- *Roundwood harvests in the UNECE region reached the highest level in five years in 2012, mainly thanks to improved sawnwood demand in the US and China's continued need for imported logs and sawnwood.*
- *In 2012, removals of industrial roundwood in the UNECE[4,5] region increased to just under a billion cubic metres.*
- *Wood energy markets have continued to expand as government and industry policies have encouraged the production of heat and electricity from biomass throughout the UNECE region.*
- *Wood is the main source of renewable energy in the UNECE region, accounting for 38.4 % of all renewables.*
- *Demand for wood-biomass energy within the UNECE region is set to double by 2030.*
- *Efforts to exclude illegal timber from markets were strengthened via the EU Timber Regulation (EUTR) and the Lacey Act in the US.*

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An overview of 2013 meeting of the United Nations Economic Commission for Europe (UNECE) Committee on forests and the forest industry[1,2]

Eoin O'Driscoll[3]

Introduction

The December 2013 meeting of the United Nations Economic Commission for Europe (UNECE) Committee on Forests and the Forest Industry discussed:

- roundwood harvest,
- key regional markets,
- key sectoral markets,
- wood-biomass energy and
- green building.

Roundwood harvest in the UNECE region (2011-2013)

In 2012, total consumption of industrial roundwood in the UNECE region reached its highest level seen since 2007. Over the past 3 years, consumption of industrial roundwood increased by 22 % to reach a total of just under one billion m^3 in 2012.

The harvest of industrial roundwood in Europe remained practically unchanged at 369.4 M m^3 (Table 1). In 2012, softwood removals were responsible for 76 % of this harvest.

1. *Demand is taken as the demand for forest products within the UNECE region. Data are taken from the Seventy-first session of the UNECE Committee on Forests and the Forest Industry, Rovaniemi, Finland, December 2013; http://www.unece.org/index.php?id=31343#/*
2. *This meeting was formerly called the UNECE Timber Committee Meeting.*
3. *eoin@drima.com*
4. *The UNECE region covers more than 47 million square kilometres. Its member States include the countries of Europe, but also countries in North America (Canada and the United States), Central Asia (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan) and Western Asia (Israel); http://www.unece.org/oes/nutshell/region.html*
5. *http://www.unece.org/oes/member_countries/member_countries.html*

Table 1: Industrial roundwood harvest in the UNECE region (2011-2013f)[6].

Region & roundwood category	2011	2012	2013f
		M m³ UB	
Europe			
Removals	373.6	369.4	371.7
Imports	54.1	51.1	51.7
Exports	41.3	38.2	38.0
Apparent consumption[7]	386.4	382.3	385.4
CIS			
Removals	197.6	193.7	199.2
Imports	0.5	0.5	0.5
Exports	26.0	21.8	22.6
Apparent consumption	172.1	172.4	177.1
North America			
Removals	444.4	461.2	462.2
Imports	5.2	6.0	5.9
Exports	11.0	16.2	16.3
Apparent consumption	438.6	451.0	451.8
UNECE region			
Removals	1,015.6	1,024.3	1,033.1
Imports	59.8	57.6	58.1
Exports	78.3	76.2	76.9
Apparent consumption	997.1	1,005.7	1,014.3

In 2012, timber harvests in the CIS[8] were marginally lower than in 2011. The majority of the removals were in the Russian Federation (177.5 M m³), with Belarus and the Ukraine each harvesting 8 M m³ per annum.

The Russian Federation was for a long time by far the largest exporter of softwood logs in the world, but after the introduction of a log export tariff of 25 % in 2008, exports fell dramatically. From 2008 to 2012, shipments were down by half, from 25 M m³ to 12.5 M m³. This decline has continued during 2013, with another 13 % reduction in shipments during the first five months as compared with the same period in 2012.

In August 2012, the Russian Federation joined the World Trade Organisation (WTO). As part of the negotiations for accession to the WTO, the Russian Government lowered its export taxes to 13 % for spruce and 15 % for pine logs. The new proposed tariff for birch logs will actually be higher than the current tariffs for small diameter logs at 7%.

