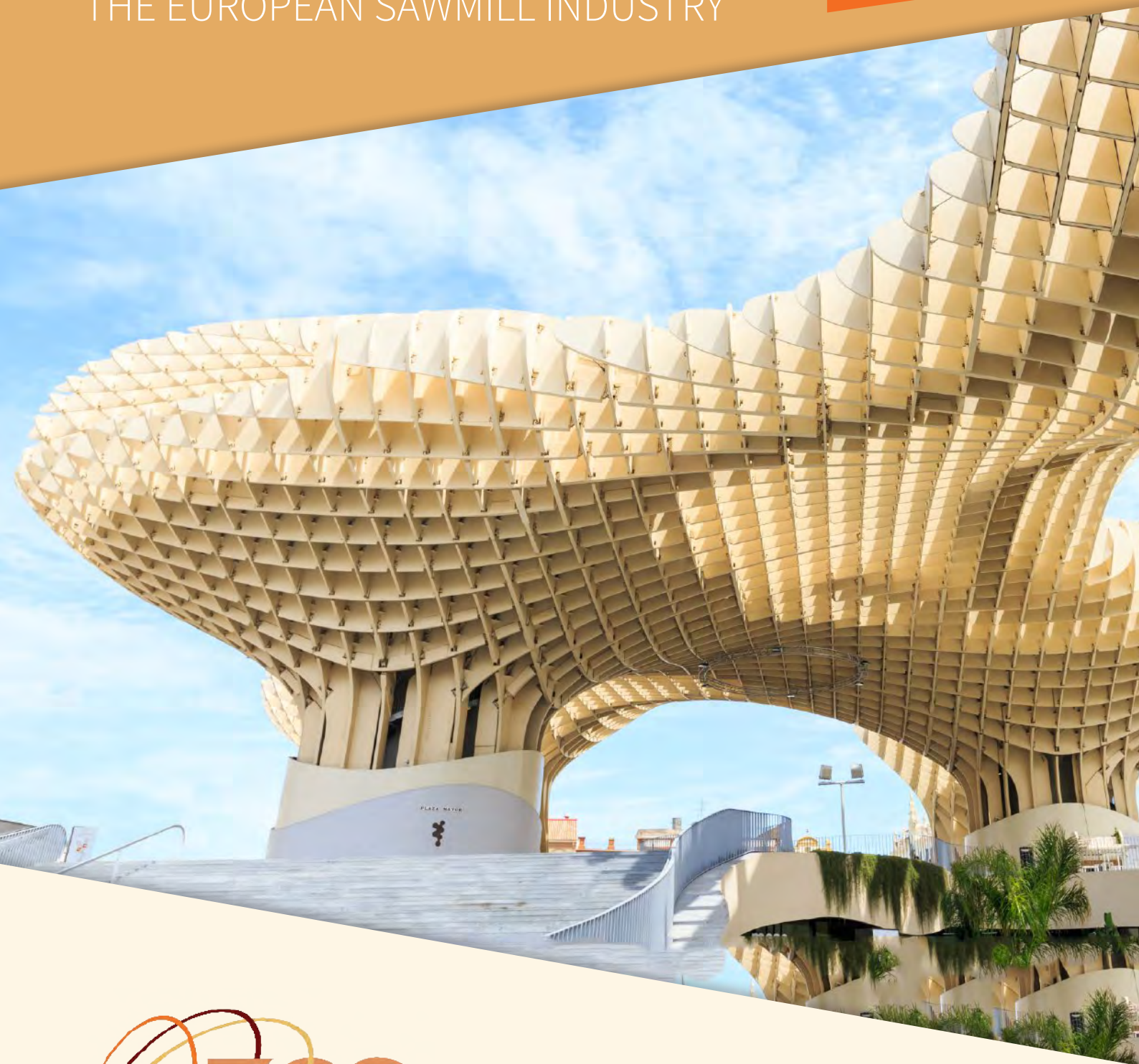


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ANNUAL REPORT OF THE EUROPEAN SAWMILL INDUSTRY



The Parasol Metropoli in Seville is one of the largest wooden buildings in the world

ANNUAL REPORT **2015/2016**

The European Organisation of the Sawmill Industry (EOS) aisbl, an international non-profit association according to Belgian law, represents the interests on the European and international level of the sawmill industries from 13 European countries (Austria, Belgium, Denmark, Finland, France, Germany, Italy, Latvia, Norway, Romania, Sweden, Switzerland and the United Kingdom), producing about 77% of the total European sawn wood output. The sector represents a turnover of around 37 billion EUR and 15% of the overall woodworking and furniture industry in EU28.

The EOS secretariat extends its thanks to all persons and organisations that have contributed to the publication of this report.

Note: the information provided in Chapter 4 “Main results from the EOS Market Survey April 2016” as well as in the country reports is based on information supplied by the EOS member federations and may differ from the information included in other databases or reports. If the EOS member federations could not provide the required information, the EOS secretariat has used information derived from other sources in order to present the full picture.



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Foreword by Sampsa J. Auvinen

EOS President and CEO Norvik Timber Industries

During this first year as EOS President the industry faced a challenging operating environment with oversupply in the market. Even though demand from our home market Europe has bottomed out and albeit we are seeing positive signals in construction, we are not experiencing as strong demand for our products as we had hoped for. During the year our overseas markets, MENA, China, North America and the Far East contributed to an improved supply demand balance. Nevertheless, low oil price and instable geopolitical situation in the MENA region caused instability for our sector especially Pine sawmills. Unfortunately, I do not see any quick fixes for the problems in the MENA region and we will have to cope with this unpredictable environment in the short and medium term. Demand from China continued to grow even though there has been some dark clouds over the Chinese economy. Also exports to other Asian markets developed positively. With the housing starts increasing in the United States, North America started to become a more important market for European sawmills as shipments increased.

The outlook for our sector is nevertheless positive with forecasted economic growth, increased construction and higher demand.

In Brussels I faced the complicated and puzzled structure of the European mechanism. Knowing how the European Institutions operate and having a clear picture of the European legislation can massively contribute to the success of our sector.

This is the reason why EOS decided to enhance its role as a European stakeholder. In order to mark our commitment, our organization actively participated in the European Study on the “cumulative cost impact of EU legislations on the European forest-based industry – CCA Study. With this activity EOS aimed at identifying the economic and administrative challenges occurred by the implementation of the European legislations at national level and at urging the EU Commission to define a roadmap for enhancing the competitiveness of the forest based sector, including the sawmills. As EOS President, I would like to take this opportunity to express my



gratitude to all sawmill companies that had a proactive role and participated in the European surveys.

Moreover, I would like to highlight the participation of EOS in two important European events: the CASTLE conference on “Towards a Sustainable Bioeconomy – Innovative Methods and Solutions for the Agriculture and Forest Sectors” held in Barcelona and the Think Forest event organized in the framework of COP21 in Paris, by the European Forest Institute and chaired by the former Swedish Prime Minister Göran Persson.

A key objective of the international conference “Towards a Sustainable Bioeconomy” was to capture different views, particularly on the “cascading use of wood principle”. We emphasised the dangers of market distortion that would be generated from legislation around cascade use. EOS believes that any legally binding application of cascading use of wood principle will be detrimental for the forestry industry and might constitute an infringement of the European market rules leading to a distortion. As recognized in our position paper on the cascading use of wood, sawmills operate according to the resource efficiency principle and they maximise the added value of their whole set of products, obtained from wood resources without creating any waste.

During the Think Forest event entitled “Climate policy targets: How can European forests contribute?” EOS stressed that forests and the related products can represent

the main drivers for a bio-based economy, creating growth and sustainability at the same time. EOS explained that boosting the consumption and use of harvested wood products, Member States, as recommended in the European Decision n°529/2013 (LULUCF), can achieve a low-carbon and bio-based society. Combining environmental sustainability and economic growth is possible if policies will be set in order to make an efficient and increased use of natural and renewable resources, such as wood.

In addition to these high level events, EOS had renewed its active role in the organization of the Club du Bois meetings. EOS in joint collaboration with the European Panel Federation (EPF) and the European Confederation of Woodworking Industries (CEI-Bois), supported by the European Federation of the Parquet Industry (FEP), organised the 2nd and 3rd Club du Bois meeting under the chairmanship of MEP Mrs Maria Noichl, on 21st October 2015 and 20 April 2016, at the European Parliament in Brussels. During both events the Members of the European Parliament were provided with information related to the opportunities of building with wood, in particular from a climate change perspective and the need of a sustainable mobilization of wood resources. They were also invited to set up measures in order to include "building with wood" in the European bio-economy National plans.

The year 2015 has been concluded with our strong cooperation in the organization and success of the International Softwood Conference held on 5-6 November 2015, in Amsterdam and the 7th International Hardwood Conference, organized on 16-18 September 2015, in Copenhagen. Both events mark the cooperation between EOS and the European Timber Trade Federation (ETTF) that will be now reaffirmed in the 2016 International Softwood Conference in Paris on 13-14 October 2016.

Finally, I would like to thank our new Secretary General Silvia Melegari and new Economic and Policy Advisor Diego Benedetti for both having a flying start in EOS and doing an excellent job in Brussels representing and looking after the interests of our sector.

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Sampsa J. Auvinen



EOS President
CEO Norvik Timber Industries

1. General Economic Situation

EOS expresses gratitude to SEB Bank for its kind contribution to this EOS Annual Report.

1.1 International overview

1.1.1 Stronger global growth, but downside risks dominate

In recent months, uncertainty regarding the strength of the global economy has mounted as industrial activity has faltered in many places. The US economy ended 2015 on a weak note and worries about the Chinese economy have impacted financial markets. These worries concern both the strength of China's ongoing deceleration and more long-term questions about currency policy, the credibility of official statistics and the ability of the authorities to deal with economic challenges. Meanwhile a renewed decline in oil prices has intensified financial market volatility. The energy sector weighs relatively heavily on global stock market indices, while low oil prices are squeezing public finances in many producer countries. This increases the risks that political instability, especially in the Middle East, will worsen the geopolitical situation. There is also selling pressure, mainly in the stock market, as producer countries are forced to use sovereign wealth funds to cover deficits.

