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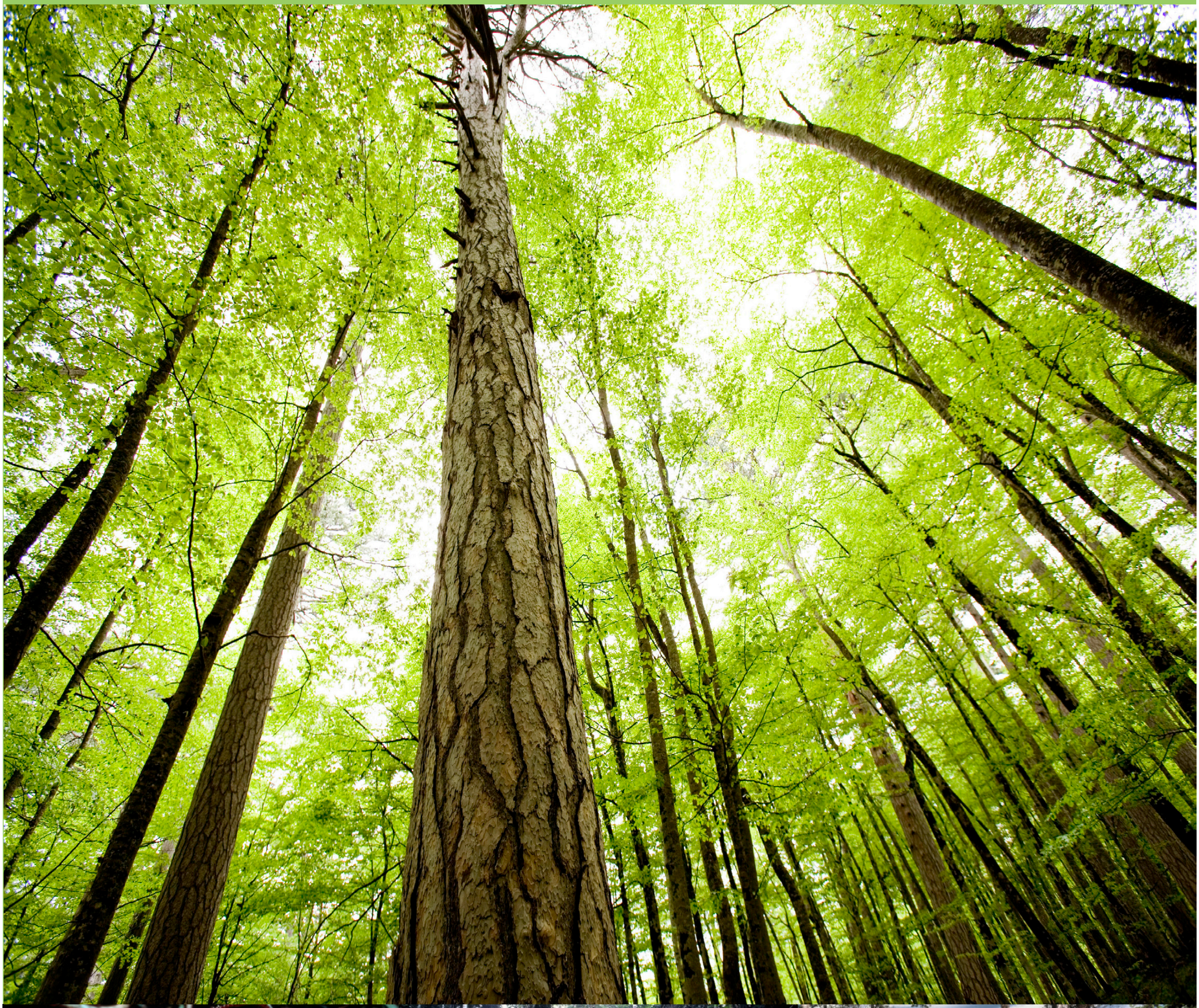
Illegal wood for the European market

An analysis of the EU import and export of illegal wood and related products

July 2008



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Summary

Illegal logging is a pervasive problem of major international concern, as it leads to deforestation, one of the main causes for climate change. Illegal logging for international markets is often a form of organised crime. Like other criminal activities it takes place covertly. This is why no one can calculate the quantity of wood of illegal origin in international trade with exact certainty. This study thus aims to give an estimate of the orders of magnitude of timber from illegal sources which reach the European market. All products in which wood was used as a raw material were included for this purpose. The European Union foreign trade data from 2006, calculated back to the quantity of raw timber that was needed to produce the imported products (raw timber equivalent), is used as a basis. The share of illegal logging in global wood production is estimated at 20% to 40%, and the economic loss through lost receipts for the state, industry and forest owners is estimated at US$ 15 billion (9, 5 billion euro) per year. Illegal logging pushes wood prices down worldwide by 7% to 16%. This economic loss for legitimately operating companies is compounded by the damage both to the image of wood as a sustainable raw material and to the responsible forestry sector.

Scale of the illegal wood trade in the EU

Illegal logging and wood trading encompass the harvesting, transport, purchasing and sale of wood, where national or international laws are violated. Such activities take place in Eastern Europe including Russia, Africa, South-East Asia and Latin America. Due to their large forestry reserves, these countries are the states of origin for the import of illegally logged wood into the EU. With EU enlargement in 2004 and 2007 illegal logging has also become a problem within the EU. According to calculations in this study based on available estimates about illegal logging in the concerned countries, between 16% and 19% of the timber imports into the EU derive from illegal or suspicious sources. By far the largest quantity of illegal timber probably comes from Russia.
China has become a major player in the international timber trade during recent years. EU imports of products from wood and paper from the People's Republic almost tripled between 2003 and 2006 (from 4 million m³ to 11.5 million m³). China itself imports the greater proportion of the wood used to manufacture these products from so-called high-risk regions such as the Far East of Russia, South-East Asia and Africa, with a high probability of illegal origin.

EU FLEGT Action Plan

In 2003 the EU adopted an action plan to combat illegal logging and the associated trade (FLEGT – Forest Law Enforcement, Governance and Trade). Licensing regulations in the framework of Voluntary Partnership Agreements with producer countries seek to exclude illegal timber from being imported into the EU. Negotiations to reach this agreements are being undertaken or prepared with Indonesia and Malaysia as well as with timber exporting countries in Africa, such as Ghana and Cameroon. However, the findings of this study show that, even if all foreseen FLEGT partnerships are agreed and successfully implemented, more than 90% of the overall imports of illegally logged wood will still enter the EU. This is due to a number of shortcomings in the regulation. No negotiations are planned with the most relevant producer and transit countries (e.g. Russia, Brazil, China, Eastern European countries) and many products that are manufactured from illegal wood are not covered by FLEGT regulation (e.g. furniture and other ready processed wood products or paper). Using the simplest of devices, e.g. milling a groove, it is possible to re-declare sawnwood as profiled wood and thereby circumvent FLEGT regulation.

Additional legislation needed: EU-wide ban on trading in illegal wood

While traceability systems to reduce illegal timber imports are already in place by some of the major forest industry companies in Europe, e.g. in Finland, additional legislation at EU level is urgently required to ensure that only wood and paper products from legal sources are traded – with an obligation to provide proof for processors as well as traders. This is the only way to exclude illegal timber sources with processing and import through transit countries and to stop commercial illegal logging in EU Member States. A legal origin is only a first step towards sustainable provenance from ecologically and socially responsible forestry management. Consumers and companies already have the option today of using the Forest Stewardship Council (FSC) certification, which guarantees both the legality and sustainability of products.

1 Background

1.1 What is illegal logging and related trade?

Illegal logging and related trade occurs when timber is harvested, transported, processed, bought or sold in violation of national or sub-national laws[1]. The harvesting procedure itself may be illegal, including using corrupt means to gain access to forests; extraction without permission or from a protected area; the cutting of protected species; or the extraction of timber in excess of agreed limits. Illegalities may also occur during transport, such as illegal processing and export; fraudulent declaration to customs; and the avoidance of taxes and other charges. It should be noted however, that much destructive logging is legal and that destructive legal and illegal logging are often linked. Therefore, addressing illegally sourced timber alone is not sufficient[2].

One should distinguish between two types of illegal logging. On the one hand, wood may be stolen by the local population due to their poverty to meet their living requirements. This mainly comprises firewood, and to a lesser extent construction wood. This form of illegal logging can only be tackled by improving the population's living conditions. As this timber does not end up in international trade, illegal logging which is carried out by the local population to cater for its own needs will not be included in the following calculations of illegal timber. However, these calculations show that substantial quantities of firewood and charcoal are actually imported from countries where illegal logging to obtain firewood is threatening the final remaining sections of forest.

The greater proportion of illegal logging, however, is carried out by companies which sometimes have mafia-style structures and are part of organised crime[3]. This form of illegal logging is closely tied to other criminal activities such as corruption, violence and money laundering. The local population can lose its livelihood through this commercially organised form of illegal logging and usually does not receive any benefit from the trade. Sometimes the companies are owned by foreigners even using foreign labour for logging.

1.2 Economic consequences

The share of illegal logging is estimated at 20% to 40 % of the total global industrial wood production[4]. The volume of industrial wood from illegal sources is estimated to be 350 to 650 million m^3 / year, at least as high as the volume of industrial wood deriving from certified forests[3].

The World Bank estimates the annual global market value of losses from illegal cutting of forests at over US$10 billion, and annual loses in government revenues of about US$5 billion.[5]. This money is needed urgently in the affected countries, for example, to develop a functioning forest management sector and to promote responsible forest exploitation. Using a small share of this money for the certification of the most endangered forest areas might have a number of positive effects. On the one hand certification as an appropriate tool for tackling illegal logging could reduce the monetary damage drastically and on the other hand certified sustainable forest management might protect the forest areas at risk from being cut illegally or burnt down for other incentives. According to the United Nations Economic Commission for Europe (UNECE), some 150 million hectares of endangered forest might be certified by using only 10 % of the $15 billion lost by illegal logging annually[3].

Illegal logging is a major threat to many forest areas which provide indispensable socio-environmental services such as watershed protection and erosion control. WWF believes that forests with critical social or environmental values should be managed in a way to maintain or enhance these values. In some cases this may mean formal protection in other cases it may mean deferred logging, and in further cases sustainable extraction may be appropriate.

Illegal logging does severe harm to the forest sector. Due to a globalised timber trade, illegal wood competes directly with timber originating from sustainably managed forests. Illegally logged timber can be offered at much lower prices, as neither costs for planting and decades of forest care nor taxes or other levies are paid.

Cheap imports of illegal timber and forest products, as well as possible non-compliance with basic social and environmental standards, destabilise international markets, and threaten jobs. This unfair competition based on widespread illegal practice harms those European companies, particularly small and medium sized businesses, who do behave responsibly and attempt to play by the rules[6].

The American Forest & Paper Association estimates that timber prices worldwide are depressed by 7% to 16% due to illegal logging[7].

1.3 Social consequences

Approximately 50 million people live in forests endangered by illegal logging and are depending on these forests for subsistence. Forests are of significant cultural and social importance in many countries in the world. These people, including many indigenous peoples such as the Baka Pygmies in the Congo basin, the Indian tribes in the Amazon or the Udegi in the Far East of Russia depend on hunting, gathering or exploiting wood from the forest. Moreover, forests offer opportunities for sustainable development, either through eco-tourism or the use of other forest products such as rubber, Guarana or Brazil nuts.

Commercial logging, which is often carried out illegally, draws on the same resource, the forest. This competition can lead to violent conflicts. In tropical rainforests commercial logging can destroy the tribal homelands of indigenous peoples and lead to the flouting of their human rights, often in breach of international laws and treaties. Only credible certification, e.g. Forest Stewardship Council, can guarantee that tropical wood does not come from such sources.

In addition to harming the forests, illegal logging also destroys their protective function. Many natural disasters in recent times can be traced back to illegal logging. The Indonesian capital Jakarta was flooded after heavy monsoon rains around Christmas 2006, 200,000 people were made homeless, and at least 80 people died. The Indonesian Vice-President Jusuf Kalla blamed the destruction of the forests for the havoc which followed the rainy season[8]. Due to the illegal deforestation of giant areas in all parts of Indonesia, water is no longer retained when heavy downpours occur. Another consequence is massive landslides, as the soil no longer binds without tree roots. At least 65 people died at the end of 2007 on the Indonesian island of Java due to heavy landslides and flooding. Almost 30,000 people lost their homes. Uncontrolled illegal deforestation is also seen as the cause here[9]. In early 2006, 120 people were killed by landslides and floods on Java. Similar reports have emerged from many other countries such as Haiti and the Philippines. If the deforestation due to illegal logging and slash-and-burn clearance in the Amazon basin continues to progress as in the past, even the regional climate may alter and cause extreme drought, which would adversely affect agriculture in large areas of South America and thus threaten the food supplies of millions of people.

Illegal felling simultaneously fosters corruption and undermines the role of the state and laws. Illegal logging is often linked to other criminal operations. There are indications, that the criminal gangs which are behind illegal logging in Bosnia-Herzegovina, are also allegedly hiding internationally wanted war criminals[10].

Profits from timber trading are also used to finance civil wars and arms buying in Africa in particular. According to the UN Security Council, Dutch timber exporters have been key figures in the illegal arms trade in West and Central Africa[11].

However, the definition of legality reaches its limits in war-torn areas where the state order has largely collapsed. Under President Charles Taylor, the Liberian government stoked up civil wars in neighbouring countries, where it supported rebel groups[12]. In return large quantities of wood were sent from these countries to Liberia and exported from there. This had already been proven during the civil war in Sierra Leone[13] and the pattern repeated itself in Cote d'Ivoire in 2002[14]. In May 2003 the UN Security Council extended the sanctions against Liberia to timber trading. The sanctions were lifted in 2006 recognising the progress made by the Liberian government after the Taylor era.

The military dictatorship in Myanmar (formerly Burma) has also been partially financed since 1988 from the profits made through plundering the national forests and the export of teak in particular.