Removals of industrial roundwood from North American forests increased by 4 % over 2011, making 2012 the third consecutive year with higher removals. This was largely driven by the improvement in the North American housing sector, which saw housing starts grow by 28.5 % over 2011.

Consumption of forest products in the UNECE region (2008-2012)

The overall situation of forest products markets in the UNECE region was mixed (Table 2). European markets continued to suffer as a result of the prolonged recession and stagnation in the sub-region. A notable exception to this trend in Europe has been Turkey, which has seen major growth in the consumption of most forest products.

Table 2: Apparent consumption of forest products by product in the UNECE region (2008-2012)[9].

Region & product(s)	Unit	2008	2009	2010	2011	2012	% change (2008-2012)
Europe							
Industrial roundwood	M m³	391.1	342	385.7	386.4	382.4	-2.2
Sawn timber	M m³	101.7	92.2	101.9	101.5	98.6	-3.0
Wood-based panels	M m³	69.9	61.5	66.6	67.4	66.9	-4.3
Paper & paperboard	M t	97.4	87.7	94.4	92.9	89.1	-8.52
CIS							
Industrial roundwood	M m³	112.2	100.9	126.3	172.1	171.9	53.2
Sawn timber	M m³	18.2	17.4	17.5	17.8	18.3	0.6
Wood-based panels	M m³	14.4	10.5	12.7	15.4	15.8	9.7
Paper & paperboard	M t	9.1	8.5	9.3	9.6	9.2	1.1
North America							
Industrial roundwood	M m³	466.0	398.4	414.2	433.4	444.9	-4.5
Sawn timber	M m³	110.4	83.5	87.3	87.0	93.2	-15.6
Wood-based panels	M m³	52.0	46.7	47.3	45.6	46.4	-10.8
Paper & paperboard	M t	89.7	78.4	83.2	79.7	78.0	-13.0
UNECE region							
Industrial roundwood	M m³	969.3	841.3	926.2	991.9	999.2	3.0
Sawn timber	M m³	230.3	193.1	206.7	206.3	210.1	-9.6
Wood-based panels	M m³	136.3	118.7	126.6	128.4	129.1	-5.6
Paper & paperboard	M t	196.2	174.6	186.9	182.2	176.3	-11.3

Growth has been moderate in the CIS, Investment in new plants, the Russian Federation's accession to the World Trade Organisation (WTO), stronger domestic consumption and the proximity of key export markets for most products have given the sub-region grounds for optimism.

North America has seen fairly strong and positive movements in most forest products markets. This is due to the recovering housing sector, the improved economic situation in the US and increased exports of North American forest products to Asia.

6. *http://www.unece.org/fileadmin/DAM/timber/publications/FPAMR2013.pdf*
7. *Apparent consumption = (production + imports) – exports.*
8. *Members of the CIS are: Azerbaijan, Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, the Russian Federation, Tajikistan, Turkmenistan, Uzbekistan and Ukraine:http://www.cisstat.com/eng/cis.htm http://www.cisstat.com/eng/cis.htm*
9. *http://www.unece.org/fileadmin/DAM/timber/publications/FPAMR2013.pdf*

Regional overviews (2012)

North America[10]

In 2012, removals of industrial roundwood increased by 4 % in North America over 2011 (Table 1). The biggest increase occurred in Canada, where harvest levels in 2012 were almost 34 % higher than in 2009, while US removals were up by only 7 %. Much of this growth occurred in the western region of North America, where demand for sawlogs has been on the rise in recent years due to the substantial expansion in shipments of both sawlogs and sawnwood to China. In 2012, the export of logs from North America to Asia grew for the third consecutive year to reach a record high of 22 M m^3.

The housing market is the key driver of forest product use in North America. It is estimated that 70 % of the demand for structural building materials in North America is linked to the demand for residential housing, with almost 40 % of the sawnwood consumed in the US being used in new residential construction.

Since 2009, US housing starts have continued to rebound and increased for the third consecutive year in 2012 to reach 781,000 units. In 2012, in the wake of improving housing markets, the consumption of sawn softwood in North America increased by 8.2 % over 2011 to reach 78 M m^3 (Table 4).

It is forecast that US housing starts will reach 1.2 to 1.4 million by 2015, further stimulating the North American market for forest products.