We expect global GDP growth of 3.4 per cent in 2016 and 3.8 per cent in 2017. Our 2016 revisions apply to both the 34 mainly affluent member countries of the Organisation for Economic Cooperation and Development (OECD) and the emerging market (EM) economies, while our 2017 adjustment applies only to EM countries. We thus see good reason to believe we are not facing recession. The US economy has underlying strength due to the robust labour market and expansive service sector, and we believe that the positive effects of the oil price slide will kick in after some delay. Meanwhile, financial market worries about China's economy seem exaggerated, among other things because they do not actually reflect recent data. We also believe that oil prices are now close to bottoming out. The next few months will be turbulent, but we expect oil to rebound to about USD 45/barrel by year-end. In Europe, refugee crisis management and the threat of British withdrawal from the European Union ("Brexit") are raising many questions about the political future, but this is unlikely to affect the economy especially much during the next couple of years.

Table 1.1 : Global GDP Growth, Selected World Areas

Global GDP growth				
Year-on-year percentage change				
	2014	2015	2016	2017
United States	2.4	2.4	2.4	2.7
Japan	-0.1	0.6	1.0	0.5
Germany	1.6	1.7	1.9	2.0
China	7.3	6.9	6.5	6.0
United Kingdom	2.9	2.2	2.2	2.4
Euro zone	0.9	1.5	1.9	2.0
Nordic countries	1.6	2.1	2.2	2.1
Baltic countries	2.8	1.9	2.7	3.2
OECD	2.0	2.1	2.2	2.4
Emerging markets	4.7	4.0	4.3	4.7
World, PPP*	3.5	3.1	3.4	3.8
Source: OECD, SEB				
* Purchasing power parities				

Although we do not foresee a recession, global growth remains fragile. Economies are still in need of monetary policy support, and capital spending is not taking off despite good profit levels. One reflection of this is that central banks are increasingly starting to signal a view of the economy consistent with the "secular stagnation" thesis. Inflation and inflation expectations are at uncomfortably low levels, strengthening this picture by pushing up real interest rates. Many central banks thus seem to have difficulty foreseeing any end point to their large-scale stimulus efforts. We seem to be stuck in a situation in which periods of weakened risk appetite in financial markets provoke new central bank stimulus measures. In an environment where monetary policies in many countries risk becoming stuck in an exceptional stimulus mode, it is inevitable that risks of financial bubbles and distorted resource allocation will eventually emerge.

Our forecast implies that the European Central Bank (ECB), the Bank of Japan (BoJ) and the Scandinavian central banks

will intensify their stimulus measures in the near future, while the Bank of England (BoE) will delay its key interest rate hikes. This means that the US Federal Reserve must carry out rate hikes on its own during the coming year. We expect the Fed to

continue its rate hikes due to an increasingly tight labour market, but due to concerns about an excessively strong US dollar the Fed will move very slowly. We are forecasting a historically very slow pace of rate hikes.

1.1.2 Downside risks of various kinds dominant

Our opinion that recession risks are small is based on several arguments. Resource utilisation is still relatively low, while central banks are prepared to act in case of clear deceleration. Corporate and household balance sheets are strong in most economies and we are far from the type of excesses among investors that usually trigger recessions. The US domestic economy remains strong. Under such conditions, it is difficult to present a recession as our main scenario. Yet there is obvious market turbulence, with elements of recession risks in financial pricing. This may reflect the fact that the risk situation is more asymmetric than normal, partly because upside potential is rather small. A high-growth scenario could most likely be generated if the positive impact of lower oil prices eventually materialised as a “ketchup effect”. But if indicators clearly begin to

strengthen and growth forecasts start to be revised upward, central banks will presumably withdraw stimulus measures and thereby help cool off financial markets.

It is also possible to argue that at present, there is one type of downside risks that are actually highly improbable but have the potential to create a deep recession (“tail risks”). One such risk is developments in China. After all, we know rather little about the capacity and ability of Chinese authorities to manage a serious crisis. An oil price collapse might also lead to meltdowns in important producer countries, with unpredictable geopolitical consequences. But even aside from such disaster scenarios, the risk of a worse economic performance than in our main scenario is 25 per cent, while the chances of a high-growth scenario are 10 per cent.

1.1.3 Inflation upturn will be delayed again

The renewed oil price decline is now squeezing CPI inflation again on a broad front. Price downturns are also occurring for other commodities, and especially food. This has led to sizeable downward revisions in our forecasts of total CPI in 2016. As annual averages, we now expect CPI to climb by 0.8 per cent in the US and by 0.2 per cent in the euro zone. Once energy price effects have disappeared from the 12-month figures at the end of this year, inflation will rebound. In 2017, CPI will increase by 2.1 per cent in the US and 1.1 per cent in the euro zone. Our forecast for 2016 is well below the consensus estimate, but inflation expectations measured in

the market for inflation-indexed bonds are even lower. It is not unusual for pricing in this market to overreact to major changes in oil prices, yet this raises the question of whether we are underestimating the secondary effects of the energy price decline. Falling inflation expectations are also causing headaches for central banks. It is not obvious that energy price effects can be disregarded when the market is pricing in long-term downward pressure on inflation. So far, however, the secondary effects have been small and core inflation has remained rather stable at just below 2 per cent in the OECD countries as a whole.

1.2 The United States

1.2.1 Domestic strength gives the US resiliency

The American economy is now being affected to a greater extent than usual by international developments. The manufacturing sector is being squeezed by a strong dollar and Chinese weakness, while the oil industry is playing a larger role than previously. Yet our assessment is that at present, the US economy is relatively resilient. Weak growth during the fourth quarter of 2015 was largely driven by inventory draw-downs. Industrial activity has generally not been a good leading indicator for the US economy in recent decades either, perhaps because manufacturing's share of the economy has decreased so much that industrial activity is no longer capable of steering the entire economic cycle. Major recessions have instead been triggered by domestic imbalances, for example the real estate crisis of the 1990s or the most recent financial and housing crisis.

The underlying domestic economy is strong, and households are benefiting from a robust labour market and good wealth positions. We also believe that the positive effects of the oil price decline will become clearer once households and businesses get accustomed to relatively low long-term oil prices. Meanwhile the negative contribution of the oil production downturn to GDP will ease. In a slightly longer perspective, the impact of the oil price decline will still not be entirely different from the patterns we have become accustomed to. We expect US GDP growth of 2.4 per cent this year and 2.7 per cent in 2017.

The strength of the labour market is the most important fundamental factor in our relatively optimistic economic outlook. Last year 2.7 million jobs were created in the US, and in 2014 the number was 3.1 million – the strongest since the dotcom (IT) boom of the late 1990s. The commodities sector lost 130,000 jobs in 2015 because of the oil price slide, but this was offset by a wide margin in other sectors; the commodities sector accounts for a modest 0.6 per cent of total employment. Looking ahead, we foresee a gradual deceleration in job growth: an average of 200,000 jobs per month in 2016 and 170,000 in 2017. We expect unemployment to keep falling, though at a slower pace. It will total 4.5 per cent at the end of 2016 and 4.2 per cent at the end of 2017.

Inflation, which bottomed out at zero last year, will move upward in 2016-2017. Base effects as earlier oil price declines disappear from the 12-month figures are an important driving force this year, but lagging USD effects and lower food prices will meanwhile slow the upturn. We are also revising our inflation path downward because oil prices have renewed their decline in 2016, although their effect is smaller because the weight of energy prices in the basket of goods and services has greatly diminished. CPI inflation will total 0.8 per cent this year and 2.1 per cent in 2017, according to our forecasts.

1.3 The euro zone

1.3.1 Growth is gradually improving

The economy of Western Europe continues to improve slowly. As a major net importer of oil, the euro zone can benefit greatly from lower energy prices. Because of downward pressure on inflation, real household incomes are rising despite low nominal pay hikes. Combined with job growth and falling unemployment, this is laying the groundwork for a consumer-led recovery. Meanwhile exports are benefiting from a relatively weak euro. A long

period of low capital spending levels has contributed to relatively high capacity utilisation, which suggests that investment activity will increase somewhat during the next couple of years. ECB stimulus measures have helped to ease credit conditions, but banks in southern Europe are still weighed down by a large percentage of bad loans. Although leading indicators have fallen a bit in recent months, we are forecasting above-trend economic growth during the next

Figure 1.1: Euro zone lone demand (actual and expected)



Source: ECB Bank Lending Study

couple of years. We expect euro zone GDP to climb by 1.9 per cent in 2016 and 2.0 per cent in 2017.

Economic growth recently seems to have stabilized and recovery will continue, though not at a convincing pace given the deep downturn we saw in the wake of the financial crisis. Consumption, which was an important growth driver in 2015, will continue to expand at a healthy pace, hand in hand with an improved labour market. The risks are on the downside. A reduced stimulating effect from the weakened euro and uncertainty about the global economy and financial markets may restrain growth more than expected. Inflation will remain squeezed by low oil prices and other factors; our forecast is now well below that of the European Central Bank (ECB). Low pay increases and high unemployment will help hold down inflation in a somewhat longer time perspective as well. The downturn in inflation expectations has regained new momentum since the ECB's December policy meeting, thus providing support for President Mario Draghi's monetary stance. While euro zone economic performance will continue to improve slowly, political developments will create uncertainty.

Indicators are still signalling some acceleration in economic growth, although their projections diverge. Purchasing managers' indices (PMIs) fell slightly in January and the outlook appears somewhat weaker than a couple of months ago. The European Commission's Economic Sentiment Index (ESI) has risen gradually over the past year, despite falling slightly in January, while PMIs have stayed around 53-54. Together these indicators are signalling a quarterly

GDP increase of about 0.4 per cent. PMIs in Germany and Spain are stable at around 55, Italy somewhat lower and France has again lagged behind in recent months. Indicators for both services and manufacturing are pointing towards expansion. The latest monthly PMI downturn, combined with a fall in Germany's ZEW financial sector sentiment index in January, create some uncertainty about how the euro zone is being affected by global growth concerns and financial market turbulence. Our euro zone leading indicator, originally developed by the ECB, is pointing to accelerating cyclical upswing. The main factors behind the indicator's positive outlook for 2016 are an increasing new orders/inventory ratio, real M1 growth, German business confidence and low interest rates. Industrial production is now increasing at a moderate year-on-year pace of 1-2 per cent. Germany has been close to zero in recent months. We expect industrial production in the region to grow by about 2 per cent yearly in 2016 and 2017. Exports have risen during the past year, sustained by a weak currency. According to indicators, the export situation will continue to improve. We also expect that an even weaker euro and a somewhat improved world economy will benefit euro zone exports. We thus foresee annual increases of 4-4.5 per cent in exports during the next couple of years.