Opening up the forests through logging roads also creates the infrastructure required by the military to combat resistance fighters in remote areas. While 70% of Burmese territory was still covered by forests in 1948, forest cover is now less than 30%[13]. The Council of the European Union first imposed an import ban on timber products from Burma after the bloody suppression of demonstrations in October 2007[15].

The consequences of a civil war and the collapse of state order are often perceptible years later. Anarchy continues to prevail in the forestry sector in the Democratic Republic of Congo, even after the war that cost the lives of 3.5 to 4.5 million people[16] and which was financed through illegal logging of tropical timber[17]. First law enforcement must be strengthened in the entire country and an effective forest administration has to be established to control compliance with the law in the Congolese forest sector.

Measures to combat illegal logging must also take account of the rights of local communities. Traditional lifestyles of indigenous people cannot be classified as illegal. A balance must also be found in cases where logging is the only employment available to the local population.

1.4 Ecological consequences and changes in climate

Illegal logging endangers the resources of subsequent generations due to overexploitation, degradation and destruction of forests, damage to ecosystems and loss of species[18]. Illegal logging has a particularly devastating effect on biodiversity because the main targets are frequently the remaining high-conservation-value forests, including protected areas, which contain highly valuable hardwood species that have been overexploited elsewhere[19]. Protected tree species such as mahogany, which has a high commercial value, have already become extinct regionally due to illegal logging and overexploitation. In countries such as Russia and Indonesia large-scale illegal logging destroys the habitat of endangered wild animals such as the Siberian tiger and the orang-utan. In tropical rainforests, selective logging of the tree species demanded by international trade, mostly carried out illegally, often leads to forest destruction, as the case study "logging in the Amazon" (1.4.1. page 8) shows.

The consequences of forest destruction are dramatic for the global climate. Approximately 15-20 % of global greenhouse gas emissions are caused by degradation and deforestation[20]. During slash-and-burn clearance and conversion into agricultural lands, not only is carbon in the vegetation released into the atmosphere, but also substantial quantities of carbon in the soil. Due to deforestation Indonesia and Brazil now hold the third and fourth positions worldwide for carbon dioxide emissions, behind the US and China. Three quarters of the timber in Indonesia is felled illegally, while illegal logging amounts to 80% of logging in the Brazilian Amazon basin, where the greatest scale of the deforestation is taking place.

It was therefore decided at the UN Climate Summit in Bali in December 2007 to develop a mechanism for Reduced Emissions from Deforestation and Degradation (REDD) to help reduce greenhouse gas emission from this sector. This would be a cost effective option for reducing global greenhouse gas emissions, and could simultaneously contribute to maintaining biodiversity and combating poverty in relevant developing countries[21]. However, in WWF's view, the saving of emissions from the forestry sector must occur in addition to savings in the energy sector. To ensure that deforestation is not displaced through the protection of forests in one region, reduction in deforestation must be measured at national level. The goal of REDD is to address this source of emissions and create a financial incentive to maintain forests instead of destroying them for other purposes, based on a monetary value ascribed to the carbon stored in the forest. However, economic incentives at a national level are insufficient to change local behaviour in the forest. To ensure success, in addition to effective supervision, it is vital for the local communities to benefit from revenue generated through REDD. In particular, law enforcement must be strengthened, land holding rights clarified, illegal practices which cause forest degradation and deforestation halted and mechanisms put in place to ensure equitable distribution of benefits from REDD[22].

1.4.1 Case study: logging in the Amazon

The Amazon rainforest originally covered some 4.1 million square kilometres in Brazil alone; it has now shrunk to 3.4 million square kilometres. An average of 1.9 million hectares of Amazon rainforest was destroyed annually from 2003 to 2007. Although the deforestation rate had fallen in recent years, it rose again dramatically in the second half of 2007. 17% of this unique habitat is already irrevocably lost, while a further 17% is degraded.

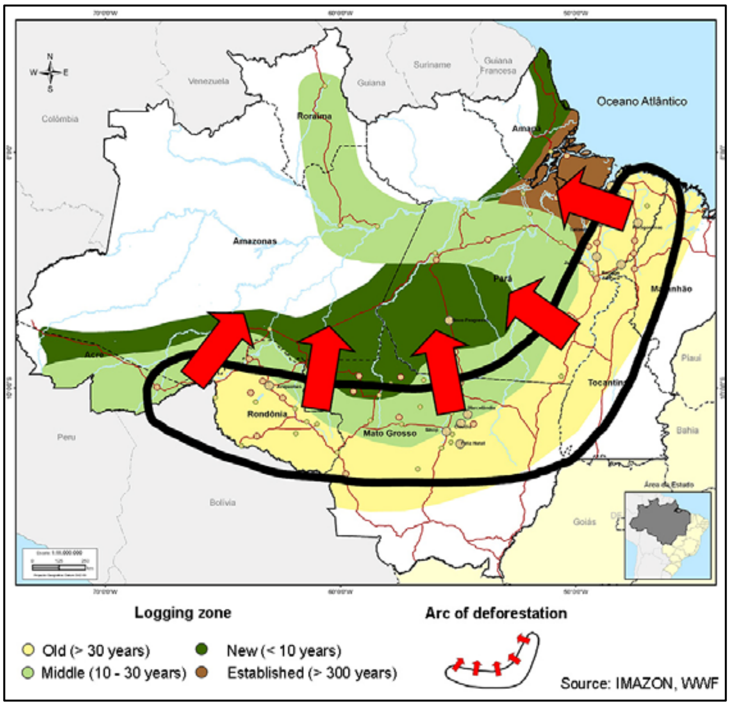
Up to 80% of logging is illegal in the Brazilian Amazon area[23]. Selective logging, which adversely affects 1 to 2 million hectares of Brazilian Amazon forest annually, is the trailblazer for the destruction of the Amazon rainforest. The deforestation frontier is penetrating ever deeper from the South and South-East into the heart of the Amazon rainforest (Graph 1).

With the advancing deforestation frontier and with infrastructure development,other types of timber with a lower trading value will become economically viable. This quantity of wood, which is much higher in volume, will then be aimed at the Brazilian market. Especially protected areas are threatened by selective logging. The targeted, selective logging of valuable tropical woods is economically viable in 85% of the protected areas, but intensive timber exploitation is only viable in 15% of these areas[24].

Ever more of the last large intact pristine forests are being opened up for the selective logging of valuable species of trees such as mahogany. Due to its high trading value, this timber is largely intended for export, to the US and Europe. Selective logging is causing substantial damage in the tropics. For every processed tree, it is estimated that in the Amazon a further 27 trees are damaged, 40 metres of new road are built and a gap of 600 m² opened up in the closed forest canopy. Selective logging also leads to a loss of the primary forest nature, and results in degradation of the forest. According to the Food and Agriculture Organization (FAO), the primary forest area lost in Brazil annually through degradation exceeds the annual net loss of forest by almost 3.5 million hectares[25].

The degradation through logging also increases forests' vulnerability to fires. During felling the branches and non-exploitable wood are left behind. The sunlight penetrates as far as the ground due to the gaps in the forest roof, dries out the residues and leads to the death of undergrowth that is used to living in shadow. The remaining forest residue then becomes more susceptible to fire[26]. Tropical thunderstorms are accompanied by heavy rainfall, so that forest fires due to lightning is extremely unlikely[27]. However, roads and pathways are cut into the rainforest to remove the wood with tractors and trucks and settlers can follow these – landless small farmers as well as land grabbers who expropriate whole areas illegally in a climate of lawlessness and the absence of a state of law. Forest fires or hotspots are clearly recognisable indicators in satellite images of where the rainforest has been converted into farming and pasture land through slash-and-burn clearance.

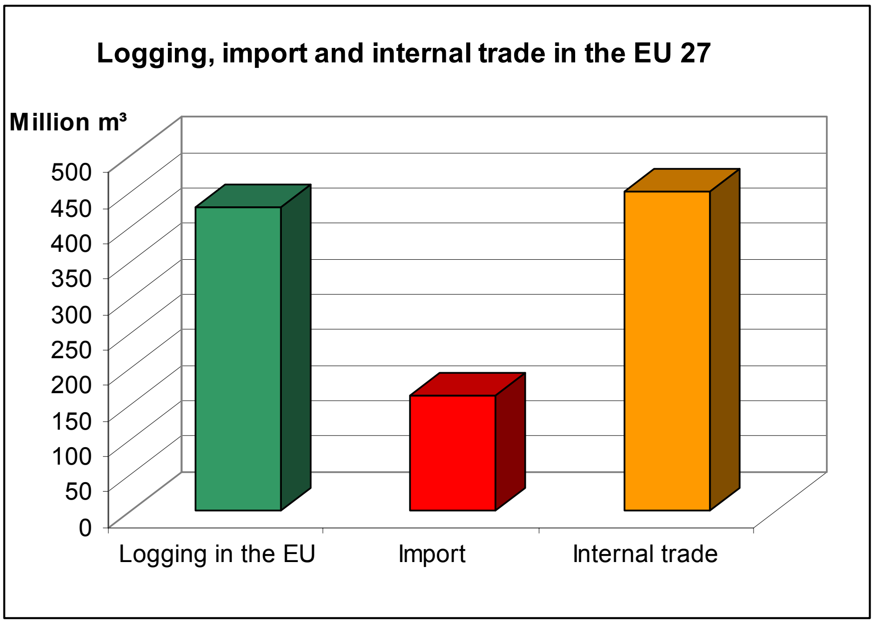
If deforestation continues unimpeded, large scale destruction of the Amazon rainforest is forecast by 2050, with 32 billion tonnes of carbon released into the atmosphere[28] – this is equal to total global greenhouse gas emissions for 4 years. The point at which this source of emissions can no longer be curtailed due to the positive feedback cycle has not been reached yet, but in combination with the development so far and the additional direct and indirect effects of climate change this tipping point is likely to be reached within the next 15 to 25 years[29]. In contrast, if all required measures are adopted to combat deforestation and to prompt a change in the trend, the release of some 17 billion tonnes of carbon can be avoided. To this end, a package of protective measures such as the extension of the protected region network and the promotion of sustainable forms of exploitation must be developed further in pilot projects and then applied quickly to the entire Amazon region, with the involvement of civil society. In the context of a post-2012 UN climate treaty, the REDD mechanism could also act as a valuable financial incentive for reducing deforestation and forest degradation.



Gaph 1: Logging zones and deforestation in the Brazilian Amazon

2 Imports into the European Union

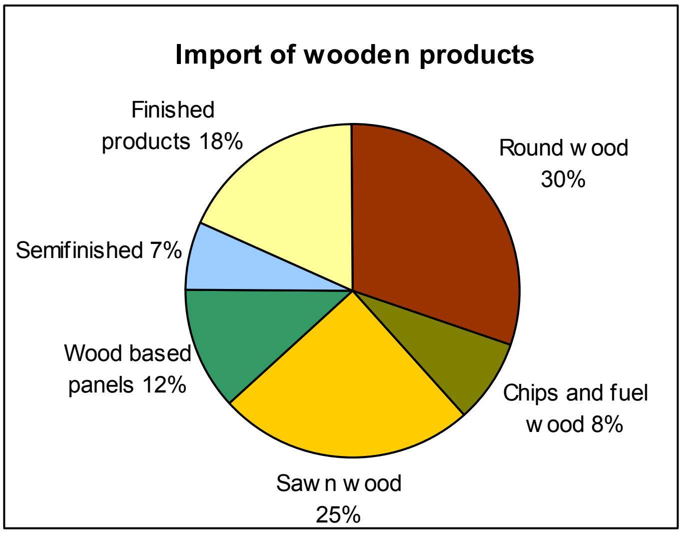
428 million m^3 of timber were harvested in the European Union including the new member states (EU 27) in 2006[30]. In addition, **163 million m^3 raw wood were required to manufacture the wood-based products imported** from non EU countries into the European Union in 2006. These imports correspond to 38% of the EU's logging.

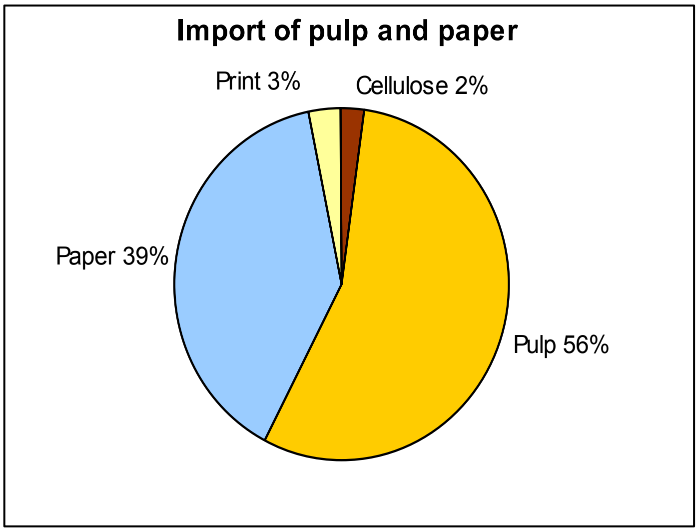


Graph 2: EU Logging, imports and internal trade in 2006

In comparison, EU internal trade with 451 million m^3 (RWE)[i] exceeds the total amount of wood logged within the European Union (Graph 2). This means that wood which was harvested in or imported into one EU country is then exported to another EU country with a probability of 72%. Given this pre-eminent role played by EU internal trade, an analysis of wood imports based on individual Member States does not make much sense. Even if a Member State imports a disproportionate quantity of wood from critical regions, most of this wood is likely to be processed into timber based and paper products, which are then re-exported to other EU Member States. The paths of imported wood inside the European Union internal market are therefore hard to track.

[i] Raw Wood Equivalents (RWE) = amount of wood needed to produce a ton of a certain product.