During 2012, North American sawn hardwood consumption increased by 1.3 % to 14.8 M m^3 (Table 5). This was bolstered by the economic recovery in the US.

However, North American hardwood production is only at 50 % of the peak levels before the economic crisis, leading to supply shortages and rising prices during 2012-13. Approximately 90 % of the hardwood resource in the US is owned by non-industrial private owners.

In the wake of increased US housing starts, demand for wood-based panels increased significantly in North America for the first time since 2006 (Table 2). In 2012, the North American demand for structural panels was up by 11.6 % for OSB and 3.8 % for softwood plywood[11]. However, over the same period, the North American demand for particleboard and hardboard declined by 4.4 % and 6.9 % respectively, while the demand for MDF grew by 10.3 %.

New Zealand and the US have since become major log suppliers to the fast-growing Chinese market. In June 2013, New Zealand became the largest supplier of roundwood to the Chinese market[12].

Table 3: US housing starts by type (2000-2015f)[13,14,15].

Year	Single-use	Multi-family	Total
	000 homes		
2000	1,242	332	1,574
2001	1,256	315	1,571
2002	1,325	323	1,648
2003	1,386	292	1,679
2004	1,532	310	1,842
2005	1,636	296	1,931
2006	1,655	325	1,980
2007	1,218	284	1,503
2008	819	301	1,120
2009	520	274	794
2010	496	155	652
2011	447	138	585
2012			781
2013f	680	210	990
2014f	820	350	1,170
2015[f]			1,200

Table 4: Sawn softwood balance in North America (2007-2013f)[16].

Item	2007	2008	2009	2010	2011	2012	2013f	% change (2011-2012)
	M m^3							
Production	110.7	89.9	71.6	79.9	82.9	88.2	90.4	6.4
Imports	31.5	22.0	15.6	16.7	16.2	17.8	18.3	9.9
Exports	33.8	25.2	20.4	24.3	26.8	27.6	28.6	3.0
Apparent consumption	108.4	86.7	66.8	72.3	72.3	78.4	80.1	8.4
2007 = 100		80.0	61.6	66.7	66.7	72.3	73.9	

Table 5: Sawn hardwood balance in North America (2007-2013f)[17].

Item	2007	2008	2009	2010	2011	2012	2013f	% change (2011-2012)
	M m^3							
Production	27.0	24.6	17.3	16.4	16.2	16.8	17.0	3.7
Imports	2.3	2.0	1.3	1.2	1.2	1.1	1.2	-8.3
Exports	3.6	2.7	1.9	2.6	2.7	3.1	3.1	14.8
Apparent consumption	25.7	23.9	16.7	16.4	14.7	14.8	15.1	0.7
2007 = 100		93.0	65.0	58.4	57.2	57.6	58.8	

[10] *http://www.unece.org/fileadmin/DAM/timber/meetings/20131209/4-North_America.pdf*
[11] *http://www.unece.org/fileadmin/DAM/timber/meetings/20131209/4-Brose.pdf*
[12] *http://www.greenheartgroup.com/downloads/Media/13-07-25%20China%20Imports%20-%20Press%20Release.pdf*
[13] *http://www.econstats.com/hs/hs_a15.htm*
[14] *http://www.calculatedriskblog.com/2012/10/wells-fargo-raises-housing-forecasts.html*
[15] *f: forecast*
[16] *http://www.unece.org/fileadmin/DAM/timber/publications/FPAMR2013.pdf*
[17] *http://www.unece.org/fileadmin/DAM/timber/publications/FPAMR2013.pdf*

Commonwealth of Independent States (CIS)[18,19]

In 2012, consumption of roundwood in the CIS was practically unchanged on 2011 (Table 2). In 2012, 194 M m^3 of roundwood was harvested in the CIS. 91 % of this harvest (177.5 M m^3) was supplied by the Russian Federation with Belarus and Ukraine each harvesting an additional 8 M m^3.

Europe

Over the last year, the European housing market remained stagnant due to the ongoing sovereign debt crisis. An improvement in housing output is not expected until 2014 at the earliest.