A long period of low capital spending has led to relatively high capacity utilisation, despite moderate production growth. We thus foresee prospects for rising investment activity. This is also supported by the ESI, which is poised to rise further above its neutral level. Meanwhile housing investments will recover after many years of weakness. A

slow thaw in capital spending is also being confirmed by a stabilisation in bank lending to non-financial companies. Demand for loans is increasing as well, according to the ECB Bank Lending Survey. Capital spending will rise by 2.5 per cent yearly in 2016 and 2017.

Increased household consumption has been important to the 2014-2015 recovery, and we expect consumption to continue growing at a decent pace ahead. Household optimism is relatively high, despite some slippage during 2015. Meanwhile retail sector sentiment weakened late in the year. Looking ahead, consumption will enjoy support from higher employment. Although pay increases in the region as a whole are a mere 1 per cent yearly, real wages are still rising due to exceptionally low inflation. But trends are divergent; German wages and salaries are increasing at about 3 per cent. Extensive labour market slack suggests continued weak pay increases, and we expect 2016-2017 increases to be in line with those of 2015. Overall, consumption will

increase by more than 1.5 per cent yearly in 2016 and 2017. This means that the net household savings ratio will remain at about 6.5 per cent. Above-trend economic growth is continuing to push unemployment lower. This downturn has recently been somewhat faster than expected. Measured as annual averages, unemployment will be 10.2 per cent in 2016 and 9.9 per cent in 2017.

Despite gradually improved growth and falling unemployment, inflation continues to surprise on the downside. Inflation pressure is low, and any rebound has again been postponed due to lower oil prices. But other factors such as falling prices for other commodities, low food prices, a generally low demand situation and low pay increases will also help dampen inflation in the medium term. Inflation according to the EU's harmonised index of consumer prices (HICP) will be 0.2 per cent in 2016 and 1.1 per cent in 2017. Core inflation will creep up from 0.9 per cent in 2016 to 1.2 per cent in 2017.

1.4 The United Kingdom

1.4.1 Households still the main engine of growth

As in the United States, households and the service sector are dominant growth forces in the British economy. Meanwhile manufacturers are struggling and foreign trade is contributing more negatively to growth than in earlier forecasts. Fiscal headwinds will hamper growth, but GDP will climb by 2.2 per cent in 2016 and 2.4 per cent in 2017. The UK barely avoided deflation in 2015. This year and 2017 will offer modest price increases, with inflation of 0.5 and 1.4 per cent respectively. The Bank of England (BoE) – which would like to see higher growth, domestic price pressure and core inflation before launching a normalisation of its key interest rate – will thus hold back for longer. Unemployment will continue downward to 4.7 per cent by the end of next year, matching the bottom level during the last economic cycle. Households are still the main engine of growth. Consumer confidence has fallen but remains high. Job growth, which has decelerated from a 25-year high, continues to boost incomes while the oil price decline pushes down inflation and boosts purchasing power. The household savings ratio has fallen to a 50-year low, but this will not sabotage the recovery. The slowdown in wage and salary growth is more worrisome.

As recently as last summer, year-on-year pay increases were running at 3 per cent, compared to today's 2 per cent. The low inflation of recent years may perhaps have affected wage formation, which in that case is a warning sign for the BoE. We remain optimistic about both productivity and pay; tight resource utilisation suggests faster pay growth ahead. Home prices continue to rise at 5-10 per cent yearly. The brutal price surge in London has slowed; compared with the 2014 peak, prices are currently increasing half as fast, at 12 per cent. At the national level, home prices are around 10 per cent above their 2008 peak, according to Nationwide's index; in London, prices are 50 per cent higher and overheating risks are growing.

Business confidence indicators are providing a mixed picture. Confidence is high in services and construction but lower in manufacturing, as also shown by industrial production. Nor are order books as full as six months ago. Because of the government's ambitious housing construction targets, construction activity remains strong. Despite strong pound appreciation in trade-weighted terms

over the past few years, exports grew decently in 2015. But imports grew faster, and foreign trade contributed negatively to growth for the fourth straight year. Net exports will also contribute negatively to growth in 2016-2017, according to

our forecasts. Fiscal tightening will lower British growth by around one percentage point in both 2016 and 2017, which is somewhat more than last year.

1.5 Divergent challenges in Nordic countries

The Nordic economies now face divergent challenges. Sweden will show an impressive GDP increase of 3.7 per cent this year, with rapid job growth and unemployment already close to equilibrium. Large-scale refugee resettlement programmes will require extra spending, contributing in the short term to higher private and public sector consumption. Meanwhile there are increasing imbalances in the housing market. Looking ahead, housing and labour market reforms will be important in order to integrate the new arrivals, thereby avoiding social tensions and major strains on public finances. In the short term, the Riksbank will continue desperately trying to push the inflation rate higher. We expect both a key rate cut to -0.45 per cent and asset purchases soon. But we believe that rising resource utilisation will gradually become more important to monetary policy. By autumn the Riksbank will start signalling a shift towards tighter policy. The first rate hike will then occur early in 2017. The Norwegian economy is weighed down by low oil prices. Due to falling oil sector investments, the downturn will spread to other industrial activities. Household confidence has also fallen sharply, but expansionary monetary and fiscal policy as well as a much weaker currency will help maintain decent growth; we expect overall GDP to increase by 1.7 per cent both in 2016 and 2017. The top priority of Norges Bank is to keep the krone weak, and the central bank is tolerating rather high core inflation. We believe that it will lower its key interest rate to 0.50 per cent in March but then abstain from further stimulus measures. The

risk is on the downside, however: an oil price recovery may strengthen the currency in a way that forces Norges Bank to assume a dovish bias. We also believe that latent appreciation pressure will help delay rate hikes until late in 2017. Finland is plagued by continued stagnation and competitiveness problems, partly due to depreciating currencies in nearby countries. Economic policymakers face a balancing act in trying to deal with both weak public finances and structural growth problems. Because of relatively tight fiscal policy, growth will remain weak, although we expect a slight acceleration in GDP growth to 0.4 per cent in 2016 and 1.1 per cent in 2017. Denmark will continue its modest recovery. Because of a sharp downturn in the GDP figure for the third quarter of 2015, we have adjusted our growth forecast downward and now expect GDP to increase by 1.8 per cent in 2016 and 2.2 per cent in 2017. A strong labour market will help sustain household consumption, but capital spending activity will meanwhile remain listless.

Table 1.2: Year-on-year GDP growth in the Nordic Countries

	2014	2015	2016	2017
Sweden	2.3	3.2	3.6	2.8
Norway	2.2	1.9	1.5	1.6
Denmark	1.1	1.8	2.2	2.5
Finland	-0.4	0.2	0.7	1.3

Source: OECD, SEB

1.6 EM sphere hurt by shaky financial markets

Emerging market economies are under various kinds of pressure. Their currencies and stock markets were pulled along by financial market turbulence early in 2016. Commodity-exporting economies have been hit especially hard by the renewed decline in oil prices and worries about a Chinese hard landing. For example, the Russian rouble

has weakened sharply and EM economies such as Saudi Arabia that have pegged their currencies to the US dollar are being squeezed. The Fed's monetary policy tightening is another source of uncertainty. Economies with large-scale foreign borrowing are especially vulnerable to currency depreciation, which increases their debt burden. Market

volatility will probably continue for another while until oil prices bottom out or recover.

Yet numerous EM countries seem quite resilient to financial market worries. In many small and medium-sized economies, there is decent growth. For example, in many Asian emerging economies GDP growth is expected to accelerate cautiously in 2016 and 2017. The most serious growth problems are found in two of the BRIC countries, Brazil and Russia.

Table 1.3: Year-on-year GDP growth in the BRIC Countries

	2014	2015	2016	2017
China	7.3	6.9	6.5	6.0
India	7.1	7.3	7.5	7.7
Brazil	0.2	-3.5	-3.0	1.5
Russia	0.6	-3.7	-1.5	1.2
EM economies	4.7	4.0	4.5	4.7

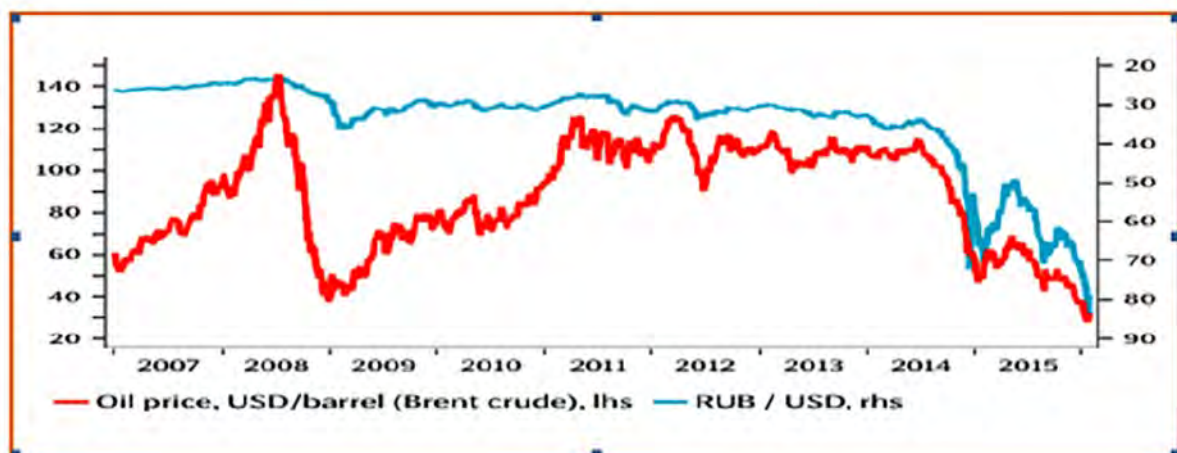
Source: OECD, SEB

1.7 Russia: New oil collapse boosts uncertainty

The renewed oil price decline has increased uncertainty about the Russian economy, which had been hampered earlier by Western sanctions and structural problems. Because of Russia's heavy dependence on commodity exports, there is a high correlation between oil price changes and the rouble's exchange rate. The oil price decline is thus pushing down the value of the rouble. SEB oil price forecast is USD 40/barrel in 2016 and USD 50/barrel in 2017. Currency depreciation drives up inflation, which then hampers household consumption and forces the central bank to pursue tighter monetary policies. In December real wages were down 10 per cent year-on-year, driven by high inflation, and no rebound is in sight for retail sales. One bright spot is that there are signs of stabilisation in manufacturing, which is being helped somewhat by rouble depreciation. Although industrial production has continued to fall year-on-year, the downturn has slowed.