Graph 3: Imports of wood based products into the European Union in 2006

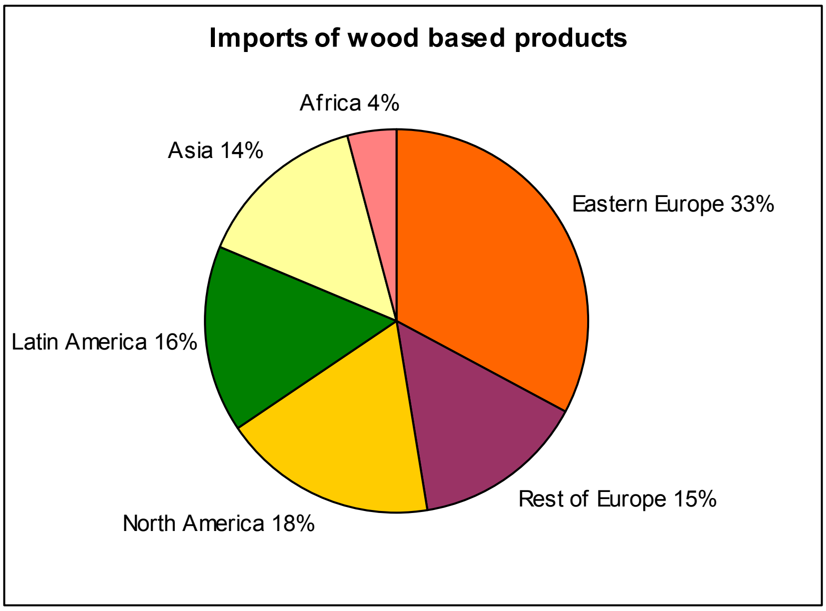
Wood products represent 57% and pulp and paper 43% of the imports of timber based products into the European Union. However, the import of wooden products includes also round wood which is used for pulp and paper production within the European Union. The share of finished products, which are supplied to the final consumer without further processing, amounts to less than one fifth of timber imports.

81% of EU roundwood imports come from Eastern Europe, especially from Russia. The trade between Russia and Finland accounts for half of all roundwood imports in the European Union. Even of the total imports of wooden products in the EU 27, Finnish roundwood imports from Russia represent a share of 15% (Graph 4). However, the Russian government decided from April 2008 to increase significantly the export duty levied on roundwood with a further increase scheduled for the beginning of 2009. This decision may reduce or even stop roundwood exports from Russia into the EU in the forthcoming years[31].

One third of wood-based products imported into the EU come from **Eastern Europe including Russia**: 43% is as roundwood, and a further 26% sawnwood. In contrast, finished processed wood products represent a share of 6%, and paper 7%.

Predominantly furniture and other finished goods are imported from **Asia**, along with plywood and paper. China and Indonesia hold an outstanding position here.

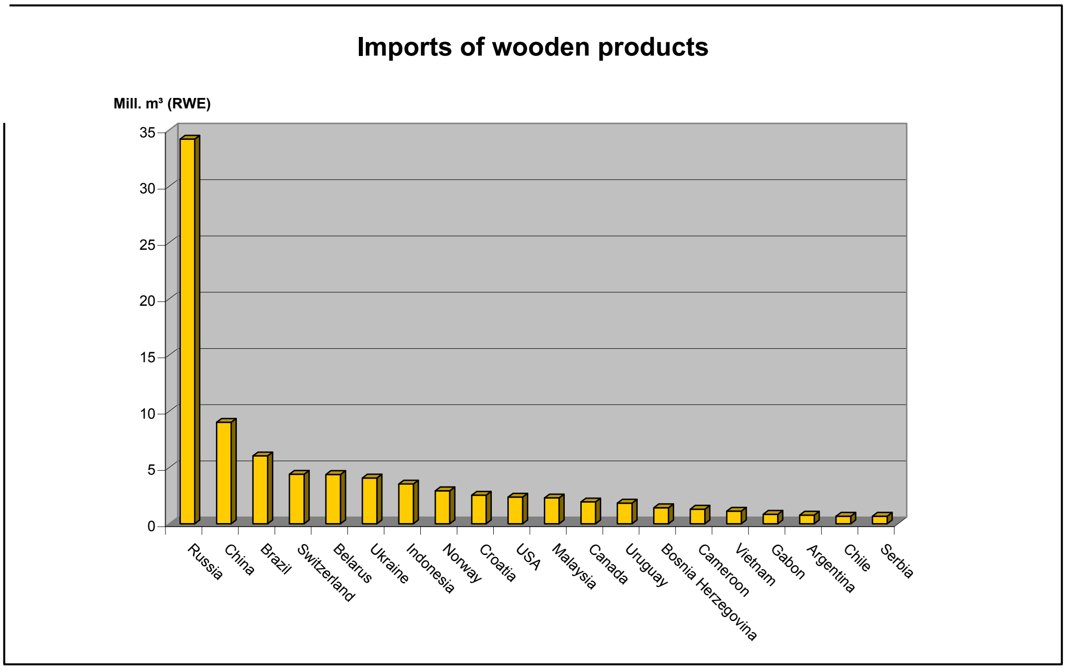
Apart from paper and pulp from South Africa and pulp from Morocco, imports from **Africa** mainly comprise roundwood and sawnwood, which predominantly comes from West and Central African states. For these countries, timber exports to the European Union have a much higher economic importance than their low share in EU wood imports might suggest.



Graph 4: Regions from which the EU imports wood-based products

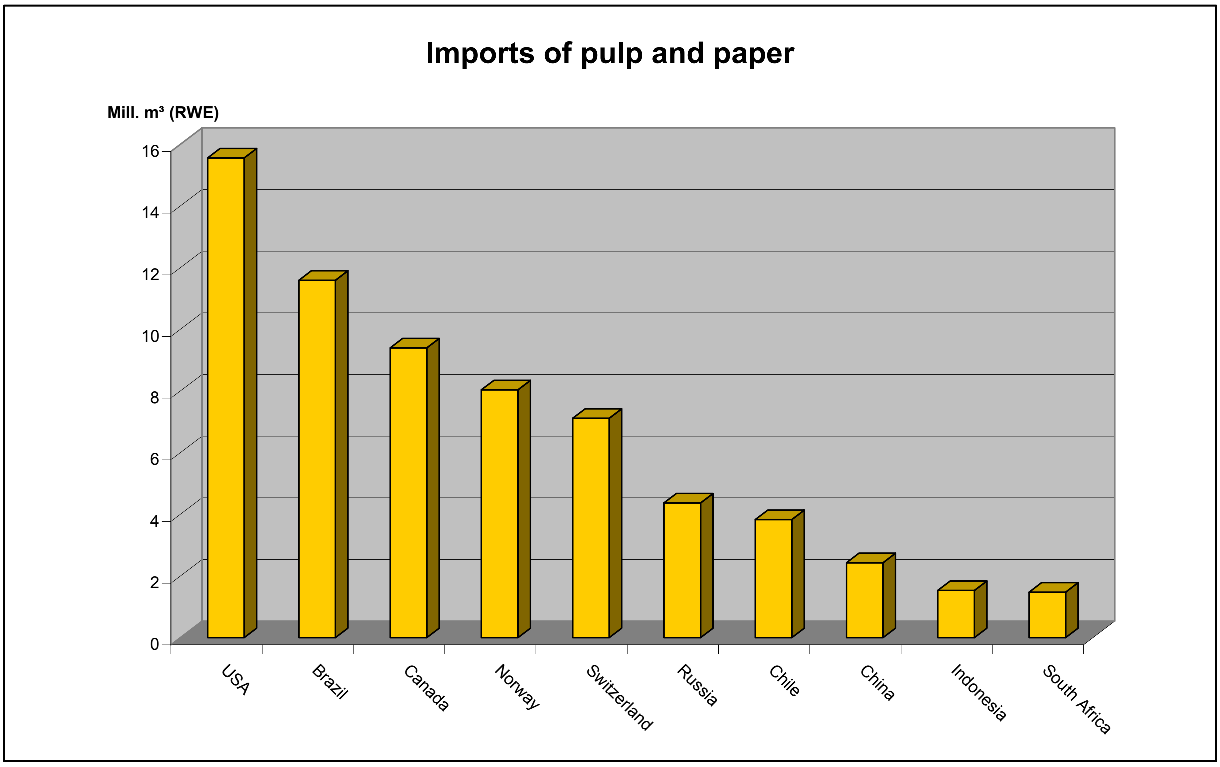
Pulp is mainly imported from North America. **69% of the imports from South America come from Brazil**. Approximately two thirds of these are as pulp; the remaining third are wood based products. Imports from Central America and Oceania are infinitesimally small at 0.01%.

The listing based on country of origin (Graph 5) shows Russia's pre-eminent position. Illegal logging is known or can be assumed to exist in 12 out of the 20 most important countries from which the European Union imports wood products. Further critical countries are Cote d'Ivoire, Thailand and Nigeria from ranking 21 to 23, the Congo at ranking 25 and the Democratic Republic of the Congo at ranking 27.



Graph 5: The most important countries for wood – products imports in the EU

At least the top 5 countries for pulp and paper imports are not critical in terms of legality (Graph 6). Pulp from Brazil derives from plantations which must be viewed critically from an ecological and social point of view, but which cannot be classified as illegal. However, the top 5 countries are followed by countries such as China, Indonesia and Russia, where illegally logged wood is processed into pulp and paper. The involvement of the pulp and paper industry in illegal logging has already been demonstrated in court several times in Indonesia.



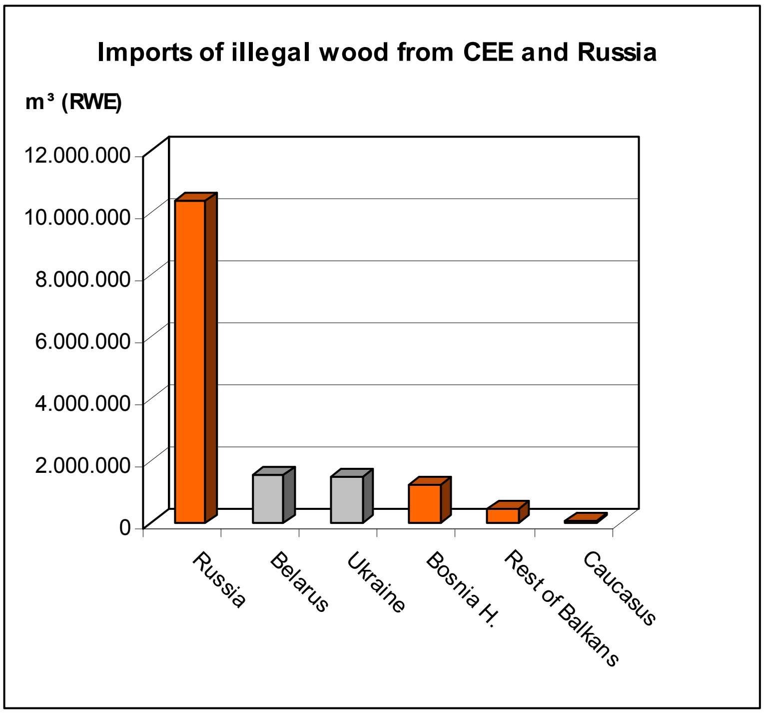
Graph 6: The most important countries for import of pulp and paper products in the EU

3 Illegal wood imports in the European Union

3.1 Countries of origin of illegal wood imports in the EU

3.1.1 Eastern Europe

Only taking into account countries for which estimates of the level of illegal logging exist, the minimum quantity of illegal wood which is imported into the European Union from Eastern Europe, North Asia and the Balkan Region (excluding EU Member States) can be quantified at more than 12 million m^3 (RWE). **As a result, at least 23% of the wood-based products, which are imported into the European Union from this region, probably come from illegal sources.**



Graph 7: EU imports of illegal wood based products from Eastern Europe, North Asiaand the Balkan (excluding EU Member States)

If you also take into account the countries where illegal logging is known to be a problem, but the scale is unknown (grey columns in graph 7), it can be assumed that up to **28**% of EU's wood imports, 15 million m^3 (RWE), derive from illegal or suspicious[ii] sources.

The calculation, based on illegal logging estimates in literature, shows Russia way ahead in the quantity of illegal wood imported to the European Union, not just in comparison with other Eastern European and Northern Asian countries (Graph 7), but worldwide. Probably more than 10 million m^3 (RWE) of illegally logged wood from Russia entered the European market in 2006, mainly in form of roundwood, but also processed into other products. The main importer of Russian timber among the EU countries is Finland. Nearly half of all (legal and illegal) European timber imports from Russia arrive there, mainly to be processed into pulp and paper and then exported to other EU states (Table 1). However, this study cannot take into account that traceability systems in place by some of the major European forest industry companies may reduce the calculated amount of imported illegal timber in reality, as the effect of the traceability systems in place was not quantitatively assessed yet.

In comparison with Russia, the suspicious[ii] quantities of wood imported from Belarus and Ukraine appear to be small. Nonetheless they amount to 1.5 million m^3 in each case (RWE). A similarly large amount of illegal wood is imported from Bosnia-Herzegovina, despite the smaller territory and forest area compared to Belarus, Ukraine or Russia. Surprisingly, a large proportion of the illegal wood imported from Bosnia-Herzegovina is firewood. Its main customer is Italy.

Only EU imports from countries outside the EU are considered in this section; otherwise the Baltic states Estonia and Latvia would follow Russia in the ranking, as approximately 2.5 million m^3 (RWE) of wood from illegal logging is exported from each of these countries to other EU states.

