of tropical veneer per country for the period of 2006-2016. Source: UNECE and ITTO databases, compiled and edited by Probos.

FIGURE 5 TROPICAL INDUSTRIAL SAWNWOOD CONSUMPTION PER COUNTRY 2006-2016



Trends in consumption quantity (in 1,000 m3) of tropical sawnwood per country for the period of 2006-2016. Source: UNECE and ITTO databases, compiled and edited by Probos.

FIGURE 6 TROPICAL INDUSTRIAL PLYWOOD CONSUMPTION PER COUNTRY 2006-2016.



Trends in consumption quantity (in 1,000 m3) of tropical plywood per country for the period of 2006-2016. Source: UNECE and ITTO databases, compiled and edited by Probos.