Oil price declines also tend to reduce the Russian Federation's budget revenue, though rouble depreciation eases this effect by pushing up government oil revenue in local currency terms. Next September's parliamentary election is one reason the government will be cautious about cutting social spending, so as not to squeeze already hard-hit households further. Pensions, public sector salaries and defence spending are exempted from the latest budget cutbacks. Belt-tightening will instead impact public sector investments. Budget austerity will be long-lasting, hampering growth for years to come. To some extent, we expect the authorities to use the Reserve Fund (about 4.5 per cent of GDP) if necessary to cover deficits. We also expect them to let the rouble depreciate further and taxation of the energy sector will be raised.

Figure 1.2: Oil Price (2007-2015) and rouble/dollar exchange rate



Source: Macrobond

Overall GDP fell by an estimated 3.7 per cent in 2015. Looking ahead, the decline in Russia's output will slow. We expect GDP to fall by 1.5 per cent in 2016. There is potential for a recovery in 2017, based on higher oil prices and an easing of Western sanctions; we expect GDP to increase by 1.2 per cent. Due to structural problems, growth will probably end up well below 2 per cent beyond our forecast horizon as well. Because of its strong connection to oil prices, the

rouble is one of the EM currencies that weakened the most early in 2016. In the near term the risk is on the downside, but in the second half we expect the rouble to regain some lost ground as oil prices recover. Inflation will fall a bit, although a continued weak rouble will slow the pace of its decline. Inflation averaged 15.5 per cent in 2015. We believe that inflation will decelerate to 9.8 per cent in 2016 and 6.4 per cent in 2017.

1.8 China: Increasing risk of policy mistakes

Early in 2016, a combination of plunging Chinese share prices, a weakening of the yuan and a renewed oil price fall had an impact on global financial markets. Like last summer, however, there is no clear connection between financial market turbulence and China's real economy. Many recent economic statistics point to stabilisation in the near term, instead of signalling that growth is facing a sharp decline. Year-on-year GDP growth slowed by 0.1 point to 6.9 per cent in the fourth quarter. The official purchasing managers' index for manufacturing has been just below the threshold of 50 in recent months. Industrial production has shown a stabilising trend measured year-on-year. Retail sales are chugging along at a healthy pace. The fall in exports has decelerated. Home prices continue to rise, but an overhang of unsold homes is hampering construction. The service sector is showing good growth but has cooled a bit due to a dampening of growth in financial services. A continued easing of economic policy by means of interest rate cuts and expansionary fiscal policy is providing support. We are sticking to our forecast that China can avoid a hard landing and that growth will decelerate gradually in 2016-2017, although the risk of serious policy mistakes has risen. GDP growth was 6.9 per cent in 2015 and the target of "about 7 per cent" can thus be regarded as having been fulfilled, although actual GDP growth is probably well below what official figures show. We believe that growth will slow to 6.5 per cent in 2016 and 6.0 per cent in 2017.

the powerful rally from late 2014 to mid-2015 took place despite weak economic data. Nor can the subsequent stock market crash be linked to changes in the real economy. The crash will have no major impact on growth either, since household exposure to the stock market is small. Instead, the biggest source of concern is the authorities' attempts to stop the slide in share prices, which raise questions about both their understanding of how financial markets function and their desire to continue the deregulation process.

Currency policy and yuan exchange rates are far more important to the economy than the stock exchanges. In August, China devalued the yuan as one step in shifting its currency policy towards more market-driven exchange rates. In December the People's Bank of China (PBoC) began publishing the value of the yuan against a basket of 13 currencies that is intended to serve as a reference point for the exchange rate. Markets have interpreted these changes in currency policy as a way of devaluing the yuan. Such expectations have generated clear downward pressure, and the PBoC has intervened with purchases aimed at countering a major weakening in the currency. China's shrinking foreign exchange reserve has further fuelled market worries.

This market turmoil is due to a combination of negative sentiment about China and the authorities' clumsy handling of policy changes and response to plunging share prices. Stock market trends are not a reliable indicator of real economic performance, however. Trading on the Shanghai and Shenzhen exchanges is largely speculation-driven, and

Special Focus on China



EOS expresses gratitude to Woodstat for its kind contribution to this EOS Annual Report.

When we look back on the lumber year 2015, it is no exaggeration to say that the market in many regions of the world was characterized by a lack of balance between supply and demand and as a result falling prices. In Europe a continued low investment in construction has led to low lumber consumption. If we look at the United States, construction of single-family homes increased, but not as fast as earlier forecasts projected and the lumber market was characterized by an oversupply and falling prices as a result. However, a continued high import of softwood lumber in China made the overall balance between supply and demand relatively good. According to the Chinese customs, China decreased the import of softwood lumber marginally in 2015 to approximately 17 million cubic meters, which can be compared to China's import in 2005 which totaled just under 2 million cubic meters!

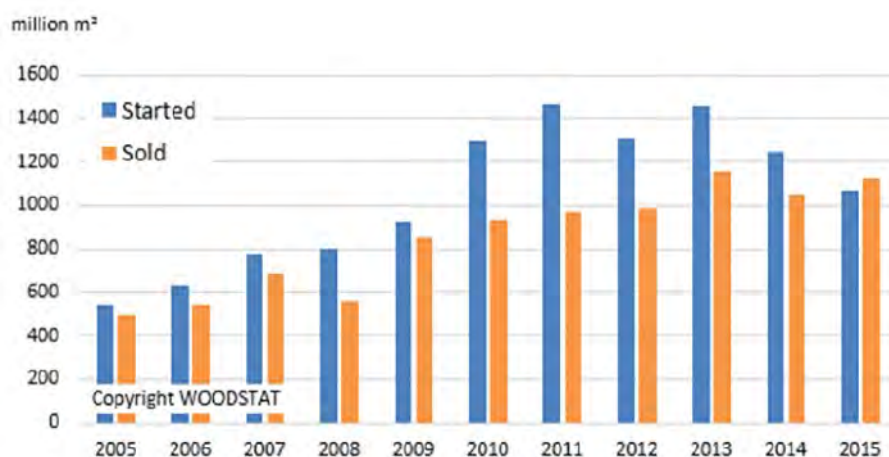


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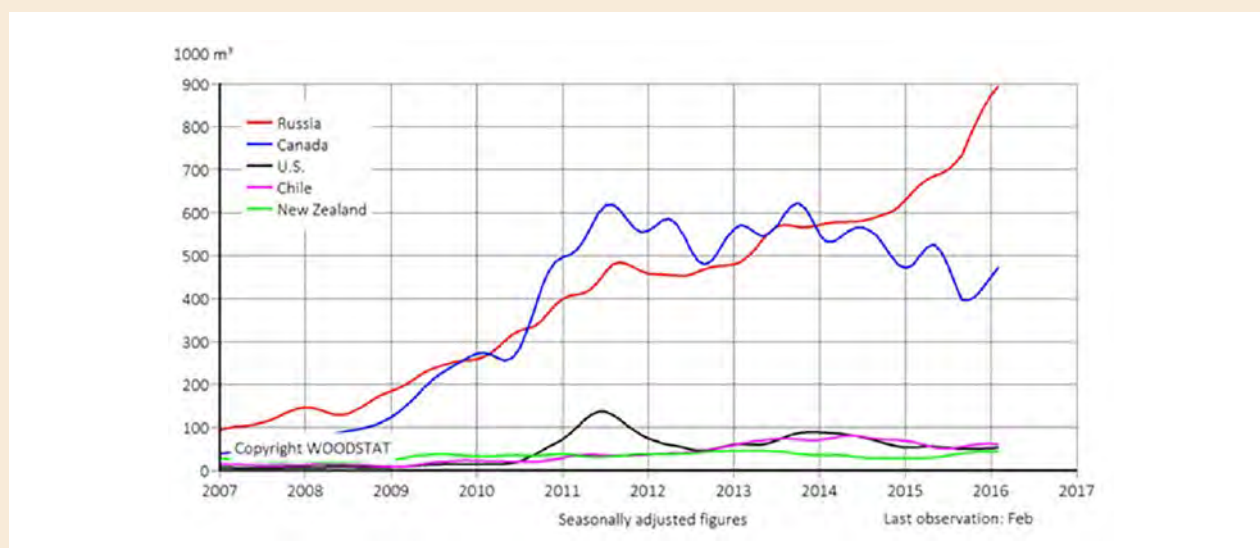
The driving factor behind China's stunning rise is to a large extent explained by a dramatic increase in construction and particularly in residential construction. However, when we examine the statistics in detail, we must note that sales of homes did not follow the construction of new housing. A large part of residential homes has been unsold for many years, which naturally

led to a gradually rising number of unsold homes. There is a correlation between new housing and lumber production; if too much product is produced and the stock of the product increases then the price of the product will decrease. That is exactly what has happened to the Chinese housing market. In 2014, housing prices in the cities of China fell followed by a clear upturn in

Figure 1: China residential buildings, started and sold (million m³)



Source: Statistical Information Network

Figure 2: China, monthly import of softwood lumber (thousand m³)