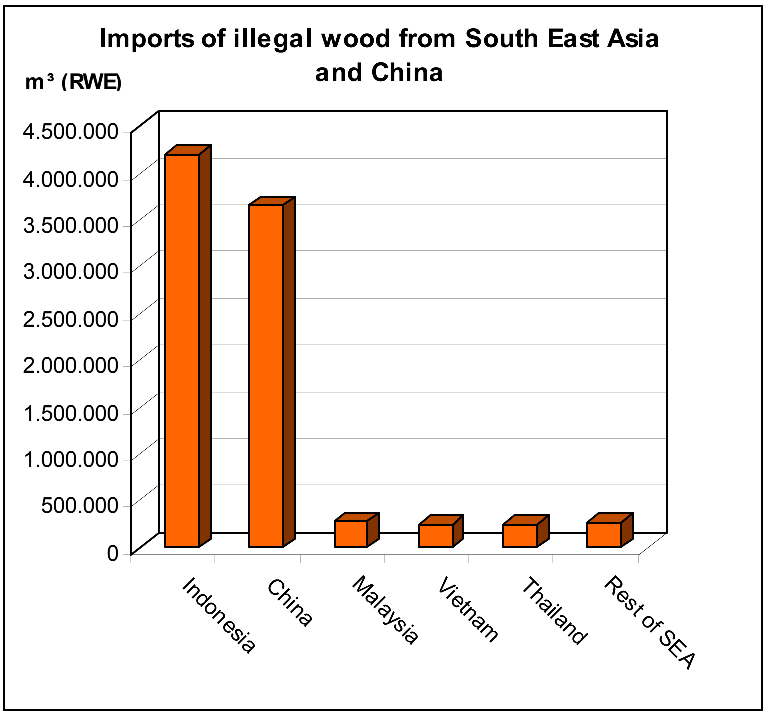
Country	**Estimated illegal or suspicious quantity of wood**	**Imported products**	**Customers in the EU**
Russia	**10,4 million m^3 (RWE) illegal**	50 % roundwood	Finland (43 %)
		24 % sawnwood (spruce)	Germany (10 %)
		7 % Paper	Estonia (9 %)
		5 % plywood	Sweden (6 %)
Belarus	**1,5 million m^3 (RWE) suspicious**	36 % roundwood	Poland (29 %)
		30 % sawnwood (spruce and pine)	Germany (22 %)
		18 % finished wood products, especially flat plates	Lithuania (14 %)
			Latvia (13 %)
Ukraine	**1,5 million m^3 (RWE) suspicious**	42 % sawnwood (pine)	Hungary (21 %)
		25 % finished wood products	Poland (16 %)
		6 % charcoal	Germany (12 %)
		5 % firewood	Italy (11 %)
Bosnia-Herzegovina	**1,2 million m^3 (RWE) illegal**	36 % firewood	Italy (42 %)
		24 % sawnwood (beech)	Slovenia (25 %)
		16 % finished wood products	Austria (12 %)
		7 % charcoal	Germany (11 %)

Table 1: Imports of illegal and suspicious timber from Eastern Europe, North Asia and the Balkan Region (excluding EU Member States) into the EU

[ii] For countries, where illegal logging is known to take place on a significant level, but the share of illegal logging compared to the total is unknown, regional averages were calculated based on the approach used in a study commissioned by the American Paper Association[7]. For further details see Appendix A Calculation Method.

3.1.2 South East Asia and China

On average 40% (9.5 million m^3 RWE) of the wood-based products, which are imported into the European Union from South-East Asia including China, probably originate from illegal logging. Imports from South-East Asia and China mainly consist of furniture and other finished wood products. Malaysia is the only SEA country that exports larger quantities of sawnwood into the EU.



Graph 8: EU imports of illegal wood based products from South East Asia and China

The lion's share of illegal wood imports from this region into the European Union comes from **Indonesia** and **China.**

Compared with 2003[32], the total (legal and illegal) import of wood-based products from Indonesia has fallen by 15% from just under 6 million m^3 (RWE) to 5.1 million m^3 (RWE). **However, the second largest quantity of illegal wood enters the European Union from Indonesia, estimated to amount up to 4.2 million m^3 (RWE).**

In contrast, **imports from China have almost tripled** during the same period rising from 4 million m^3 in 2003 to 11.5 million m^3 (legal and illegal) in 2006. Probably a portion of Indonesian wood now enters the European Union via China as a transit country. The indirect route via China into the EU is likely to be important for imports of wood illegally logged in Far East Russia and Africa as well.

Pulp imports from Indonesia are restricted to a few key customer countries. 40% of the EU pulp imports from Indonesia go to Italy, a further 36% to France and 16% to the Netherlands. The Dutch share may be explained, amongst other reasons, by the fact that ships from Indonesia initially dock in Rotterdam and the imports are consequently registered there. Thus, for example, Finland does not import any pulp directly from Indonesia, but half of Finnish pulp imports come from the Netherlands. In 2006 the Netherlands produced 109,000 tonnes of pulp, however, in the same year they exported 190,000 tonnes of pulp to Finland.

Country	**Estimated illegal quantity of wood**	Imported products	Customers in the EU
Indonesia	4,2 million m³ (RWE)	38% furniture and other finished wood products 17% pulp	The Netherlands (20%)
			Belgium (15%)
		16% parquet	Italy (14%)
		10% plywood	Germany (13%)
		38% furniture and other finished wood products	France (13%)
			Great Britain (12%)
China	3,7 million m³ (RWE)	52% furniture and other finished wood products 19% plywood	Great Britain (30%)
			Germany (14%)
		13% paper	Spain (8%)
			France (8%)
			The Netherlands (7%)
			Italy (7%)
Malaysia	280.000 m³ (RWE)	33% furniture and other finished wood products 30% sawnwood	Great Britain (37%)
			The Netherlands (20%)
		21% plywood	Belgium (13%)
		6% parquet	Germany (7%)
		4% charcoal	France (5%)
		33% furniture and other finished wood products	Italy (5%)
Vietnam	250.000 m³ (RWE)	89% furniture	Great Britain (22%)
		9% finished processed wood products	France (18%)
			Germany (17%)
Thailand	250.000 m³ (RWE)	30% furniture	Great Britain (26%)
		30% finished wood products	Italy (13%)
		21% paper	The Netherlands (12%)
			Belgium (12%)
			Germany (11%)

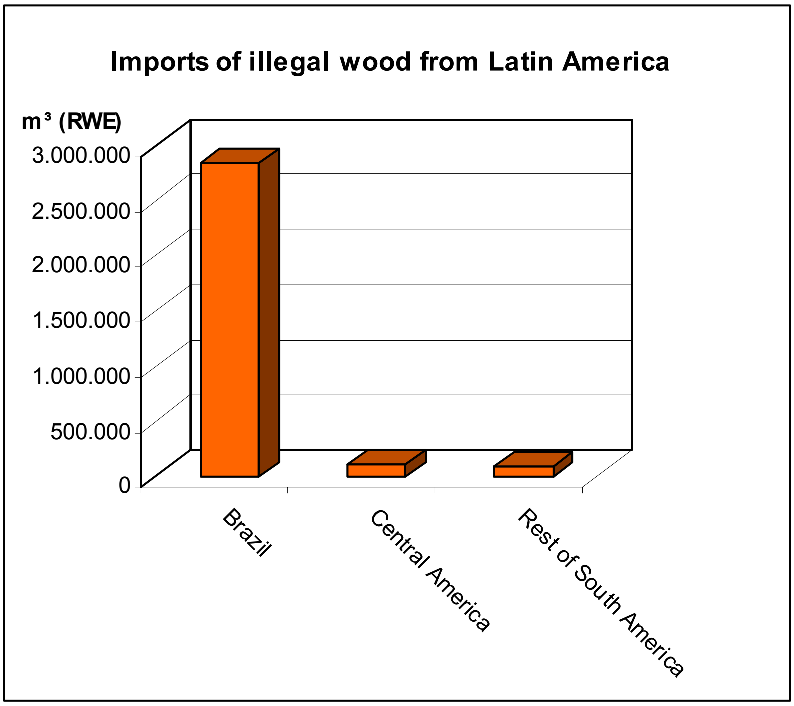
Table 2: Imports of illegal timber from South-East Asia into the EU

In October 2007, following the brutal crack-down on demonstrators by the military junta in Burma, the Council of the European Union declared an import ban on Burmese timber. In 2006, before the ban, a substantial quantity of plywood was imported into the EU from Burma; almost all of it (99.7%) went to Great Britain. In contrast, almost half of the roundwood imported from Burma went to Italy, another third to Germany. For Burmese sawnwood Italy (32%), Denmark (18%) and the Netherlands (16%) were the main customers. Overall, EU imports from Burma split into 35% furniture and other semi-finished and finished wood products, 29% plywood, 23% sawnwood and 10% roundwood. The main customers were Great Britain with a share of 32% (due to plywood imports), Italy with 25% and France with 11%, followed by Germany, the Netherlands and Belgium with 7% each.

In contrast to Eastern Europe and South-East Asia, pulp in Africa (South Africa) and South America (Brazil and Chile) is mostly produced from legal wood from plantations, according to the current level of knowledge. Therefore only the illegal share of imports of wooden products will be investigated in the next two chapters.

3.1.3 Latin America

On average, 30% of the wood based products imported from Latin America come from illegal sources. Brazil is the third most important country for exports of wood products into the EU, far ahead of other Latin American countries. Correspondingly the import of illegal timber from Brazil is significant, even pulp and paper products are assumed to be legal. In addition, it is considered that the wood products imported into the EU do not come exclusively from the Amazon, where up to 80% of the timber is logged illegally. Therefore, the calculation is based on the national average of illegal logging in Brazil, 47%.



Graph 9: EU imports of illegal wood based products from Latin America

Overall, estimated 2.9 million m^3 (RWE) of wood based products from illegal sources in Latin America were imported into the EU in 2006; of these, 2.8 million m^3 (RWE) i.e. 97% came from Brazil (Graph 9). 37% of the wood products imported from Brazil are plywood, and a further 20% sawnwood. Given an average value of 230 Euros per solid cubic metre (RWE) sawnwood one can assume that valuable hardwood species are involved, which do not come from plantations, but from natural forests such as the Amazon rainforest.

Country	Estimated illegal quantity of wood	Imported products	Customers in the EU
Brazil	2,8 million m³ (RWE)	37 % plywood	Great Britain (19 %)
		20 % sawnwood	France (14 %)
		19 % furniture or other finished wood products	Belgium (13 %)
			Italy (12 %)
		11 % parquet	The Netherland (11 %)
			Spain (11 %)
Bolivia	46.000 m³ (RWE)	37% sawnwood	The Netherland (52 %)
		28% parquet	Italy (14 %)
		27% furniture and other finished wood products	Spain (12 %)
			France (9 %)
Ecuador	21.000 m³ (RWE)	74% furniture and other finished wood products	Denmark (33 %)
			Spain (22 %)
		20% sawnwood	Germany (15 %)
			France (13 %)
Honduras	15.000 m³ (RWE)		Germany (27 %)
		61% sawnwood	Spain (23 %)
		27% parquet	Great Britain (18 %)
			France (12 %)

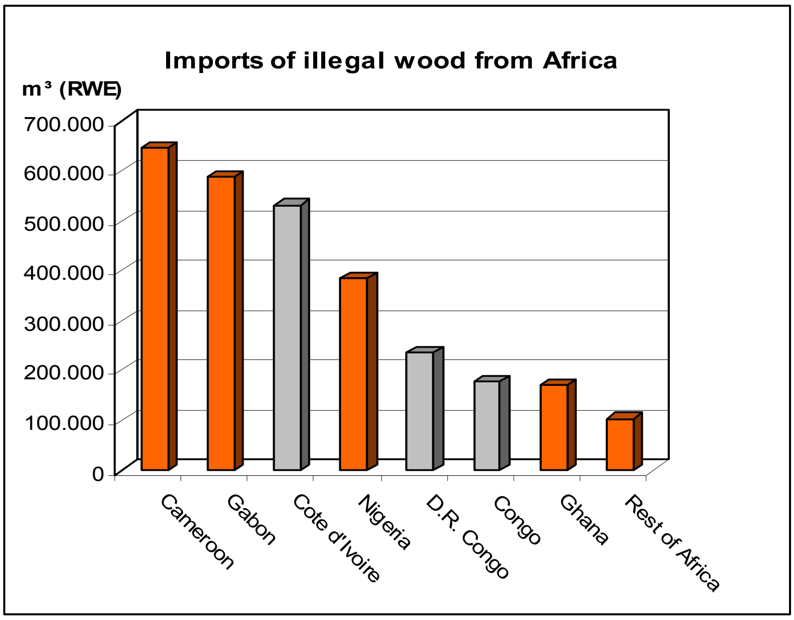
Table 3: Imports of illegal timber from Latin America into the EU

3.1.4 Africa

The illegal share of wood products from Africa to the EU can be estimated at a minimum of 36% based on those African countries where the scale of illegal logging is known. If all African countries in which illegal logging takes place are taken into account, up to 56% of wood products imported from Africa may come from illegal or suspicious sources.

In total, the EU probably imported 2.6 million m^3 of illegally logged timber from Africa in 2006, in the form of roundwood, sawnwood and veneer. African timber enters the EU via the Mediterranean countries - Italy, France, Spain and Portugal - as well as via the Netherlands, Belgium and Germany. In contrast to other regions, illegal timber imports from Africa are distributed over a wide range of countries of origin. The largest amount of illegal timber comes from Cameroon into the EU.

However, this figure includes also timber from the Central African Republic and northern part of Congo, which is exported to Europe via ports in Cameroon. Other important African sources of illegal and suspicious timber imports are Gabon and probably Cote d'Ivoire, where illegal logging is widespread according to the International Tropical Timber Organisation (ITTO). In the Democratic Republic of the Congo anarchy and lawlessness in the forest sector still prevail after years of civil war[33]. The majority of the logging licences were issued illegally, in violation of a moratorium, introduced by the government in 2002. Due to lack of official data for Cote d'Ivoire, the Democratic Republic of the Congo and the Republic of the Congo levels of illegal logging are estimated based on analysis of the respective country situation.



Graph 10: EU imports of illegal wood based products from Africa

The European Commission is negotiating Voluntary Partnership Agreements with Ghana, Cameroon and Congo under the EU Forest and Law Enforcement, Governance and Trade (FLEGT) framework with the aim of excluding the export of illegal wood to the European Union through a licensing scheme. Negotiations for similar agreements are foreseen for late 2008 with Gabon and Liberia. No information is available about planned negotiations with Cote d'Ivoire.