In 2012, the European debt crisis was responsible for a 3 % decline in the consumption of sawn softwood (Table 2). This was especially felt in larger markets; Germany (-6.1 %), France (-6.7 %), Italy (-13.7 %), Netherlands (-13.8 %), Sweden (-15.1 %) and Finland (-18.9 %), where the drop in consumption volume was far more severe than in the rest of Europe.

However, in some parts of Europe, there were also signs that the worst could be over. In 2012, consumption of sawn softwood grew in the UK (+4.3 %) and Turkey (+3.2 %). After suffering some of the greatest consumption losses in Europe; Ireland (+17.2 %) and Spain (+20.6 %) showed huge rebounds.

However, there's still oversupply in the European sawmill industry. This has resulted in low profitability and losses. With weak domestic demand, European overseas exports increased by 9 % to 18 M m3 in 2012.

The ongoing economic and financial crises and a low level of construction activity led to a 3.4 % decline in European consumption of sawn hardwood to 12.9 M m3 during 2012. Although market conditions recovered in the first half of 2012, they deteriorated again in the second half.

Increasing demand for wood-based panels (WBP) in Turkey largely helped to offset weak demand within the rest of Europe. European particleboard production fell by 3.1 % in 2012, while both MDF (+4.2 %) and OSB (+3.6 %) production saw moderate growth. In 2013, the European demand for wood-based panels was projected to increase by 1.1 %.

In 2012, the pulp, paper and paperboard market remained in flux due to on-going large reductions in graphic paper capacity in Europe. This was largely driven by changing consumer demand and by the ongoing growth of digital media.

Sectoral overviews (2012)

Sawn softwood

In line with mixed global economic trends, 2012 was characterised by recovery in North America, recessionary conditions in most of Europe and stable results in the CIS.

The continuing economic uncertainty in Europe took its toll on the construction market. This had a direct impact on the market for sawn softwood, with consumption dropping by 2.8 % to 85.7 M m^3.

In 2012, the output of sawn softwood in the CIS increased by 2.9 % to 33.88 M m^3. The Russian Federation accounted for almost 89 % of this output. In 2012, sawn softwood production in the Russian Federation increased by 3.4 % to 30.04 M m3. The three largest producing regions in the Russian Federation (i.e. Irkutsk, Krasnoyarsk and Arkhangelsk) accounted for more than 50 % of the total sawn softwood output.

In 2012, after a 28.5 % gain in US housing starts, the apparent consumption of sawn softwood in North America grew by 8.2 % to 78.33 M m^3. This was based on 7.6 % growth in the US to 62.54 M m^3 and Canada's growth of 10.8 % to 15.79 M m^3.

Sawn hardwood

In 2012, the consumption of sawn hardwood in the UNECE region was 29.6 M m^3, a 0.7 % decline on 2011. Consumption across the region has fallen in every year since 2007. In 2012, a slight increase in consumption in North America and in the CIS was offset by a fall in consumption in Europe.

Europe's hardwood sawmilling sector continues to face major challenges. However the exports of hardwood logs to countries outside Europe are having an impact on the sector, especially in Belgium, France and Germany.

Outside the UNECE region, the Asia-Pacific region continued to dominate the sawn hardwood trade. This is increasingly being diverted from the European Union (EU) to China. World imports of tropical sawn hardwood continued to rebound from a record low in 2009 to reach 10.1 M m^3 in 2011, although growth slowed in 2012. Most of the growth has occurred in China, Thailand and the US, while demand in the EU was affected by the deteriorating economic situation in the eurozone. Strong domestic demand in the ASEAN-5 economies (i.e. Indonesia, Malaysia, the Philippines, Thailand and Vietnam) has continued to divert the ASEAN sawn hardwood trade to within the region.

In the long term, there is likely to be continuing strong demand for North American and European hardwood logs from China and Vietnam, but also rising demand for sawn temperate hardwood in China, Southeast Asia and Latin America. These opportunities are all the more welcome in the light of a likely slow market recovery in traditional markets of Europe and North America[20].