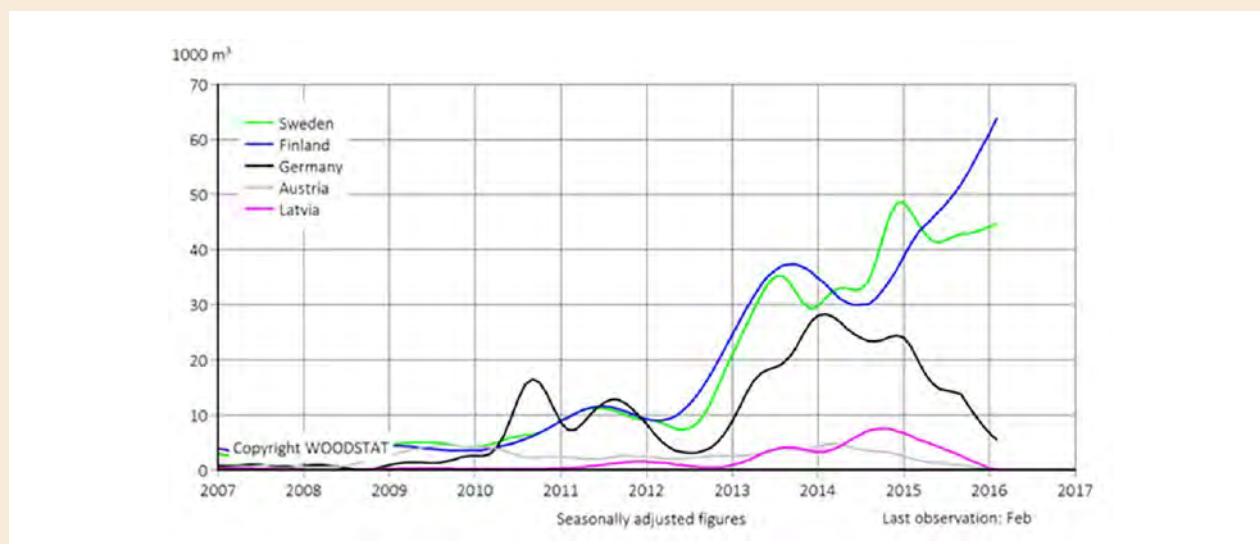
Source: Chinese Customs

2013. In 2015 however prices began to rise, especially in the big cities, but in smaller cities the situation remains clearly negative and of course the reason is the very large number of unsold homes. A stabilization in the housing market and the number of unsold homes may take many years to achieve. This figure shows started and sold residential buildings, according to figures from China Statistical Information Network. It should be noted that several analysts think that these figures significantly underestimate the inventory of unsold homes.

In 2010 and 2011, the total number of square meters

started was approximately 800 million more than what was sold. This is a large figure given that between 2005 and 2015 the difference was 2.1 billion square meters. This is equivalent to over 10 million unsold homes. However, in 2015, the trend reversed and it was slightly more homes being sold than started. This trend needs to continue for several years to get the market back in balance.

With a decline in housing market, import of softwood lumber fell by 1% in 2015 to approximately 17 million cubic meters. Worth noting is that there was a dramatic

Figure 3: China, monthly import of softwood lumber, European Countries (thousand m³)

Source: Chinese Customs



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change in imports from Canada and Russia. The weak ruble helped the Russian market share dramatically in 2015 while Canada lost market shares. However, Canada increased their export to the United States as a direct result of the increase in lumber consumption there.

The lumber consumption in China is not only dependent on new construction, but also other sectors such as the furniture manufacturing. This sector has a relatively high consumption and the furniture manufacturing market has improved lately. This situation has benefited European suppliers such as Sweden and Finland, which increased their deliveries of softwood lumber respectively by 18% and by 55% in 2015 (compared to 2014). Germany decreased their export by 37 %. Volumes from Austria and Latvia are in the beginning of 2016 very small. As for the furniture industry, the outlook is very positive, which enables opportunities for European exporters of spruce lumber.

With a continued large stock of unsold homes, China's lumber consumption will be negatively affected.

This does not mean that a reduction in consumption completely affects the softwood lumber industry. Today we see a sharp decline in import of softwood logs, which in 2015 fell by 18% (compared to 2014) to about 30 million cubic meters. This situation lowered, to some extent, the domestic production of lumber.

Although the current market situation is characterized by uncertainty, construction will be normalized, but we should also take note of the signals of greater investments in timber building construction on environmental grounds. Such a development is obviously an incentive for the lumber consumption.

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Responsibility for the information and views set out in this article lies entirely with the author.

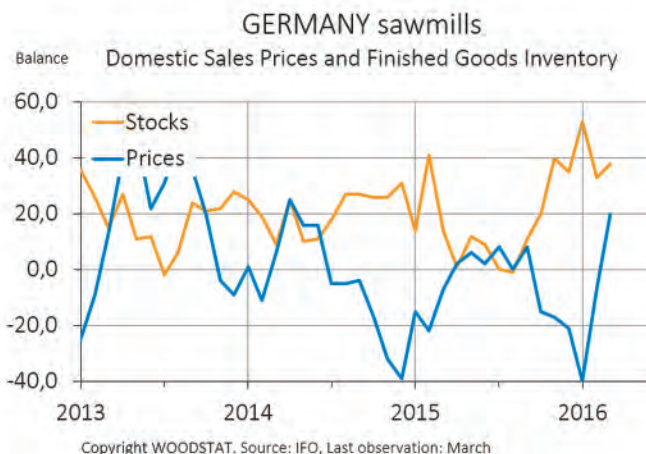
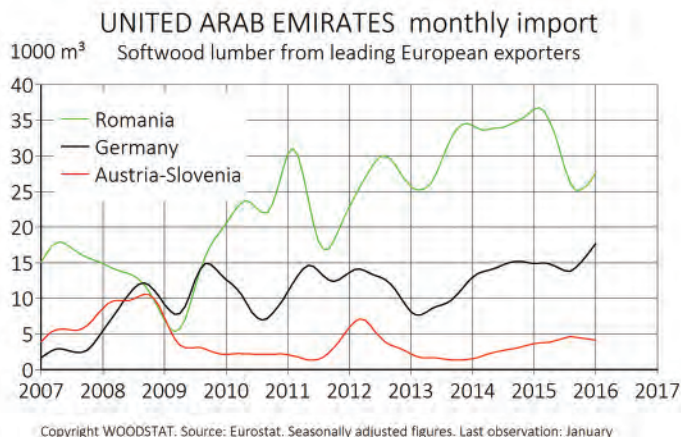


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Special Focus on Japan. Timber and Economy



EOS expresses its gratitude to Mr Michael Nomura and Mr Hannes Plackner of Holzindustrie Schweighofer, Vienna, for their kind contribution to this EOS Annual Report.

Introduction

Source: FAO, World Fact Book

Japan is the world's third biggest softwood lumber importer, only topped by the United States and China. And despite the far distance this market remains one of the most important destinations for European wood

products. Its huge population in comparison to very limited logging makes it dependent on imports. Unlike the majority of the other extra-European export markets, Japan seeks high quality wood products.

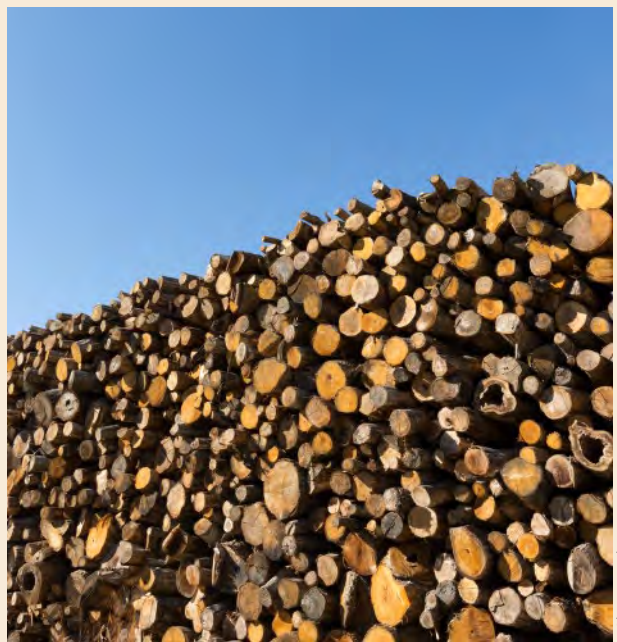
Macro-economic

Demographics:

Japan is now officially shrinking

Japan's population is the oldest it has ever been, as well as the oldest on average in the world, and is now also officially shrinking. The number of Japanese dropped to 127.1 million in the 2015 national census, down 0.7 % compared with five years earlier. This was the first recorded decline since the census started in 1920. The population decline is caused by the natural factor of deaths outnumbering births. The number of Japanese aged 65 or older has risen to a new record of about 33.8 million people, or 26.7 % of the population. The number of households in the country was at a record high of 53,403,226, the average number of people per household were a record low of 2.38.

Japan's shrinking workforce and less labor will reduce the potential output of the Japanese economy, which will increase the country's reliance on imports as retirees



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continue to spend. The rising number of retirees will strain the government's welfare programs and the country's pension funds, which have been major buyers of government bonds. Japan already has the world's second-largest debt load in nominal terms – and it is growing.

GDP – weak demand despite record monetary stimulus

Japan's economy is still plagued by the weakness of domestic demand as it enters a fourth year of record monetary stimulus, with wages not rising fast enough to persuade consumers to spend. Private consumption remains weaker than expected. While there is no sign of a downward spiral in the economy but with the yen rising to trade at ¥113 to the US dollar in early 2016, the figures put pressure on the Bank of Japan for even more monetary stimulus.

The Bank of Japan surprised markets in January 2016 by cutting interest rates to minus 0.1 % in an effort to show

its commitment to generating inflation of 2 % - effectively penalizing bank deposits. The Bank of Japan stimulus will revive the ¥180 trillion (\$1.5 trillion) mortgage market.

Japan's economy shrank by 0.4 % quarter-on-quarter in the final quarter of 2015, which was a bigger decline than previously forecast. That pushed the annualized seasonally adjusted rate to minus 1.4 % in the fourth quarter, versus expectations for a 0.8 % contraction. It was the biggest drop since a 2.8 % contraction in the September of 2014.