Imports from **Nigeria** would not be covered by the FLEGT Licensing Scheme, as they differ fundamentally from wood imports from other African countries. Cheap charcoal (i.e. up to 90%) is the main wooden product imported from the country which ranks seventh worldwide for deforestation rates. The value of the charcoal is 40 € per m^3 (RWE), while the value of roundwood - which forms just 4% of imports from Nigeria - is almost ten times higher, 380 € per m^3 (RWE).

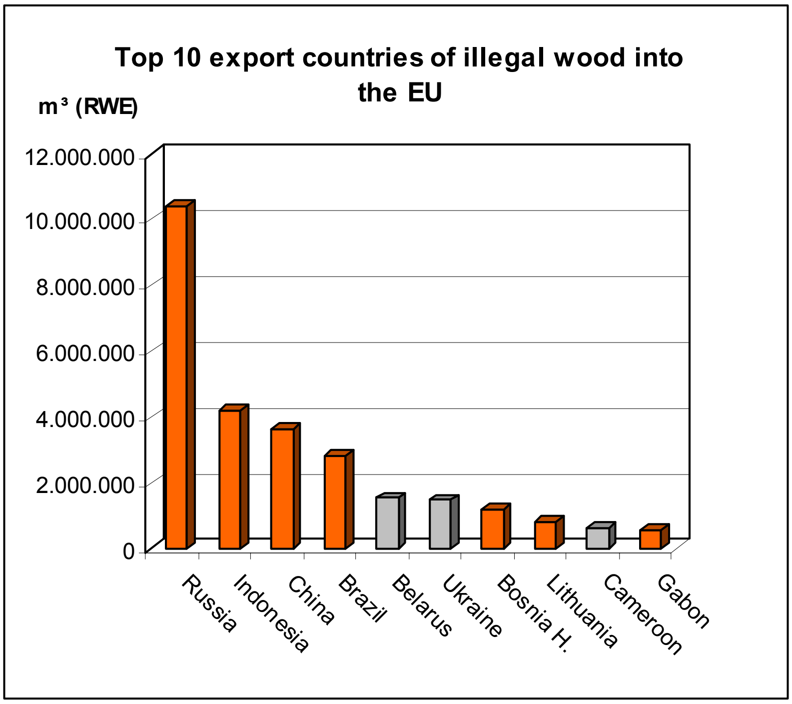
Although the UN embargo was lifted in 2006, no wood products were imported from Liberia in the same year, according to the foreign trade statistics. Negotiations on FLEGT partnership agreements with Liberia were planned to start in 2008.

Country	Estimated illegal or suspicious quantity of wood	Imported products	Customers in the EU
Cameroon	645.000 m³ (RWE) illegal	81 % sawnwood 10 % roundwood 6 % veneer	Italy (24 %) Spain (19 %) The Netherland (16 %) France (10 %) Belgium (9 %) Germany (5 %)
Gabon	590.000 m³ (RWE) illegal	45 % roundwood 28 % veneer 18 % sawnwood	France (52 %) Italy (24 %) Germany (5 %)
Cote d'Ivoire	530.000 m³ (RWE) suspicious	56 % sawnwood 25 % veneer	Italy (33 %) Spain (23 %) France (12 %) Germany (8 %)
Nigeria	380.000 m³ (RWE) illegal	90 % charcoal 4 % sawnwood	Belgium (34 %) The Netherland (33 %) Germany (13 %) Italy (11 %)
Democratic Republic of Congo	235.000 m³ (RWE) suspicious	61 % roundwood 33 % sawnwood	Italy (25 %) France (21 %) The Netherland (20 %) Portugal (18 %) Belgium (14 %)
Congo	180.000 m³ (RWE) suspicious	68 % roundwood 27 % sawnwood	Italy (36 %) France (26 %) Spain (11 %) Portugal (10 %)
Ghana	170.000 m³ (RWE) illegal	53 % sawnwood 19 % veneer	Italy (27 %) Germany (15 %) France (15 %) The Netherland (11 %) Belgium (10 %)

Table 4: Imports of illegal timber from Africa into the EU: Products and countries of origin

3.2 The overall balance of illegal wood imports into the European Union

Adding up all estimated imports of illegal and suspicious wood from the four critical non-EU regions (Eastern Europe and Russia, South-East Asia and China, Latin America and Africa) calculated[iii] in chapter 3.1.1 to 3.1.4, the total ranges between 26.5 and 31 million m^3 (RWE). Approximately, half of the illegal timber enters the EU from Eastern Europe, North Asia and the Balkan Region, while a third comes from South-East Asia.

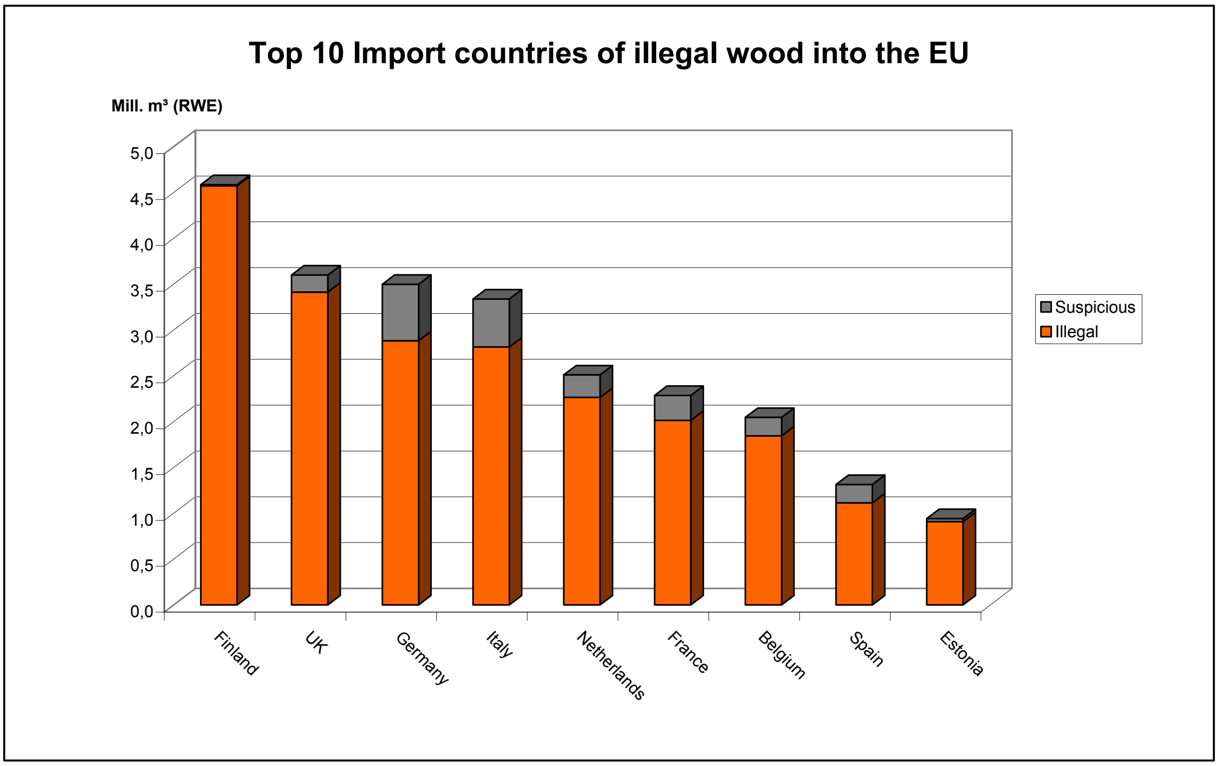


Graph 11: The 10 most important countries exporting illegal wood into the EU

The share of illegal wood in the overall import of wood-based products into the European Union can be estimated to range between 16% and 19%.

By far the largest quantity of illegal timber, more than 10 million m^3 (RWE) is imported from Russia (Graph 11). This mainly comprises round and sawn spruce and pine wood. Indonesia's second position in the ranking will be challenged in the coming years by China. The EU imports predominantly finished wood products from both countries.

[iii] The **import quantities of wood from illegal or suspicious sources were calculated as the product of the total import quantity of wood and the share of commercial illegal logging estimated in literature.** As long as neither the exporting nor the importing countries have made arrangements to exclude wood from illegal origin, one can assume that statistically the same share of illegal wood can be found in the timber exports of the respective country. At the moment, this is still predominantly the case, as the few voluntary traceability systems do have gaps and the share of credibly certified wood in international timber trade is still low.



Graph 12: The 10 most important countries probably importing illegal wood into the EU

The calculation based on the method described in Annex A shows that the most relevant country importing illegally logged wood might be Finland (Graph 12) - nearly half of all EU wood imports from Russia arrive via Finland. As mentioned before, the calculation cannot take into account specific traceability systems which have been put in place by some major European forest industry companies, such as some Finnish companies as these systems have yet to be quantified.

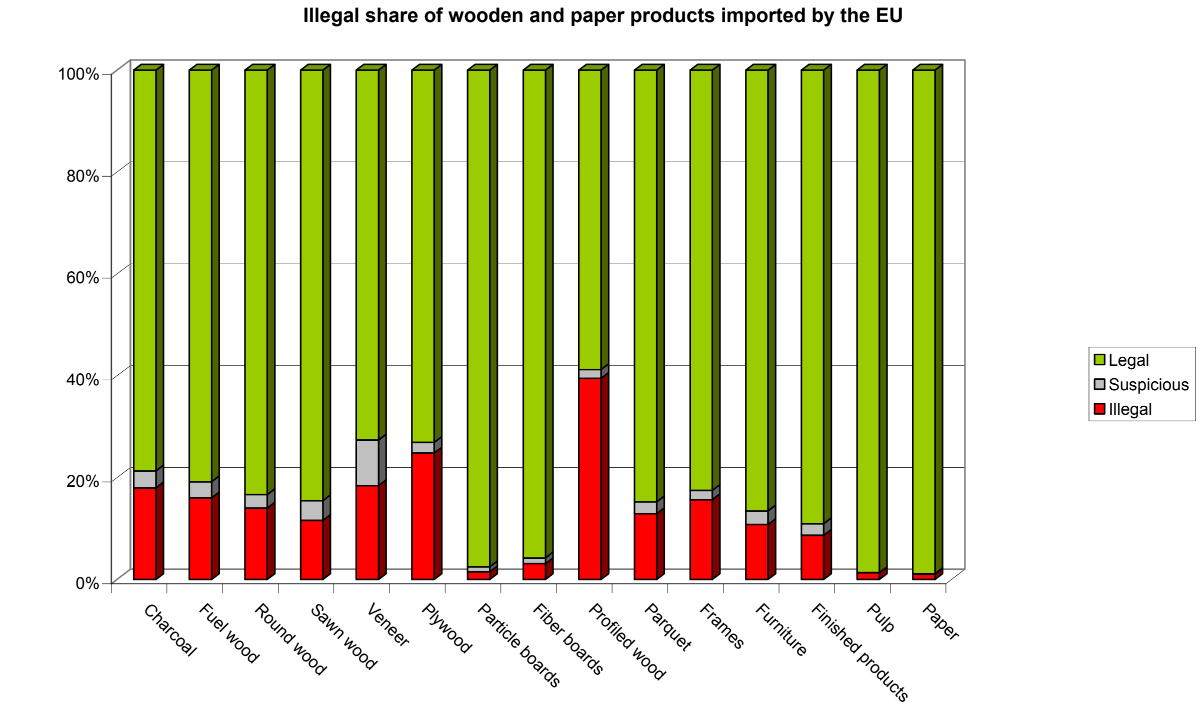
The ranking shown in Graph 12 illustrates the EU countries importing timber from critical regions into the EU. However, these countries do not always correspond with the final consumer country. Finnish imports from Russia largely comprise roundwood which is processed into pulp and paper and is then exported into other EU states. Illegally logged tropical wood may arrive in Italy, where it is processed by the local timber industry, but Italy is also an important export country for furniture, picture frames or parquet to other EU countries. Regarding the Netherlands, one should consider that timber from critical regions like South East Asia is brought to the EU by ship, many of them docking in Rotterdam port. These imports may be booked in the statistics as Dutch imports, although they are actually intended for other EU countries. For example, the Netherlands exported almost five times more pulp than it produced in 2006[26]. Almost half of Finnish pulp imports come from the Netherlands. After the pulp is processed into paper in Finland, it may be exported again to other EU states, e.g. to Germany.

3.3 Products from illegal wood

The illegal share varies significantly among the different types of products manufactured from wood, depending on the level of commercial illegal logging estimated in literature in the countries and regions a specific product is mainly imported from (Graph 13).

Probably the most interesting result of this calculation is that timber which is imported into the EU as profiled wood has a probability of 40 % that it derives from illegal sources. This is particularly worrying as the FLEGT licensing scheme of the EU does not apply to profiled wood[38].