[18] *http://www.unece.org/fileadmin/DAM/timber/publications/FPAMR2013.pdf*

[19] *The countries of the CIS are: Azerbaijan, Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Uzbekistan and the Ukraine: http://www.cisstat.com/eng/cis.htm*

[20] *http://www.unece.org/fileadmin/DAM/timber/publications/06.pdf*

Tropical hardwood[21,22]

In 2011, oak has continued to consolidate its dominant market position in the European flooring and joinery sectors. Tropical hardwoods have continued to lose market share due to limited product availability and to increased competition from the development of innovative new products for use in external applications. Over the period 2008 to 2011, tropical hardwood's share of the European wood flooring market declined from 14.7 % to 7.4 %.

During 2011, tropical sawn hardwood continued to lose market share in Europe. Exports of tropical sawn hardwood to the EU-27 for 2011 were 1.16 M m^3, a 3 % decline over 2010. In 2011, tropical hardwoods accounted for 43 % of all hardwood imports to the EU-27, down from 45 % in 2010. These figures compare to a 53 % market share for tropical hardwood which was typical a decade ago[23]. This has been caused by a combination of factors. The availability of tropical hardwoods to European buyers has declined following the closure of many sawmills in key African producer countries during the recession and by the increased diversion of tropical sawn timber to China and to other regional markets in the tropics.

In 2012, EU imports of sawn tropical wood were just under 1 M m^3, a 13 % reduction on 2011 and only half the volume which was imported in 2008.

In addition, around 30 companies across Europe are now operating thermal treatment plants with a total capacity of over 300,000 m^3. This market has grown from an output of 100,000 m^3 in 2007[24]. These companies offer a widening range of heat-treated temperate hardwood and softwood products that are marketed as alternatives to tropical hardwood in the external joinery and furniture sectors[25]. In France such heat treated products are being used for decking and cladding[26].

The production and trade data for tropical forest products are shown in Table 6.

Table 6: Production and trade of primary tropical forest products (2007-2011)[27,28,29,30].

Product & item	2007	2008	2009	2010	2011	% change 2010-2011
			M m^3 UB			
Roundwood						
Production	141.8	145.6	141.7	138.4	137.66	-0.5
Imports	15.3	13.2	11.5	13.6	14.34	5.4
Exports	13.6	12.9	10.9	12.0	12.12	1.0
Sawnwood						
Production	43.4	43.5	42.4	43.2	42.7	-1.2
Imports	8.8	8.1	6.6	8.3	7.2	-13.3
Exports	11.0	8.9	8.0	9.1	9.7	6.6
Plywood						
Production	20.0	17.8	18.2	18.3	18.4	0.5
Imports	8.1	6.5	5.4	5.1	6.3	23.5
Exports	8.9	7.3	5.3	5.2	7.5	44.2

Wood-based panels[31]

In North America, stronger housing starts in both Canada (+10.8 %) and the US (+26.3 %) drove increased demand for wood-based panels in 2012. As a result, the production of wood-based panels (WBP) in North America increased by 4.9 %. Over the same period, the production of structural panels (i.e. OSB & plywood) grew by over 6 %[32].

In Europe, the demand and consumption of wood-based panels fell in 2012 due to the effects of the ongoing economic turmoil. This was particularly felt in the south of Europe. Both production and imports of wood-based panels fell by 0.5 % in 2012, while exports remained almost un-changed. Increasing demand for wood-based panels in Turkey largely helped to offset weak demand within the rest of Europe. Particleboard production fell by 3.1 % in 2012, while the production of MDF and OSB grew by 4.2 % and 3.6 % respectively. In 2013, the demand for wood-based panels in Europe was projected to increase by 1.1 %.

The wood-based panels sector in the CIS sub-region is expanding rapidly, mainly driven by positive developments in the Russian Federation, but also by increased exports. The Russian Federation accounts for 82.7 % of the production, 75.8 % of the apparent consumption and 72.6 % of the exports in the CIS. However, slowing economic growth within the Russian Federation caused the production of wood-based panels to grow by 4.4 % in 2012 compared to 17.5 % in 2011. The production of WBP in the Russian Federation grew across all three sectors, led by MDF (+5.5 %), while the production of plywood and particleboard increased by 3.5 % and 1.8 % respectively.