One silver lining is that the preceding quarter's growth rate was revised higher to 1.3 % quarter-on-quarter from 1 %. For 2016 the GDP is expected to recover by 1.6 %.

Housing: Japan move stable than USA

Japan's construction industry was heavily hit by the financial crisis. The total housing starts crashed from almost 1.29 m/y (2006) to 788,000/y (2009) and reached

lately 909,000 (2015). Fortunately for the timber industry, the traditional post- and beam construction went through the crisis with much more stable numbers. The P/B-housing starts dipped by an average of 10 % whereas the entire housing industry lost approximately 30 % of its market.

Despite this significant drop, Japan's constructions industry remained much more stable than the US's that dropped from 2005 to 2009 by 73 % to a post-war-minimum of 554,000 housing starts. As a result, Japan's housing starts outnumbered the United States from 2008 to 2013, despite a 60 % smaller population. Only recently the US-recovery lifted its housing starts back above Japan.

As indicated above, the Japanese interest rate remains in a negative territory. As a result, the mortgage rates in Japan have fallen to record lows, bolstering forecasts for a rebound in the residential market. Japan Housing Finance Agency's 35-year fixed rate loan set a record low of 1.47 % (10 year fixed mortgage rate is 1.15 %).

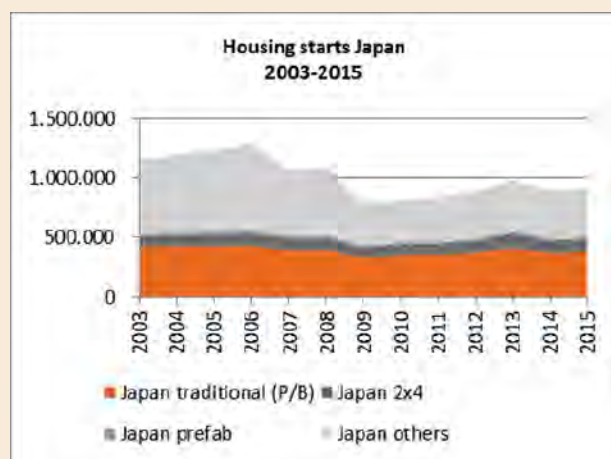
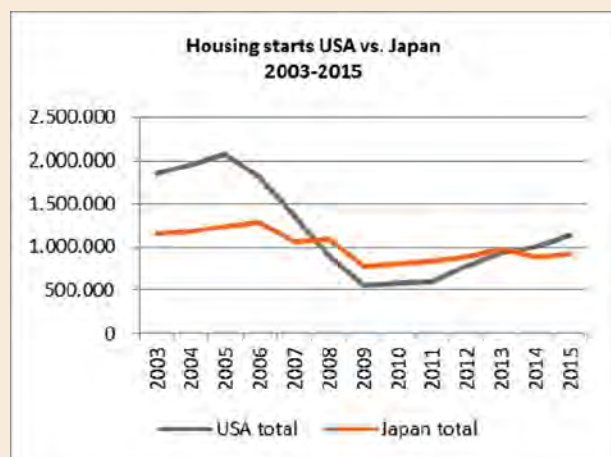
Forest Products Import

Lumber volumes decreased from 2013-peak

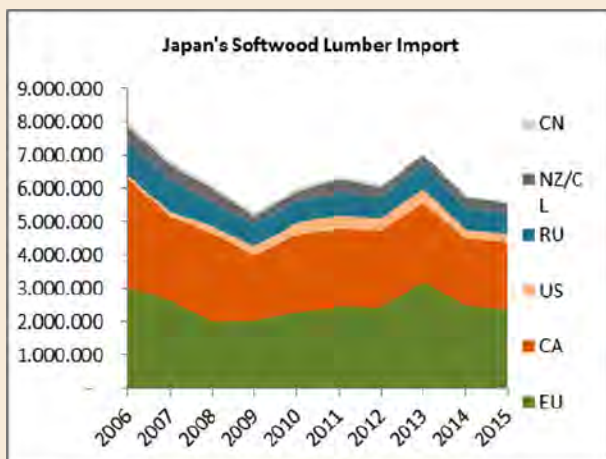
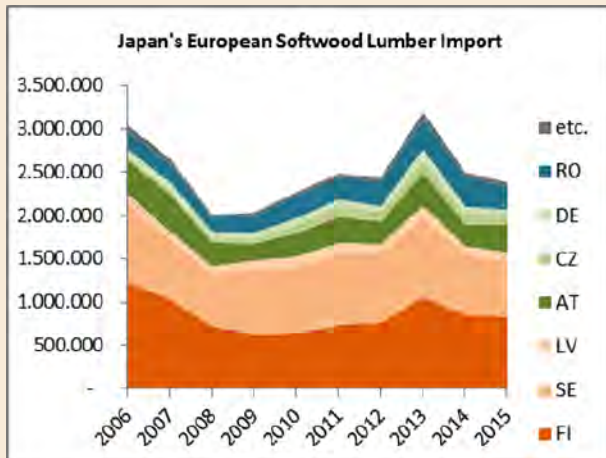
Japan's softwood lumber import from Europe peaked in 2013 (3.2 million cubic meters) due to an anticipated rise in taxes. In 2014 the imported volumes returned to the level of 2.5 million cubic meters followed by a 4.6 % decline in 2015 to 2.4 million cubic meters.

Northern European countries such as Finland, Sweden, and to a lesser extent, Latvia (indicated with orange colours) dominate Europe's lumber volumes to Japan. Their share, however, declined from three quarters in 2006-2009 to two thirds in recent years. The Central Europeans countries (Austria, Germany, and Czech Republic; green) show a comparably constant share over the last ten years between 16 and 21 %. Romania (blue) gained market shares and climbed from 7% in 2006 to 11% in 2015.

In total Japan imported 5.6 million cubic meters of softwood lumber in 2015. This is the lowest volume since 2009. The import markets are dominated by European and North American (Canadian and US) suppliers. In the boom-year 2013 Europe managed to surpass North



Figures: Japan Lumber Importers Association



Figures: Japan Lumber Importers Association

American volumes for the first time in years and kept this position ever since. In 2015 European lumber had a market share of 42.6 % followed by Canada (36 %) and Russia (11 %).

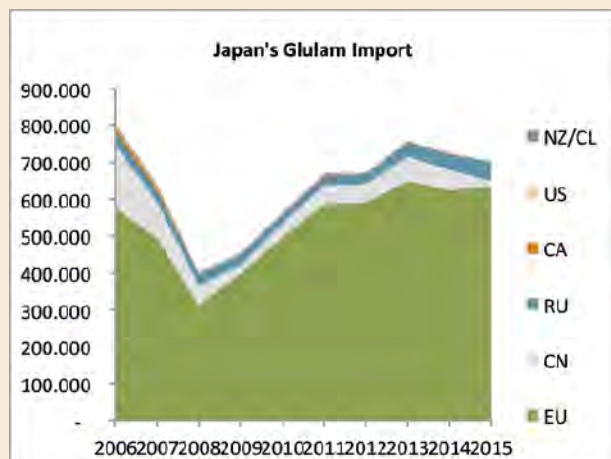
Outlook

The Japanese market remains driven by a preference for higher quality products, which generates higher prices for European suppliers. Unlike the US, where family formations are a key indicator of housing demand, Japan's housing demand is based on replacement of its outdated housing stock. Much of Japan's housing was constructed after World War II and was not intended to be permanent. With Japan's growth in per-capita wealth and awareness of housing quality, new housing is built to a much higher quality and comfort standard. For example, new homes are 15 % larger than a decade ago. This factor, together with

Glue-Laminated Timber

Compared to lumber, Japan's glulam imports decreased even more during the recession years. The volume halved from 2006 (802,000 cubic meters) to 2008 (402,000 cubic meters), whereas lumber imports dropped by 24 %. The glulam import volumes recovered over a period of five consecutive years to 760,000 cubic meters in 2013. Since then the volume dropped slightly back to 704,000 cubic meters.

European suppliers recovered at the expenses of China. The People's Republic market share of Japan's glulam imports decreased over the course of the last ten years from 21 to 2 %. European suppliers gained market share, which went from 72 to 90 %. Russian imports increased from 4 to 7 %.



Figures: Japan Lumber Importers Association

the Japanese love of wood, seems to secure the future of lumber consumption.

However, due to Japan's aging population, annual housing starts are expected to decline to a range of 750,000 to 800,000 over the next few years. But wood consumption could grow in apartment buildings, elderly care housing and other larger scale commercial facilities, in addition to expanded use in single family construction.

The market for remodeling and renovating is gaining momentum as cultural preferences shift over time,

opening new opportunities for the finishing millwork, cabinetry and furniture sectors. For this reason, the Japan market represents a good niche opportunity for Europe's value-added sector.

Wood use in multi-family residential, non-residential, public and institutional sectors, are still limited by height and size limitations for wood in these applications. The 2020 Olympic Summer Games in Tokyo presents opportunities to raise awareness of wood use in venue constructions.

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Responsibility for the information and views set out in this article lies entirely with the authors.



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2. The woodworking industries in the European Union (EU-28)

EOS expresses gratitude to Ms Isabelle Brose, Sustainability & Economic Affairs Manager of CEI-Bois, for her kind contribution to this EOS Annual Report.

2.1 Introduction

Since 1990, NACE (Nomenclature of Economic Activities in the European Community) provides a harmonised statistical classification of economic activities in the EU. Contrary to the Combined Nomenclature (CN) and the Harmonised System (HS), providing a classification according to trade, the NACE system classifies economic activity in terms of production corresponding to the nature of goods and services produced or by the nature of the production process used. Several small modifications to the classification system were carried out since 1990. However, in 2007, the system was submitted to radical changes.

It is important to note that the NACE category for wood and products of wood and cork (NACE 16) consists of two categories: one for sawmilling and planing of wood (NACE

16.1) and one for the remaining wood products. Within this last category, the sub-category “Manufacture of veneer sheets and wood-based panels” (NACE 16.21) consists of:

- veneer sheets thin enough to be used for veneering, making plywood or other purposes: smoothed, dyed, coated, impregnated, reinforced (with paper or fabric backing) or made in the form of motifs;
- plywood, veneer panels and similar laminated wood boards and sheets;
- OSB and other particleboard;
- MDF and other fibreboard;
- densified wood;
- glue laminated wood, laminated veneer wood.