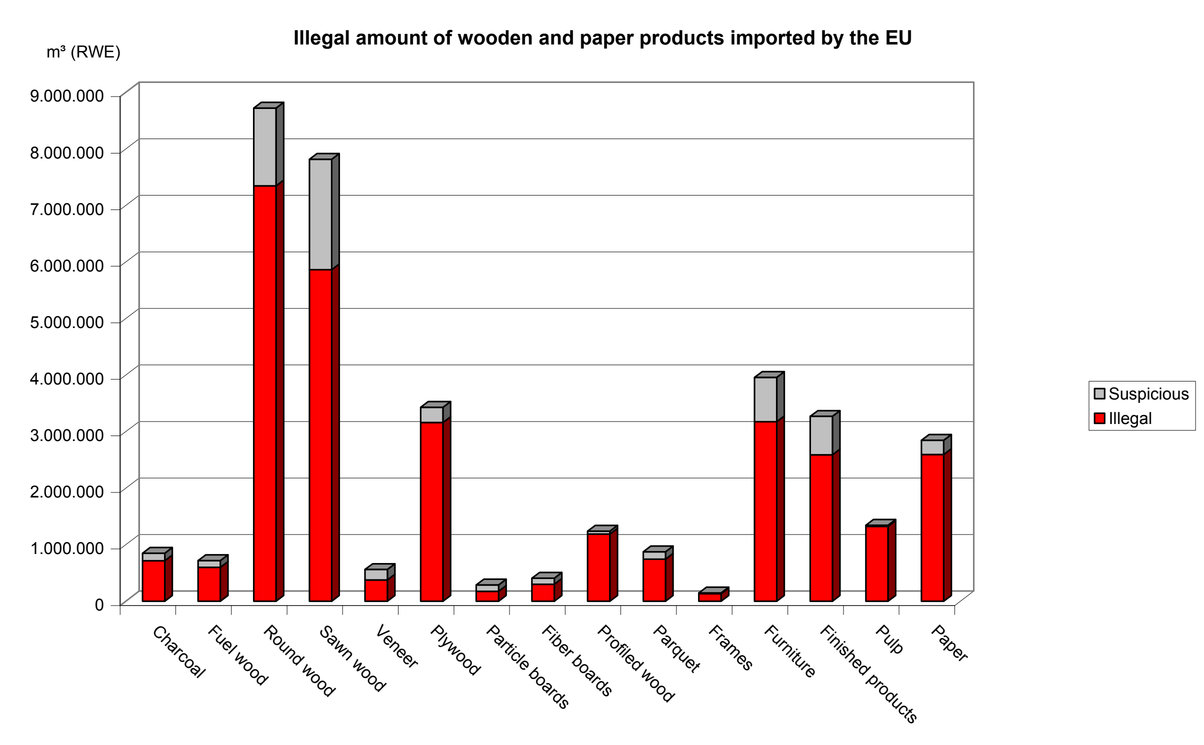
Approximately one quarter of plywood imported into the EU comes from illegal logging. For many other wood products - charcoal, roundwood and sawnwood, but also furniture and parquet - the rate illegal wood is between 10% and 20%.



Graph 2: Illegal share of wood based and paper products imported by the EU in 2006

The illegal share for pulp and paper imported is very low (1%), although the illegal quantity of imported wood from which pulp and paper products are manufactured is nonetheless substantial (Graph 14). The fifth largest quantity of illegal wood enters the EU in the form of paper - 2.6 million m^3 (RWE) - while a further 1.3 million m^3 (RWE) illegal wood reaches the EU as pulp for paper production. Paper, which was manufactured from illegally logged wood, is imported from China, Indonesia and also Russia into the EU and has customers in all EU states.

The main import routes through which products manufactured from illegally logged wood arrive in the EU can be determined based on the foreign trade statistics. Further circulation of these products within the European market can be tracked in only a few cases as statistical data give no indication whether a wood manufactured product was imported directly or came from another EU country.



Graph 14: Estimated illegal volumes of wood based and paper products imported by the EU in 2006

3.4 Top ten routes for illegal wood into the EU

3.4.1 Russian roundwood

The analysis of EU foreign trade data 2006 confirms the findings expressed in recent reports by other authors. The most obvious way illegal timber may enter the EU is related to roundwood imports from Russia to Finland for pulp and paper manufacturing, due to the fact that Finland is by far the most relevant importer of Russian roundwood into EU. Based on a conservative estimate which considers only a limited range of the illegal activities, one can calculate that half of the illegally logged roundwood enters the EU through this channel. The volume of the Finnish import of Russian roundwood corresponds with approximately 3.7 million m^3 (RWE) to 14% of the overall EU import of wood based products deriving from illegal sources. In turn, other EU countries, with Germany and Great Britain at the top of the ranking, import substantial quantities of paper from Finland which may be manufactured from Russian wood. Given the predominate role of the Russian-Finnish timber trade the overall effect of traceability systems put in place by some major Finnish forest industry companies to reduce illegal timber imports from Russia should be subject to further in-depth assessments.

WWF acknowledges the work done by the Finnish forest industry to help combat illegal logging in Russia and recognises that the tracking systems are considered to be among the most efficient processes currently available, but believes that the current tracing systems are not sufficient to exclude the total range of illegalities in the forest sector[34]. With regard to the neighbouring country Sweden, the second largest buyer of wood from North-West Russia, a WWF report shows a split picture: “The big industrial companies have high ambitions and are moving in the right direction. On the other hand, companies with very limited ability to exclude timber from unknown or controversial sources from their purchasing process continue their operations, seemingly doing virtually nothing to improve”[35].

According to other reports the situation in Finland might be similar[36]. However, the key finding that the Russian-Finnish timber trade is the largest avenue for illegal timber enters into the EU, is robust, even assuming a lower share of illegal imports at just 10 %.
All in all the lion's share of illegal roundwood imports into the EU probably takes place in the Scandinavian Baltic region. 88% of these imports are traded between Russia, the two Baltic States of Latvia and Estonia and the two Scandinavian states of Sweden and Finland (Table 5).

EU import country	Export country	Estimated illegal quantity of roundwood (m³ RWE)	Estimated share of illegal EU roundwood imports	
Finland	Russia	3.7 million	50%	
Sweden	Latvia	580.000	8%	
Estonia	Russia	540.000	7%	
Sweden	Russia	500.000	7%	
Sweden	Estonia	400.000	6%	together 38 %
Finland	Estonia	330.000	4%	
Latvia	Russia	230.000	3%	
Finland	Latvia	185.000	3%	
Germany	Russia	190.000	3%	
France	Gabon	149.848	2%	

Table 5: The probably most relevant transport routes for illegal roundwood into the EU

3.4.2 Russian sawnwood

Germany probably imports the largest quantity of illegal sawnwood from one single country. The German imports from Russia represent 7% of the overall illegal sawnwood imports into the EU. It generally comprises spruce and pine. Great Britain sources substantial quantities of sawnwood from Russia and two Baltic States. Estonia and Latvia also import substantial quantities of sawnwood from Russia. Further import routes for Russian sawnwood are the Netherlands, Finland and France.

EU import country	Export country	Estimated illegal quantity of sawnwood (m³ RWE)	Estimated share of illegal EU sawnwood imports	
Germany	Russia	400.000	7%	
	Russia	375.000	6%	
Great Britain	Latvia	365.000	6%	together 17 %
	Estonia	230.000	4%	
Estonia	Russia	250.000	4%	
Latvia	Russia	180.000	3%	
The Netherlands	Russia	190.000	3%	
Finland	Latvia	190.000	3%	
France	Russia	160.000	3%	

Table 6: The probably most important transport routes for illegal sawnwood from Russia into the EU

3.4.3 Tropical round and sawn wood

Tropical roundwood deriving from illegal sources enters the EU mainly from Gabon via France. 15% of all illegal timber imports from Africa into the EU come via this transport route. These imports comprise timber species such as Padouk, Wengé or Okoumé[37]. **France sources of illegal roundwood from Gabon are only less smaller than the amount of illegal roundwood Germany sources from Russia (Table 7).**

South American sawnwood, exported from **Brazil to France, Spain and the Netherlands** contributes to 7% of the illegal (tropical and non-tropical) sawnwood exports into the EU. Brazilian sawnwood comprises timber species such as Jatobá, Garapa or ironwood (Ipé).

African sawnwood from **Cameroon to Spain, Italy and the Netherlands** contributes to 6% of the overall illegal sawnwood imports into the EU. This comprises timber species such as Sapelli, Azobé or Iroko. Further suspicious imports come from Cote d'Ivoire, comprising Makoré, Sipo and Iroko.

EU import country	**Export country**	**Estimated illegal quantity of tropical sawnwood (m³ RWE)**	**Estimated share of illegal EU tropical sawnwood imports**	
France	Brazil	150.000	3%	together 7 %
Spain		140.000	2%	
The Netherlands		110.000	2%	
Spain	Cameroon	115.000	2%	together 6 %
The Netherlands		100.000	2%	
Italy		90.000	2%	

Table 7: The probably most important transport routes for illegal tropical sawnwood into the EU

3.4.4 Veneer from Africa

Probably half of the EU imports of veneer, which are derived from illegal sources, comes from **Cameroon and Gabon** and goes **to Italy.** Imports from **Gabon** to **France** account for another third of EU's illegal veneer imports. In addition Italy, Spain and Germany import significant volumes of veneer from the Cote d'Ivoire, much of which is likely to be of illegal origin.

3.4.5 Plywood

Illegal plywood imported into the EU largely comes primarily either from **China and Indonesia** or from **Brazil**. Main EU customers are **Great Britain, Germany and Belgium**. Nearly half of the EU imports of illegal plywood can be ascribed to the trade between these countries (Table 8).

EU import country	**Export country**	**Estimated illegal quantity of plywood (m³ RWE)**	**Estimated share of illegal EU plywood imports**	
Great Britain	Brazil	370.000	12%	together 45 %
Belgium		200.000	6%	
Germany		200.000	6%	
Italy		120.000	4%	
Great Britain	China	230.000	7%	
Germany		125.000	4%	
Belgium	Indonesia	180.000	6%	

Table 8: The probably most important transport routes for illegal plywood in the EU

3.4.6 Profiled wood from Brazil and Indonesia

According to the foreign trade data profiled wood[iv] is defined as: "Wood continuously shaped (tongued, grooved, rebated, chamfered, V-jointed, beaded, moulded, rounded or the like) along any of its edges, ends or faces, whether or not planed, sanded or end-jointed". Neither the EU regulation on a FLEGT licensing system nor the regulations of the Convention on International Trade in Endangered Species (CITES) apply to profiled wood, parquet and mouldings. Because of this loophole milling a groove in a mahogany board is sufficient to circumvent international rules.

The illegal share of profiled wood imports is extremely high - 40% (Graph 13), with the lion's share of these imports coming from Indonesia and Brazil, both countries with high levels of illegal logging as well as with the highest levels of deforestation worldwide. **Main customers in the EU are the Netherlands, Belgium, Germany and France** (Table 9). **Three quarters of illegal profiled wood enters the EU via these countries**.

EU import country	Export country	Estimated illegal profiled wood quantity (m³ RWE)	Estimated share of illegal EU profiled wood imports	
The Netherlands	Indonesia	370.000	23%	together 73 %
Belgium		175.000	15%	
Germany		140.000	12%	
The Netherlands	Brazil	150.000	13%	
France		90.000	8%	
Belgium		40.000	2%	

Table 9: The probably most important transport routes for illegal profiled wood into the EU

3.4.7 Furniture and finished wood products from Indonesia and China

One third of furniture and other finished wood products probably manufactured from illegally logged wood enter the European Union from Indonesia and China via Germany, Great Britain, France and the Netherlands (Table 10). Finished wood products which probably were made of illegally logged wood also come from Indonesia and China and are imported into the EU via Germany, Great Britain and the Netherlands. This category includes products such as doors and windows. The lion's share of finished processed wood products imported into the EU are classified under the heading 'other wood products' in the EU foreign trade statistics, and are not described more precisely.

EU Import country	Export country	Estimated illegal quantity of furniture (m³ RWE)	Estimated share of illegal EU furniture imports	
Great Britain	China	350.000	11%	together 31 %
Germany		125.000	4%	
France		115.000	4%	
Great Britain	Indonesia	150.000	5%	
France		125.000	4%	
The Netherlands		110.000	3%	

Table 10: The probably most important transport routes for furniture from illegal sources in the EU

[iv] CN code 4409 2098 in the EU foreign trade data 2006

<table>
<tr><th>EU import country</th><th>Export country</th><th>Estimated illegal quantity of finished wood products (m³ RWE)</th><th colspan="2">Estimated share of illegal EU imports of finished wood products</th></tr>
<tr><td>The Netherlands</td><td rowspan="3">Indonesia</td><td>235.000</td><td>9%</td><td rowspan="5">together 29 %</td></tr>
<tr><td>Germany</td><td>160.000</td><td>6%</td></tr>
<tr><td>Great Britain</td><td>110.000</td><td>4%</td></tr>
<tr><td>Great Britain</td><td rowspan="2">China</td><td>135.000</td><td>5%</td></tr>
<tr><td>Germany</td><td>130.000</td><td>5%</td></tr>
</table>

Table 11: The probably most important transport channels for finished wooden products from illegal sources into the EU

3.4.8 Pulp from Indonesia

The analysis of foreign trade data shows that three EU member states, **Italy, France and the Netherlands,** still import substantial amounts of pulp from Indonesia. This trade route probably accounts for half of EU illegal pulp imports (Table 12). Foreign trade statistics do not tell anything further about pulp paths. Nonetheless, the Netherlands exported in total five times more pulp than it produced in 2006. At least one third of pulp imported by the Netherlands was only docked in Rotterdam and exported again to other EU countries. Finland accounts for half of the imported pulp from the Netherlands. Pulp, for example processed into toilet paper, may also be exported from Italy and France to other EU states.

<table>
<tr><th>EU import country</th><th>Export country</th><th>Estimated illegal quantity of pulp (m³ RWE)</th><th colspan="2">Estimated share of illegal EU pulp imports</th></tr>
<tr><td>Italy</td><td rowspan="3">Indonesia</td><td>280.000</td><td>21%</td><td rowspan="3">together 49 %</td></tr>
<tr><td>France</td><td>250.000</td><td>19%</td></tr>
<tr><td>The Netherlands</td><td>115.000</td><td>9%</td></tr>
</table>

Table 12: The probably most important transport routes for illegal pulp in the EU

3.4.9 Charcoal from illegal deforestation

Belgium, the Netherlands and Germany import significant quantities of charcoal from Nigeria, one of the countries with the highest levels of deforestation worldwide. 43% of the charcoal probably made from illegally logged wood, enters the EU in this way. In addition, substantial volumes of charcoal, probably deriving from illegal sources, are imported by Italy and Germany from Bosnia-Herzegovina as well as from Greece through Bulgaria and Albania.