[21] *http://www.itto.int/annual_review_output/?mode=searchdata*
[22] *http://www.unece.org/fileadmin/DAM/timber/publications/06.pdf*
[23] *Forest Industries Intelligence, 2012 ; http://www.sustainablewood.com/*
[24] *http://www.unece.org/fileadmin/DAM/timber/docs/tc-sessions/tc-65/md/presentations/17Militz.pdf*
[25] *EUWID, 2010; www.euwid.de*
[26] *http://www.shpmedia.com/images/AT%20Website/Featured%20Article%20Dec%20%2012.pdf*
[27] *http://www.unece.org/fileadmin/DAM/publications/timber/FPAMR_2010-2011_HQ.pdf*
[28] *ITTO annual review and assessment of the world timber situation 2011; http://www.itto.int/annual_review/*
[29] *http://www.itto.int/annual_review_output/?mode=searchdata*
[30] *At the time of writing data for 2012 or 2013 was not available.*
[31] *http://www.unece.org/fileadmin/DAM/timber/meetings/20131209/4-Brose.pdf*
[32] *Structural panels include plywood and oriented strand board (OSB)*

Paper, paperboard and wood pulp

2012 was another challenging year for the global pulp, paper and paperboard industry. Despite significant capacity closures covering several pulp, paper and paperboard grades in Europe, Japan and North America, production capacity is still too high when measured against falling or static demand (across most grades) (Table 2).

In the hope of remaining viable, companies have continued to merge, to dispose of un-profitable and un-wanted mills, to adopt a range of cost-saving measures or to focus on niche markets. It seems inevitable that excess capacity in key commodity graphic grades will result in further reductions in capacity and industry consolidation.

The popularity of the internet and smart phones to transfer data and communicate continued the incentive to reposition advertising dollars from print media to electronic platforms and thus demand for printing and writing grades continued to decline across western Europe, the Commonwealth of Independent States (CIS), North America and Japan. Stagnant or declining demand for paper in developed markets has forced all companies to take a fresh look at their operations.

No major expansion of pulp lines or paper machines is taking place in North America, Western Europe or Japan. In the paper sector, the current trend in mature markets is to convert newsprint machines to paperboard and packaging grades, or to simply permanently idle a machine or entire mill.

In 2012, 25 % of the world's paper was produced in Europe. An overview of the output of the European pulp and paper sector is shown in Table 7.

Table 7: An overview of the European pulp and paper sector (2012)[33].

Item	Unit	Value
Turnover	Billion €	75
Production of market pulp	M tonnes	14
Production of paper	M tonnes	92
Employment	000	185

Wood-biomass energy[34]

Wood is the main source of renewable energy in the UNECE region, accounting for 38.4 % of all renewable energy use. Most of the demand is concentrated in the European Union (EU). Wood pellets dominate international wood energy trade, with Canada, the United States and the Russian Federation being the main exporters of wood pellets to the EU.

The rise of the wood energy market has benefited forest owners, encouraging forest management by opening up market opportunities for lower quality wood and pre-commercial thinning. Currently, 10.2 % of world energy demand is supplied by bioenergy[35].

The most recent data from the UNECE/FAO Joint Wood Energy Enquiry (JWEE)[36] shows that in 2011, wood energy was the principal source of renewable energy, accounting for 38.4 % of all renewable energy use in 28 member countries of the UNECE. By sector, the largest consumer of wood energy is the forest-products sector (46.8 %), followed by the residential (32.6 %) and the power-and-heat sectors (18.3 %).

Eurostat[37] data shows that 327 M m^3 of wood waste was used for energy production in the EU27 region in 2011. This generated an energy output of 3,270 Petajoules (PJ). This represents a 45.6 % rise in absolute wood energy consumption since 2002. The top-five wood energy producers in the EU27 are Germany (15.0 %), France (11.4 %), Sweden (10.5 %), Finland (9.7 %) and Poland (8.1 %).