Unfortunately, Eurostat fails to provide up-to-date

Table 2.1: The NACE classification system

NACE Code (new)	Definition	Former NACE code
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	20
16.1	Sawmilling and planing of wood	20.1
16.2	Manufacture of products of wood, cork, straw and plaiting materials	20.2 -20.5
16.21	Manufacture of veneer sheets and wood-based panels	20.2
16.22	Manufacture of assembled parquet floors	20.3
16.23	Manufacture of other builders' carpentry and joinery	20.3
16.24	Manufacture of wooden containers	20.4
16.29	Manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials	20.5
31	Manufacture of furniture	36.1
31.01	Manufacture of shop- and office furniture	36.12
31.02	Manufacture of kitchen furniture	36.13
31.03	Manufacture of mattresses	36.15
31.09	Manufacture of other furniture	36.11 and 36.14

Source: Eurostat

information on the activities within the woodworking and the furniture industries in many countries on 3-digit level.

When analysing the figures, one should keep in mind that most national statistical systems tend to underestimate the figures for small and medium-sized industrial sectors. This is clearly the case for the woodworking industry. The underestimation is particularly important for the employment figures, since the official statistics often only cover enterprises with at least 20 persons employed whereas the woodworking industry is a typical SME sector.

2.2 Production

The total production value of the woodworking industries in the European Union (EU) peaked in 2007 at 237 billion EUR. Subsequently, as a result of the global economic crisis, the production value dropped in 2008 and 2009, amounting to

A last comment relates to the production data of the furniture industry as declared by Eurostat and the data published in chapter 4.2 as reported by CSIL. Since CSIL only takes into account the furniture industry stricto-sensu, several products like mattresses, seats for automobiles and aircrafts are not included in its overview, which results in a much lower figure. In addition, the CSIL production data are not only based on official statistics, but also on several other sources such as international trade associations and internal databases.

less than 190 billion EUR. Nevertheless, it upturned in 2010 and grew further in 2011 before falling down again in 2012 and 2013, below the 200 billion EUR threshold. In 2014, the production value upturned again by 4.3% and exceeded 208 billion EUR.

Table 2.2: Production in the woodworking industry in million EUR, 2010-2014 (NACE 16 & 31)

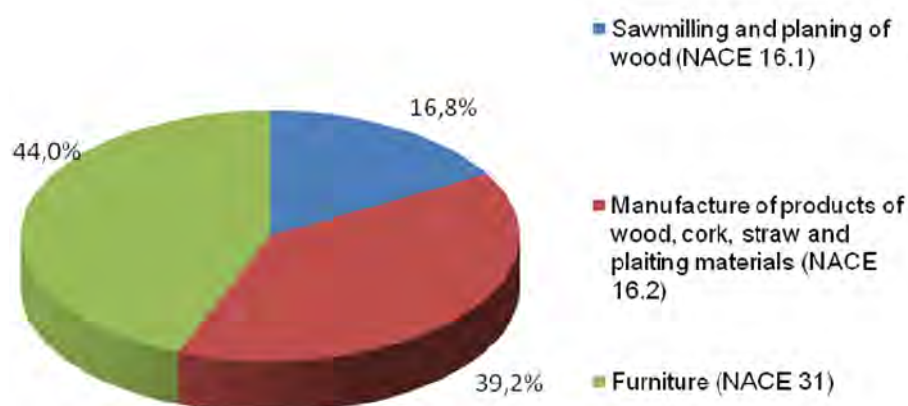
Production (excl VAT)	2010	2011	2012	2013	2014	14/10	14/13
16.1	30.397	33.749	33.001	32.758	34.890	14,8%	6,5%
16.2	81.309	83.996	80.647	79.127	81.529	0,3%	3,0%
Subtotal 16	111.706	117.745	113.648	111.885	116.419	4,2%	4,1%
31	91.532	90.560	89.183	87.491	91.624	0,1%	4,7%
Total 16 + 31	203.238	208.305	202.831	199.376	208.042	2,4%	4,3%

Source: CEI-Bois calculations & Eurostat

In 2014, the production value of sawmill products (NACE 16.1) upturned significantly by 6.5%. The value of other woodworking products (NACE 16.2) followed the same trend but to a lesser

extent by 3%. Consequently, the woodworking industries stricto-sensu (NACE 16) rose by 4.1%. The production value in the furniture sector (NACE 31) also increased (+4.7%).

Figure 2.1: Production 2014 – Relative importance of the sub-sectors



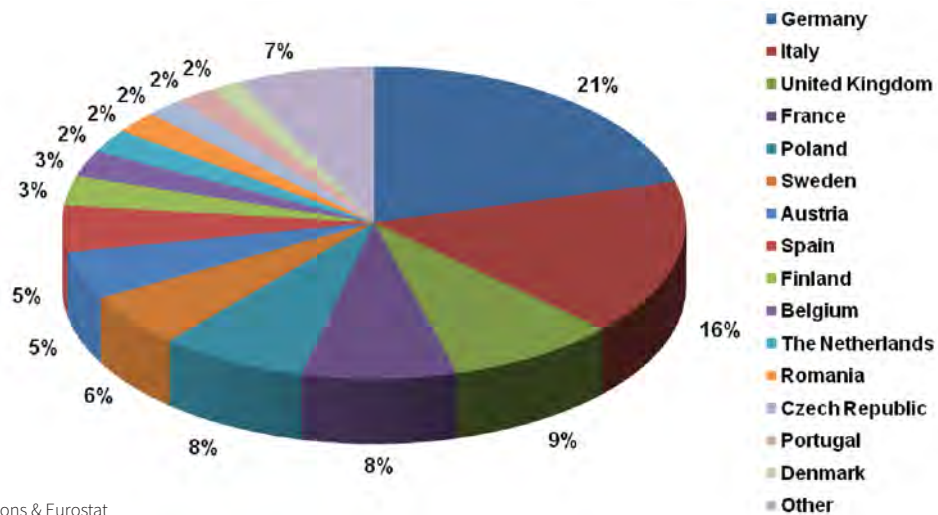
Source: CEI-Bois calculations & Eurostat

The relative importance of the woodworking sub-sectors in terms of production remained rather stable in 2014. Thanks to its increase of activity in 2014, the share of sawmilling and

planing of wood (NACE 16.1) increased slightly to 16.8%, at the expense of other woodworking industries (NACE 16.2).

2.2.1 Production per Country

Figure 2.2: Production 2014 – Relative importance of the EU Member States (NACE 16 and 31)



Source: CEI-Bois calculations & Eurostat

Within the overall woodworking industries, Germany consolidated its leading position thanks to a slightly increasing production value (+1.4%) which exceeded 43 billion EUR in 2014. Italy kept its second position while France gave its third position on the podium of the largest contributors to the production value of the woodworking industries in Europe to the United Kingdom.

Production value rose by 2.8% in Italy and by a significant 17.4% in the United Kingdom while it decreased by 2.9% in France. Poland, Sweden and Austria followed with a production value above 10 billion EUR each. Polish production increased significantly by 11.2% while Swedish and Austrian production value rose by 2.8% and 0.5% respectively.



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Table 2.3: Production value per EU Member State in million EUR, 2010-2014

Production (excl VAT)	2010	2011	2012	2013	2014	14/10	14/13
Austria	9.640	10.470	10.404	10.288	10.337	7,2%	0,5%
Belgium	5.184	5.442	5.216	5.114	5.599	8,0%	9,5%
Bulgaria	683	764	813	844	898	31,5%	6,4%
Croatia	847	864	872	933	1.004	18,4%	7,5%
Cyprus	255	223	187	134	124	-51,2%	-7,0%
Czech Republic	4.393	4.693	4.468	4.276	4.345	-1,1%	1,6%
Denmark	3.292	3.290	3.334	3.193	3.298	0,2%	3,3%
Estonia	1.466	1.711	1.759	1.973	2.246	53,2%	13,8%
Finland	6.429	6.759	6.552	6.502	6.393	-0,6%	-1,7%
France	17.339	18.364	17.637	17.264	16.762	-3,3%	-2,9%
Germany	40.435	42.084	43.158	42.643	43.241	6,9%	1,4%
Greece	1.700	1.343	961	699	669	-60,7%	-4,3%
Hungary	1.259	1.267	1.218	1.224	1.326	5,3%	8,3%
Ireland	1.219	1.149	892	941	941	-22,8%	0,0%
Italy	36.935	37.484	34.178	32.680	33.591	-9,1%	2,8%
Latvia	1.493	1.781	1.873	2.041	2.156	44,4%	5,7%
Lithuania	1.470	1.810	1.965	2.082	2.406	63,6%	15,5%
Luxembourg	19	19	17	17	16	-14,6%	-8,1%
Malta	60	53	48	52	54	-9,5%	4,4%
Poland	12.435	13.728	13.332	14.269	15.861	27,5%	11,2%
Portugal	3.973	3.881	3.781	3.791	4.089	2,9%	7,9%
Romania	3.538	3.958	4.161	4.482	4.735	33,8%	5,7%
Slovakia	1.871	1.644	1.506	1.514	1.976	5,7%	30,5%
Slovenia	1.010	1.008	951	922	996	-1,4%	8,0%
Spain	13.391	12.276	10.590	9.494	9.974	-25,5%	5,0%
Sweden	11.495	12.315	11.885	11.362	11.683	1,6%	2,8%
The Netherlands	5.795	5.866	5.542	5.119	5.100	-12,0%	-0,4%
United Kingdom	15.613	14.062	15.533	15.523	18.226	16,7%	17,4%
EU 28	203.238	208.305	202.831	199.376	208.042	2,4%	4,3%

Source: CEI-Bois calculations & Eurostat

Compared to 2013, the strongest growth rates of production value have been recorded in Slovak republic (+30.5%), the United Kingdom (+17.4%), Lithuania (+15.5%), and Estonia (+13.8%) but also in Belgium (+9.5%), Hungary (+8.3%) and Slovenia (+8%). On the other hand, Luxembourg (-8.1%), Cyprus (-7%), Greece (-4.3%), France (-2.9%), Finland (-1.7%) and the Netherlands (-0.4%) experienced the sole reductions of woodworking industries production value in the EU in 2014.