<table>
<tr><th>EU import country</th><th>Export country</th><th>Estimated illegal quantity of charcoal (m³ RWE)</th><th colspan="2">Estimated share of illegal EU charcoal imports</th></tr>
<tr><td>Belgium</td><td rowspan="3">Nigeria</td><td>130.000</td><td>18%</td><td rowspan="3">together 43 %</td></tr>
<tr><td>The Netherlands</td><td>125.000</td><td>18%</td></tr>
<tr><td>Germany</td><td>50.000</td><td>7%</td></tr>
<tr><td>Italy</td><td rowspan="2">Bosnia-Herzegovina</td><td>33.000</td><td>5%</td><td rowspan="2"></td></tr>
<tr><td>Germany</td><td>32.000</td><td>4%</td></tr>
<tr><td rowspan="2">Greece</td><td>Bulgaria</td><td>60.000</td><td>8%</td><td rowspan="2"></td></tr>
<tr><td>Albania</td><td>25.000</td><td>4%</td></tr>
</table>

Table 13: The probably most important transport routes for illegal charcoal into the EU

3.4.10 Firewood from Bosnia-Herzegovina

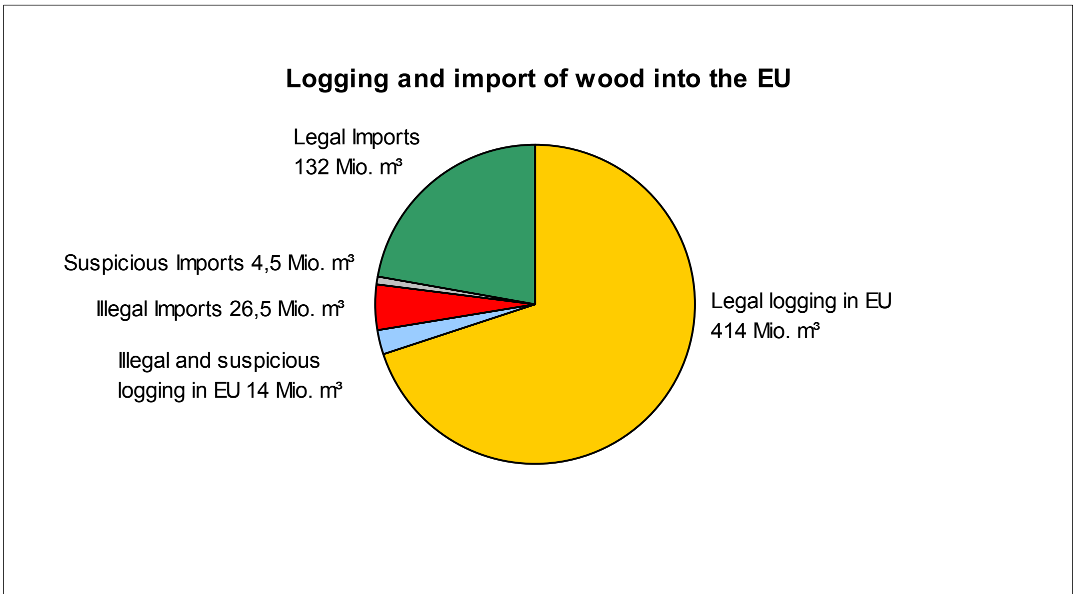
In addition to charcoal, Italy imports substantial quantities of firewood which was probably logged illegally in Bosnia-Herzegovina (280,000 m^3 – RWE). Almost half of the illegally logged firewood enters the EU through this channel. This wood is probably used for energy production in Italy where the local demand is increasing rapidly; though, it may also be used by the wood and paper industry. Foreign trade statistics do not provide any information about customers and further use.

3.5 Effects on the internal market and European Union exports

Due to the high level of internal trade (see Graph 2) and further processing of imported wood within the European Union, the route of trade of illegal wood can only be identified in exceptional cases. However, it is possible to calculate the average share of illegal wood within the total timber volume placed on the EU internal market in 2006.

To determine the total timber volume placed on the EU internal market, removals of roundwood within the European Union in 2006 have to be added to the total timber volume imported in the same year. This amounts to a total (legal and illegal) timber volume of 591 million m^3 (RWE), which in turn was available for EU consumption and for EU export in 2006.

Due to the enlargement of the EU in 2004 and 2007 illegal logging has also become a problem within the EU as it particularly affects some of the new Member States (Graph 15). In total, out of 591 million m^3 (RWE) of wood placed on the EU market in 2006, between 35 and 45 million m^3 (RWE) may derive from illegal or suspicious sources within the EU. This represents a market share of between 6% and 8%.



Graph 3: EU wood production and import

4 Measures at EU level

4.1 Implementation of current measures

In 2003 the European Commission adopted an Action Plan for "Forest Law Enforcement, Governance and Trade" (FLEGT) to address the problem of illegal logging and the trade in illegally logged timber. Key elements of the Action Plan are voluntary but binding Partnership Agreements with timber producing countries and regions. Once agreed, the Voluntary Partnership Agreements (VPA) will include commitments and action from both parties to halt trade in illegal timber, notably with a license scheme to verify the legality of timber[38]. The basis for the licensing scheme is a definition of legality jointly developed by all interested parties (government, industry, civil society) **[39]**.

The agreements will also promote better enforcement of forest law and promote an inclusive approach involving civil society and the private sector. Reform within the forestry sectors of wood producing countries is one of the main aims of the bilateral agreements, in order to combat illegal activities in the forest as well as the underlying causes of illegal logging (e.g. corruption, ambiguous legal position). This includes the development of a **definition of legality accepted by all stakeholders,**[39] of credible legal and administrative structures and of technical systems to verify that timber is produced in accordance with national laws. This requires the development of reliable verification systems[40] as well as institutional strengthening and capacity building for Partner Country governments and civil society[41]. Policy reforms are needed to improve transparency and accountability in forest governance.

In addition, cooperation is sought with other important wood purchasing markets such as the US and Japan and efforts are made to switch public procurement in EU countries to legally and sustainably harvested wood. Partnership agreements are currently being negotiated with countries in Asia and Africa. The first formal negotiations on Partnership Agreements with Ghana, Indonesia, Malaysia, and Cameroon started in 2007, and the Congo followed in 2008[38].

WWF and other environmental organisations welcome the EU FLEGT Action Plan as a first step in the right direction, but note a significant need for improvement in the proposed range of measures. With respect to the Partnership Agreements, main criticisms concern the fact that licensing schemes only cover direct imports from the partnership country and only include specific product groups such as roundwood, sawnwood, plywood and veneer. An extension of the range of products must be negotiated individually with each partner country. In many cases wood is initially exported to third countries, where it is processed at lower costs than in the EU, and then exported as a finished or semi-finished wood or paper product. The direct export of African roundwood to the EU, for instance, is constantly declining, while African log exports to China are rapidly increasing. The logs are then processed into furniture and parquet, before ending up in European shops and furniture stores. Moreover, illegally logged timber can be legalised in FLEGT partner countries, as the licensing scheme, which demands a legal import process, does not impose a requirement that the imported wood is also legally harvested. The fact that the domestic market is not covered by the Partnership Agreements represents a further problem, because a portion of the illegal trade in wood takes place at national and local level. Some countries such as Ghana and Indonesia are considering the inclusion of the domestic market in their agreements.

Analysing the imports from South-East Asia, the gaps in the FLEGT Licensing Scheme become evident. Although up to three quarters of the timber imported from Indonesia is estimated to derive from illegal sources, the FLEGT Licensing Scheme in its current form would cover just 13% of these imports, as the majority of these imports comprise furniture and other finished or semi-finished wood products as well as pulp and paper. In addition, the licensing scheme does not address EU imports via China, although they have almost tripled within 3 years[v] with a substantial proportion probably manufactured from illegally felled timber.

[v] The author of this study analysed the EU foreign trade data 2003 using the same calculation method for the report "Heiße Ware Tropenholz" published by WWF Germany in 2005[32]

4.2 Much needed EU legislation

As FLEGT Voluntary Partnership Agreements and Licensing Scheme alone will just marginally reduce the estimated total import of illegal and suspicious timber into the EU, WWF is calling for additional legislation at the European level to stop the trade in illegal timber and wood products within the EU. This legislation would underpin Voluntary Partnership Agreements under FLEGT as well as voluntary commitments made by industry and national governments towards fighting the destruction of the world's forests through illegal logging[19, 42].

Such legislation should provide for standardised legal verification requirements covering all wood products as well as pulp and paper and put the onus on companies which trade in wood products to demonstrate compliance with the law[19]. The findings of this study confirm that a strong additional legislation in combination with Voluntary Partnership Agreements is probably the only way to ensure nly timber and wood products from legal sources are placed on the European market. The FLEGT Action Plan contains a commitment to examine options for additional legislation, should existing legislation prove insufficient in controlling imports of illegal timber. A legislative proposal by the European Commission is foreseen for 2008.

According to WWF, strong EU legislation barring trade in products containing illegally sourced timber, can create equal competitive conditions for all companies operating in the European market and a level the playing field across Europe, by excluding illegal timber which is often cheaper than legal timber[19]. This would support the price of wood and wood products, promote healthy economic development and increase the profitability of the forestry sector within and outside the EU. This would also have global positive consequences, especially in ambitious economies such as China where the forest sector is highly export oriented and focused on EU and US markets.

Such additional legislation combined with technical and financial assistance provided under Voluntary Partnership Agreements would form an important incentive to producer countries to improve their forestry policy and develop an ecologically sustainable and socially responsible forestry sector in the long term. Improved forest governance and law enforcement could increase tax revenues in producer countries, which could be used to promote sustainable forest management and thus to benefit local communities dependent on forests, who suffer most from forest destruction driven by uncontrolled commercial logging for international markets. In addition, improving forest governance in tropical countries is essential to reduce emissions from deforestation and forest degradation (REDD).

5 Evaluation of results

The analysis of EU foreign trade data based on available estimates on illegal logging levels in producer countries indicates that the quantity of products manufactured from illegally logged wood and imported into European Union in 2006 is significant. **It can be assumed that the illegal share of illegally logged wood based products imported by the EU ranges from 16% to 19%.** This covers all products made of wood, including pulp and paper. **By far the largest quantity of illegal timber is probably imported from Russia**. The imports from Russia and other Eastern European countries mainly comprise round and sawn wood.

These findings are consistent with the results of previous reports published by other organisations. For example the report published by the American Forest & Paper Association[7] in 2004 which calculated the share of illegal or suspicious share of wood imports into the EU 15 to be in range of 7 % for softwood lumber up to 25 % for hardwood logs and plywood. The report also concludes that suspicious imports were sourced primarily from Russia and now-acceded EU countries[7].

The FLEGT Action Plan would be able to reduce direct illegal wood imports from Russia and Eastern Europe as well as from West and Central Africa, as the FLEGT regulation applies for roundwood, sawnwood, plywood and veneer, thus covering the majority of imports from these regions. The regulation could also cover a portion of these imports from Brazil, which are considered to be critical in terms of legality – timber products mainly comprising plywood and sawnwood. However, the European Commission is not carrying out negotiations on Voluntary Partnership Agreements (VPAs) with either Russia or other Eastern European countries, nor with Brazil, which is by far the most important South American supplier of illegal wood. Five years after the adoption of the FLEGT Action Plan the European Commission entered into formal negotiations with just five countries – Indonesia and Malaysia, Ghana, Cameroon and the Congo. The launch of negotiations with other African states (the Central African Republic, Gabon, the Democratic Republic of Congo, and Liberia) is foreseen for 2008 or later[43]. If all the proposed partnerships with African countries are agreed and successfully implemented, FLEGT could exclude illegal timber from nearly all relevant direct EU imports of roundwood, sawnwood and veneer from Africa – with the exception of Cote d'Ivoire, a relevant producer country where illegal logging is widespread. In addition, the FLEGT regulation does not cover imports of charcoal from Nigeria, one of the countries with the highest rate of deforestation worldwide.

The gaps in the FLEGT Action Plan become evident in regard to timber imports from South East Asia, as these imports largely comprise furniture and other finished products, which are not covered by the regulation for a FLEGT Licensing Scheme. This means that FLEGT Licensing Scheme, if not extended to other wood based products, would cover just 13 % of the timber imports from Indonesia, because the vast majority of products imported from Indonesia are furniture and other manufactured wood products as well as pulp and paper.

Moreover, there is no Voluntary Partnership Agreement (VPA) foreseen between the EU and China, which has become a major player in the global timber trade over recent years. While the some steps have been taken by the EU towards China to reach convergence in this area, the schedule and expected results remain unclear[44]. This shows another serious loophole of the FLEGT regulation. If a bilateral voluntary FLEGT partnership with the EU is not agreed, countries like China can continue to import cheaper timber from illegal sources and obtain a further cost benefit in addition to lower procession costs. As a substantial share of these products manufactured from illegal timber is finally exported to the European market, this loophole also might distort competition to the disadvantage of the European forest industry.

China predominantly imports from critical regions such as the Far East of Russia, South-East Asia and Africa. The majority of imported wood, which is mainly roundwood, is re-exported after processing, largely as furniture and other ready processed wood products, but also as plywood and paper.

Exports of wood and paper products from China to the EU almost tripled between 2003 and 2006, i.e. within 3 years[v]. However, China has become aware of FLEGT and is trying to identify its role in the FLEGT process. Working with the China State Forestry Administration, WWF-China and IUCN China have recently sent representatives to Africa to understand the FLEGT process.

According to the analysis of EU foreign trade data based on available estimates on illegal logging levels in producer countries, in 2006 the European Union imported between **26.5 and 31 million m^3** (RWE) timber from illegal or suspicious sources, mainly in the form of products manufactured from illegal wood. Even if Voluntary Partnership Agreements with all countries foreseen were concluded and successfully implemented, the FLEGT Licensing Scheme would reduce the illegal timber imports into the EU by just **2.0 to 2.5 million m^3** (RWE) at best (Table 14).