Wood pellets dominate trade of wood energy feedstock with the EU27. The US was the main exporter of wood pellets to the EU27 in 2012, followed by Canada and the Russian Federation In 2012, total imports into the EU27 from Canada, the Russian Federation, US and the rest of the world reached 4.5 million tonnes. However, trade within the EU27 is still the largest market in the world, accounting for about 4.7 million tonnes of wood pellets

Growth in the EU's wood energy consumption has been primarily driven by a demand for industrial pellets for co-firing, combined heat-and-power (CHP) and district heating and pellets for residential heating. The use of wood-biomass energy within the UNECE region is shown in Table 8.

Table 8: End use of wood-biomass energy within the UNECE region (2011)[38].

Energy use	% energy use
Residential	39
Industrial	38
Power and heat	20
Other	3

In 2013, the European Commission issued a Green Paper entitled 'A 2030 framework for climate and energy policies'[39]. This outlines renewable energy targets beyond 2020. It stresses that by 2030 greenhouse gas emissions should be reduced by 40 % in the EU and by 2050 between 80-95 % in order to be consistent with the internationally agreed target to limit atmospheric warming to below 2°C.

[33] *http://www.unece.org/fileadmin/DAM/timber/meetings/20131209/7-deGalembert.pdf*
[34] *http://www.unece.org/fileadmin/DAM/timber/publications/FPAMR2013.pdf*
[35] *http://www.unece.org/fileadmin/DAM/timber/meetings/20121015/David_Pare__green_life_of_wood.pdf*
[36] *http://www.unece.org/forests/jwee.html*
[37] *http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/*
[38] *http://www.unece.org/fileadmin/DAM/timber/publications/FPAMR2013.pdf*
[39] *http://ec.europa.eu/clima/policies/2030/index_en.htm*

The Green Paper's proposed Energy Roadmap 2050 suggests a share of around 30 % in 2030 for renewable energy of which wood energy in the form of pellets will likely play an important role.

Wood pellets

The European Union (EU) remains the main market in the UNECE region for wood pellets and will remain as such for the next several years.

In just three years, imports of industrial wood pellets into the EU27 countries rose from less than 2 million tonnes a year to 4.5 million tonnes in 2012. The US was the largest exporter of industrial wood pellets, followed by Canada and the Russian Federation. However, trade within the EU27 is still the largest market in the world, accounting for a further 4.7 million tonnes of pellets.

Independent forest certification

The overwhelming proportion (96 %) of certified roundwood supply originates from North America and from Europe. Sustainable forest management (SFM) certification remains low in tropical countries (Table 9).

One of the most significant areas of North American forest that is not certified is the 78 M ha managed by the US Forest Service. To date, it has decided not to seek certification of the forests it manages[40].

Other issues affecting the supply of certified forest products in the UNECE region include;

The US Government moved in 2008 to prohibit the trade of illegally sourced wood under the Lacey Act Amendment[43].

- As of 15 December 2008, an amendment to the US Lacey Act made it unlawful to import certain plants and plant products without an import declaration[44]. This amendment targets the prevention of illegal logging. This requires increased due diligence by US businesses that source and sell forest products[45].
- The Lacey Act is a concern for wood manufacturers in China, Thailand and Vietnam. It has already caused many Asian firms to acquire Chain-of-Custody (CoC) certification in order to track their wood materials through the supply chain[46].
- In May 2012, the Due Care Standard for the Lacey Act addressing illegally logged wood was approved in the United States. This standard provides pathways for meeting the mandate of the Lacey Act using the Forest Stewardship Council (FSC)[47], the Programme for the Endorsement of Forest Certification (PEFC)[48] or an alternative approach developed by the American Hardwood Export Council (AHEC) for its members[49,50].

Table 9: Area and volume of timber produced from certified forests by region (2009-2013)[41].

Region	2009	2010	2011	2012	2013	% of forest area which is certified	Industrial roundwood production from certified forests
			M ha				M m^3
Europe	82.2	85.0	85.3	95.4	100.2	59.6	236.1
N. America	180.3	199.8	201.0	198.0	215.8	35.1	244.2
CIS	25.2	29.9	44.3	47.5	53.4	6.4	10.2
Oceania[42]	10.3	11.6	12.3	13.2	11.9	6.2	3.4
Africa	5.6	7.3	7.6	7.3	7.5	1.1	2.2
L. America	14.6	14.4	16.1	14.7	15.7	1.6	1.2
Asia	3.0	8.6	8.1	9.5	12.5	2.1	4.0
Total	**321.2**	**356.7**	**374.9**	**385.6**	**417.0**	**10.3**	**501.4**

40. http://www.unece.org/fileadmin/DAM/timber/publications/FPAMR2013.pdf
41. http://www.unece.org/fileadmin/DAM/timber/publications/FPAMR2013.pdf
42. Oceania is a region centered on the islands of the tropical Pacific Ocean.
43. www.fs.fed.us/.../Lacey_Act_amendments_public_summary.doc
44. USDA Aphis 2012; www.aphis.usda.gov/plant_health/lacey_act/
45. www.bdlaw.com/news-511.html
46. http://www.unece.org/fileadmin/DAM/timber/meetings/20121015/UN-ECE_2012_Eastin.pdf
47. https://ic.fsc.org/about-us.1.htm
48. http://www.pefc.org/
49. http://www.unece.org/fileadmin/DAM/timber/publications/FPAMR_2012.pdf
50. http://www.americanhardwood.org/sustainability/responsible-sourcing/eu-timber-regulation/

From 3 March 2013, the new EU Timber Regulation (EUTR) makes it illegal to place illegally harvested timber and timber products on the EU market. The legislation requires that due diligence is applied to all timber first placed on the EU market and that traders, further down the supply chain, keep track of from whom timber or timber products were bought from and where applicable, who they were sold to.

- A wide range of timber products, including solid wood products, flooring, plywood, veneered panels and similar laminated wood, cellular wood panels, pulp and paper are covered in the Regulation. Both imported and domestically produced timber and timber products are covered under the legislation[51].
- Recycled products, as well as printed papers such as books, magazines and newspapers are not included in the EUTR.
- The EU Timber Regulation (EUTR) has a due diligence system[52] that recognises both FSC[53] and PEFC[54] programmes.

Case study-the outlook for forest products in Europe (2011-2012)

The market for forest products in Europe remains mixed (Table 10). Demand for sawn timber, plywood and particleboard are suffering from the uncertainty in the European economies and from weak activity in the construction sector. However, markets for OSB and MDF have developed more positively.

The market for graphic papers is suffering due to on-going structural changes in the sector while the market for packaging papers notably that for renewable packaging relatively stable.

Table 10: The outlook for forest products markets in Europe by product (2011-2012)[55].

Product	Production	Consumption	Sectoral issues
	% change in Europe (2011-2012)		
Sawn softwood	-4	-3	Weak construction activity Overcapacity Overseas exports stable Price and availability of sawlogs
Sawn hardwood	+1	-3	Re-manufacturing moving to low cost countries Substitution by lower cost materials Changes in consumer preferences Introduction of the EUTR
Plywood	-8	-7	Price and availability of plywood quality logs in Western and Central Europe Imports from China, Brazil, Chile Market for tropical plywood is declining Weak construction activity
OSB	+4	-1	OSB still in growth stage Substituting other products, mainly plywood, sawn softwood and particleboard New capacity in the Russian Federation and Belarus Market growing in Eastern Europe
Chipboard/Particleboard	-3	-4	Declining consumption in Southern and Western Europe Competition for wood raw material with the bio-energy sector Industry consolidating, mill closures e.g. in the UK, Iberia and France Market growing in Eastern Europe New capacity in the Russian Federation and Belarus
MDF	-1	+9	Southern and Western Europe stagnant Industry consolidating, capacity with closures in the West and South of Europe Market growing in Eastern Europe New capacity in the Russian Federation and Belarus
Packaging paper	0	-2	Stable demand Continued weakness of general economy and sluggish industrial production
Graphic paper	-4	-8	Tumbling demand especially in Western Europe Digital transition Changing consumer habits Weakening export opportunities Overcapacity Prices remain low

[51] *http://www.cpet.org.uk/eutr/timber-and-timber-products*
[52] *http://www.cpet.org.uk/eutr/due-diligence-system*
[53] *https://ic.fsc.org/*
[54] *http://www.pefc.org/*
[55] *http://www.unece.org/fileadmin/DAM/timber/meetings/20131209/1-Europe.pdf*