More than 90% of the illegal timber imports into the EU are not captured by FLEGT regulation and licensing scheme, because:

- **no VPA negotiations are planned with the most relevant producer and transit countries concerned by illegal logging and related trade (e.g. Russia, Brazil, China, Eastern European countries)**
- **many of the imported products manufactured from illegal wood are not covered (e.g. furniture and other finished wooden products, profiled wood, paper, charcoal and firewood**).

Moreover, the FLEGT Action Plan does not address sufficiently the fact that following the recent EU enlargements illegal logging has become an internal problem within the European Union challenging some of the new Member States.

Partner country	**Illegal quantity of imports captured by FLEGT**	**% share of illegal imports**
Indonesia	550,000 m^3 (RWE) mainly plywood and sawnwood	13%
Malaysia	145,000 m^3 (RWE) especially sawnwood and plywood	52%
Cameroon	630,000 m^3 (RWE) especially sawnwood	98%
Ghana	140,000 m^3 (RWE), especially sawnwood	81%
Gabon	580,000 m^3 (RWE) roundwood, veneer and sawnwood	99%
Democratic Republic of Congo	225,000 m^3 (RWE) especially roundwood	95%
Republic of Congo	175,000 m^3 (RWE) especially roundwood	97%
Central African Republic	40,000 m^3 (RWE) especially roundwood and	100%
Liberia	There were no wood imports into the EU in 2006 due to the UN embargo	

Table 14: Effects of the licensing scheme on direct imports of illegal timber from FLEGT partner countries to the EU

Therefore, strong EU legislation is needed which guarantees that only timber and wood based products from legal sources are placed on the European market. Legislation should put the onus on companies that trade in wood products to meet standardised legal verification requirements[19]. Also illegal timber imports via transit countries could be addressed by legality verification systems and traceability schemes.

Legislation should cover all countries of origin, including those inside the EU, in order to level the playing field and to apply with WTO rules preventing discrimination against states outside the EU. Such legislation should also tackle illegal logging in EU Member States. Moreover, such legislation could create equal opportunities for local forestry in a global competitive market and could promote ecologically and socially responsible forest management.
The legislation will need to be supported by the Voluntary Partnership Agreements in order to address the underlying causes of illegal logging, ranging from poverty and corruption to the development of an operational forestry management, effective controls and legal implementation[19]. EU states facing challenges in addressing illegal logging should be supported through comparable measures.

However, a legal origin is just the first step towards sustainable forest management, the long-term aim of the FLEGT Action Plan. Responsible consumers and companies can avoid timber from illegal and unsustainable sources by buying only products certified by the Forest Stewardship Council (FSC), which guarantees both legality and sustainability.

6 Requirements for action

6.1 For the EU

WWF calls for strong EU legislation, which will hopefully be put forward by the EU Commission in 2008 to ensure only legal wood should be offered for sale in the European market. Operators should prove the origin and legality of the wood, and inspections should take place at the points of sale within the EU. Only a law with these features, covering all wood products can significantly reduce illegal logging and associated trade in a foreseeable time frame.

For WWF[19], EU legislation should address the following aspects:

- **Ensure that only timber products from legal sources and well managed forest are placed on the European market.** The goal should be to contribute to halting illegal logging, deforestation and forest degradation and related carbon emissions and biodiversity loss, while at the same time promoting sustainable economic growth, sustainable human development and respecting indigenous peoples.
- **Place the onus on companies to demonstrate compliance with the requirements of the law** and provide for an efficient regime of penalties to deter serious infringements;
- **Define the range of compliance issues to be addressed in assessing, whether timber is legally sourced**: The scope of these requirements should be defined with reference to the three pillars of sustainable forest management and to multilateral environmental agreements.
- **Provide for a standardised legal verification system that companies must apply**, including effective traceability and chain of custody systems.
- **Cover all wood products, including secondary-processed products**, paper and packaging as well as raw material used for energy production, such as wood chips.
- **Address illegal logging within the EU**. To level the playing field, the same legislation should apply both to wood sourced within the EU and from abroad.

Even though legislation can require companies to prove that they are implementing systems that meet the legislative requirements, the responsibility for eliminating trade in illegal wood cannot lie within industry alone. The EU, who is responsible for legislation, has to ensure that clear standards for business are set, legislation is implemented in a cost effective, clear and non-discriminatory manner and provide reliable control mechanisms for implementation. The EU should help companies to implement control systems and provide information about the current legal and administrative framework in wood exporting countries. This could be achieved through close cooperation with NGOs.

6.2 For companies

Companies should orient their procurement policy in accordance with the following criteria:

- No wood procurement should affect forests that deserve special protection (Intact Forests and HCVF – High Conservation Value Forests)
- Companies should source of their wood products by mentioning the country of origin
- Timber procurement according to ecological and social criteria in accordance with the FSC system.

In the two WWF publications 'Keep it legal manual (2006)[45] and 'Responsible Purchasing of Forest Products Guide' (2006)[46] a detailed description is given of how companies can orient their business policy to sustainable management and procurement, by eliminating illegal wood from the procurement chain through product chain certification (Chain of Custody) and support companies or branches in problem countries to develop a policy of this type.

6.3 For consumers

As purchasers of wood and paper products for either private or business purposes, companies and consumers play an important role in combating illegal logging. **WWF advises business and private consumers to only buy wood and paper products that are certified in accordance with the principles and criteria of the Forest Stewardship Council (FSC) and which bear the FSC label.**

WWF supports the FSC as the only current international certification system whose stipulations guarantee a compatible with nature, socially responsible and economically sustainable use of wood and paper products. The FSC standards are valid worldwide and are adapted to local circumstances. The entire trading chain up to the final user is tested annually by authorised certifying inspectors, who check from the forest via all of the production stages up to the finished product.

Appendix:

Annex A Calculation Method

The basis to calculate the imports of wood based products and their illegal share is the EU foreign trade data statistic of 2006. The data sets are available on the website of Eurostat[vi].

Calculation of total imports

The different products are grouped in the foreign trade statistic according to the international uniform nomenclature for product positions, respectively tariff numbers who are assigned with an 8 digit number. To be able to develop the total import on the basis of the individual imports, the different wood based products need to be converted into a consolidated unit, the round wood equivalent (RWE) in m³. The round wood equivalent specifies the amount of roundwood in solid cubic metre that is needed to produce 1 ton of the respective product. The conversion factors which are related to the position numbers are available via the Bundesforschungsinstitut für Ländliche Räume, Wald und Fischerei (Johann Heinrich von Thünen Institut)[vii], Hamburg.

The term "wood based product" includes all goods that are derived from wood through its processing. Processing includes as well the mechanical and chemical decomposition of the raw material. The term includes various goods like roundwood, sawnwood, carvings, furniture but as well pulp and paper, whose import quantities can only be added in a reasonable way after being converted into round wood equivalent[47]. This method, developed by the Bundesforschungsinstitut für Ländliche Räume, Wald und Fischerei shows a more detailed picture of the wood flow, as it shows, in addition to the amount of raw material needed, the consumption in the end consumer countries.

Calculation of the illegal share of imports

Illegal logging and the trade in illegal wood and wood products is by its nature clandestine. The amount of wood from illegal sources in international trade therefore cannot be accurately calculated but only approximated values provided.

Estimates on the share of illegal logging in the overall commercial logging are available in literature for most of the important wood producing countries that face challenges through illegal logging. This includes Russia, Brazil or Indonesia. A list of the used country specific data can be found in Annex B. As long as neither the exporting nor the importing countries have made arrangements to exclude wood from illegal origin, it has to be assumed that the same amount of illegal wood can be found in the exports of the respective country. At the moment, this is still the case everywhere, as the few voluntary monitoring systems do have gaps and the share of credibly certified wood of the overall traded amount of wood is still low. **The import quantities of wood from illegal origin are therefore the product of the total imports and the amount of illegal logging.** This formula has for example been used for the calculation of imports of illegal tropical timber into the EU[48] and to Germany[59]. The calculations however do not include the wood theft of the local population for subsistence.

This method does have the disadvantage that countries, which are known for a substantial amount of illegal logging, are not covered as no quantitative data about the amount of illegal logging is available.

Therefore a second approach was chosen that was taken over from a study commissioned by the American Paper Association that was published in 2004[7]. The study uses regional averages for countries, where the share of illegal logging of the overall logging is unknown. By inclusion of those wood quantities that are "suspicious" to be from illegal origin a picture can be drawn that better depicts reality. There are still other countries where illegal logging takes place. However, the amount of wood imported from those countries is that small, that they do not affect the overall calculation.

It should be taken into account that the WWF's definition of illegal logging does include all activities during harvesting, transport, processing and trade, which violate the law. The country specific percentages used for the calculation often do only include the illegal activities during harvesting. For

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[vi] http://www.ec.europa.eu/eurostat
[vii] http://www.vti.bund.de/de/

example, according to the Russian Forest Club, a group of Non Governmental Organisations (NGOs), legal wood from Russia is rather the exception if infringements are included that are taking place after the harvesting process[49].

Calculation of illegal imports via transit countries

A large amount of wood based products is not directly imported from critical regions to countries in the EU, e.g. Germany but via one or more third countries, the so call transit countries. The wood is partly further processed in those countries due to the low costs before it is re-exported. These imports cannot directly be traced through the foreign trade statistic. However, it is possible to calculate the share of illegal wood in the overall amount of wood, that is available for the domestic consumption and the exports of the respective transit country[7] This overall amount of wood, that is circulating on the market of the transit country, consists of the domestic harvesting of the respective country and its imports.

Process to calculate imports of wood based products deriving from illegal sources

A Microsoft Access database was used to do these calculations for 250.000 datasets of Eurostat foreign trade data 2006.

Step 1	The total weight (tonnes) of every product position of the annual imports from every country is converted to roundwood equivalents (m^3) by multiplying Eurostat data with a conversion factor specific for each product position	RWE (m^3) = Weight (t) * conversion factor (m^3/t)
Step 2	The total EU import from each country is calculated by adding the RWE figures of all product positions imported from this specific country (calculated in Step 1)	$\text{Total Import}_{\text{country A}}$ (m^3 RWE) = $\text{Import}_{\text{product 1}}$ (m^3 RWE) + $\text{Import}_{\text{product 2}}$ (m^3 RWE) + …
Step 3	The illegal EU import from a specific country is calculated by multiplying the total import (m^3 RWE) from this country with the share (%) of illegal logging in this country as referred in literature	$\text{Illegal Import}_{\text{country A}}$ (m^3 RWE) = $\text{Total Import}_{\text{country A}}$ (m^3 RWE) * $\text{Share of illegal logging}_{\text{country A}}$ (%)
Step 4	The total EU imports of wood based products deriving from illegal sources is calculated by adding the illegal imports from all countries	Total illegal import (m^3 RWE) = $\text{Illegal Import}_{\text{country A}}$ (m^3 RWE) + $\text{Illegal Import}_{\text{country B}}$ (m^3 RWE) + …

Annex B Estimates for illegal logging in different regions

Illegal logging in Eastern Europe, North Asia and the Balkan region

Country	Amount of illegal logging	Source
Russia	27% in North West Russia 50% in the far East of Russia	Taiga Rescue Network; 2005[50] World Bank, 2006[51]
Tadzhikistan	20 – 30 %	SAVCOR; 2005[52]
Bosnia-Herzegovina	80%	EUFOR; 2006[53]
Serbia-Montenegro	over 50% private owned forest 5% state forest	UNECE/FAO, 2004[54]
Macedonia	25-30%, mainly fuelwood	UNECE/FAO, 2004[55]
Albania	81 %	SAVCOR; 2005[52]

A new forest code of the Russian Federation was set in force since January 2007. However, it seems unlikely, that the new forest code will combat effectively illegal activities in the forest sector. In contrast, due to the short time frame, forest regulations and legal acts were not adapted to the new forest code before its implementation. That means, formally speaking, all timber logged in 2007 might be harvested with violations of Russian forest legislation.

Illegal logging in new EU Member States

Country	Amount of illegal logging	Source
Estonia	50%	Taiga Rescue Network; 2005[50]
Latvia	20%	Taiga Rescue Network; 2005[50]
Bulgaria	40% of industrial logging	WWF, 2005[56]
Slovakia	10%	WWF, 2004[57]

Illegal logging in Western and Central Africa

Country	Amount of illegal logging	Source
Cameroon	50 %	OECD; 2007[23]
Gabon	70 %	World Bank, 2006[51]
Ghana	60 %	World Bank, 2006[51]
Nigeria	90 %	Rainforest Resource Development Centre, 2004[58]
Equatorial Guinea	50 %	BFH; 2006[59]
Benin	80 – 90 %	OECD; 2007[23]
Mozambique	50 %	OECD; 2007[23]

Illegal logging in South East Asia and China

Country	Amount of illegal logging	Source
Burma	50%	BFH; 2006[59]
China	32% through imports	Seneca Creek, WIR, 2004[7]
Indonesia	73%	OECD; 2007[23]
Cambodia	94%	OECD; 2007[23]
Laos	45%	World Bank, 2006[51]
Malaysia	11,8 % through imports	Australian Institute of Criminology; 2008[60]
Papua New Guinea	70%	Seneca Creek, WIR, 2004[7]
Philippines	46%	WWF; 2005[61]
South Korea	30%	WWF; 2005[61]
Taiwan	45% through imports	WWF; 2005[61]
Thailand	40% through imports	World Bank, 2006[51]
Vietnam	22-39% through imports	BFH; 2006[59]

Illegal logging in Latin America

Country	Amount of illegal logging	Source
Brazil	47% in natural forests	Imazon, 2003[62]
Bolivia	80-90%	World Bank, 2006[51]
Colombia	42%	World Bank, 2006[51]
Peru	80%	World Bank, 2006[51]
Ecuador	70%	Seneca Creek, WIR, 2004[7]
Mexico	70 %	FAO; 2003[63]
Nicaragua	50%	OECD; 2007[23]
Honduras	75-85%	OECD; 2007[23]

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WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

- conserving the world's biological diversity
- ensuring that the use of renewable natural resources is sustainable
- promoting the reduction of pollution and wasteful consumption

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