The production value of the woodworking industry stricto-sensu rose by 4.1% in 2014. The production value for the

28 countries of the EU exceeded 116 billion EUR in 2014 compared to a little more than 100 billion EUR in 2009, although it remains below the peak level of 2008 which exceeded 125 billion EUR. Slovak Republic, the United Kingdom, Estonia, Lithuania, Croatia, Hungary and Poland experienced the highest increases in production value while the Greek, Maltese and Cypriot production values showed the largest decreases in 2014. Germany, Italy and France make up the top three of the largest contributors to the woodworking industries stricto-sensu production value in Europe.

Table 2.4: Production value per EU Member State in million EUR – wood industry stricto-sensu, 2010-2014

Production (excl VAT)	2010	2011	2012	2013	2014	14/10	14/13
Austria	6.857	7.571	7.491	7.443	7.455	8,7%	0,2%
Belgium	2.909	3.091	3.090	2.942	3.225	10,8%	9,6%
Bulgaria	321	376	392	416	440	36,9%	5,8%
Croatia	485	511	517	593	669	38,0%	12,8%
Cyprus	176	160	133	89	79	-55,1%	-10,7%
Czech Republic	3.112	3.370	3.171	3.045	3.055	-1,8%	0,3%
Denmark	1.500	1.473	1.527	1.438	1.490	-0,7%	3,6%
Estonia	1.132	1.332	1.361	1.554	1.813	60,1%	16,6%
Finland	5.402	5.646	5.465	5.466	5.406	0,1%	-1,1%
France	10.414	11.335	10.993	10.579	10.447	0,3%	-1,3%
Germany	21.325	22.470	22.641	23.406	23.215	8,9%	-0,8%
Greece	778	617	434	309	265	-65,9%	-14,2%
Hungary	722	706	674	682	751	4,0%	10,1%
Ireland	689	604	562	611	611	-11,2%	0,0%
Italy	15.680	17.323	14.639	13.224	13.523	-13,8%	2,3%
Latvia	1.343	1.621	1.680	1.829	1.934	44,0%	5,7%
Lithuania	714	869	832	902	1.048	46,7%	16,3%
Luxembourg	0	0	0	0	0	0,0%	0,0%
Malta	16	14	12	10	9	-44,7%	-11,0%
Poland	6.053	6.591	6.682	6.944	7.641	26,2%	10,0%
Portugal	2.529	2.552	2.550	2.506	2.695	6,6%	7,5%
Romania	2.099	2.476	2.646	2.851	2.945	40,3%	3,3%
Slovakia	1.193	950	813	804	1.150	-3,6%	43,2%
Slovenia	579	619	607	610	644	11,2%	5,6%
Spain	6.572	6.321	5.483	4.999	5.404	-17,8%	8,1%
Sweden	8.891	9.390	8.999	8.584	8.943	0,6%	4,2%
The Netherlands	2.584	2.716	2.418	2.208	2.225	-13,9%	0,7%
United Kingdom	7.631	7.040	7.836	7.842	9.337	22,4%	19,1%
EU 28	111.706	117.745	113.648	111.885	116.419	4,2%	4,1%

Source: CEI-Bois calculations & Eurostat

The European furniture industry realised a total production value over 91 billion EUR in 2014 (+4.7%), though the level was still low compared to the 2007 and 2008 peaks, which exceeded 110 billion EUR. The Italian production value, which increased by 3.1%, was just above the German production value which also rose by 4.1%. Both still exceeded 20 billion EUR. Luxembourg, France and Finland experienced the largest drops of production value in the furniture industry in 2014 (-8.1%, -5.5%, and -4.8% respectively). These drops are significantly lower than the ones observed in 2013. Slovak Republic, the

United Kingdom, Lithuania, Slovenia and Poland showed the most important increases.

Table 2.5: Production value per EU Member State in million EUR – furniture industry, 2010-2014

Production (excl VAT)	2010	2011	2012	2013	2014	14/10	14/13
Austria	2.783	2.899	2.913	2.845	2.882	3,6%	1,3%
Belgium	2.275	2.351	2.125	2.173	2.374	4,4%	9,3%
Bulgaria	362	388	421	428	458	26,6%	7,0%
Croatia	362	353	355	340	334	-7,7%	-1,7%
Cyprus	79	62	54	45	45	-42,4%	0,2%
Czech Republic	1.281	1.323	1.297	1.232	1.290	0,7%	4,7%
Denmark	1.792	1.818	1.807	1.754	1.808	0,9%	3,0%
Estonia	334	379	398	419	434	30,0%	3,4%
Finland	1.028	1.113	1.087	1.036	987	-4,0%	-4,8%
France	6.924	7.029	6.644	6.685	6.315	-8,8%	-5,5%
Germany	19.110	19.614	20.518	19.237	20.026	4,8%	4,1%
Greece	922	726	526	390	404	-56,2%	3,5%
Hungary	537	561	544	543	575	7,0%	6,0%
Ireland	530	545	330	330	330	-37,7%	0,0%
Italy	21.255	20.161	19.540	19.456	20.068	-5,6%	3,1%
Latvia	150	160	192	212	222	48,2%	4,9%
Lithuania	756	941	1.133	1.181	1.358	79,6%	15,0%
Luxembourg	19	19	17	17	16	-14,6%	-8,1%
Malta	44	39	36	42	45	3,4%	8,2%
Poland	6.383	7.136	6.649	7.325	8.220	28,8%	12,2%
Portugal	1.444	1.329	1.231	1.284	1.393	-3,5%	8,5%
Romania	1.439	1.482	1.516	1.631	1.790	24,4%	9,8%
Slovakia	678	695	693	711	826	21,9%	16,2%
Slovenia	431	389	344	312	351	-18,5%	12,8%
Spain	6.818	5.955	5.107	4.495	4.569	-33,0%	1,6%
Sweden	2.605	2.925	2.887	2.778	2.740	5,2%	-1,4%
The Netherlands	3.211	3.149	3.124	2.911	2.875	-10,4%	-1,2%
United Kingdom	7.983	7.022	7.697	7.681	8.889	11,4%	15,7%
EU 28	91.532	90.560	89.183	87.491	91.624	0,1%	4,7%

Source: CEI-Bois calculations & Eurostat

2.3 Extra-EU Imports

This chapter monitors the trade flows of the 28 Member States of the EU. Only extra-EU trade is taken into account due to a lack of reliable figures for trade between the 28 members of the EU, although these flows are most important in absolute terms.

The total EU-28 imports of woodworking products amounted to almost 21 billion EUR in 2014, reflecting a significant increase of 11.3% compared to 2013. The other woodworking products stricto-sensu experienced the largest increase of imports (+11.9%), followed by the furniture industry (+11.6%), while the imports of the sawmill industry rose by 8.6%.

Table 2.6: Extra-EU imports in million EUR, 2010-2014

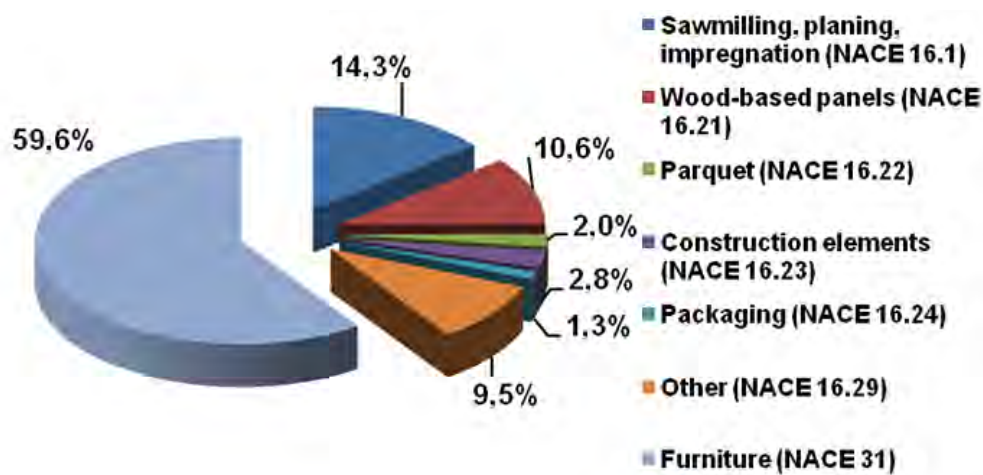
NACE code	2010	2011	2012	2013	2014	14/10	14/13
16.1	3.445	3.374	2.997	2.764	3.001	-12,9%	8,6%
16.2	5.232	5.345	5.212	4.899	5.481	4,8%	11,9%
16,21	2.011	2.125	1.994	1.954	2.222	10,5%	13,7%
16,22	424	449	447	383	422	-0,5%	10,2%
16,23	690	674	631	562	582	-15,7%	3,6%
16,24	141	155	189	207	268	90,1%	29,5%
16,29	1.966	1.942	1.951	1.793	1.987	1,1%	10,8%
Subtotal 16	8.677	8.719	8.209	7.663	8.482	-2,2%	10,7%
31	12.572	11.971	12.215	11.194	12.498	-0,6%	11,6%
Total 16 + 31	21.249	20.690	20.424	18.857	20.980	-1,3%	11,3%

Source: Eurostat

Imports of all the sub-sectors of other woodworking industries stricto-sensu (NACE 16.2) rose in 2014. Imports of packaging (NACE 16.24) continued to increase significantly (+29.5%), whereas imports of wood-based panels (NACE 16.21), other products (NACE 16.29) and parquet (NACE 16.22) increased by more than 10% each.

Furniture (NACE 31) accounted for almost 60% of the extra-EU imports of woodworking products in 2014. Sawmilling products (NACE 16.1) accounted for 14% of imports and other wood products (NACE 16.2) exceeded 26%. More specifically, wood-based panels (NACE 16.21) and other products (NACE 16.29) represented 10.6% and 9.5% respectively.

Figure 2.3: Extra-EU Imports 2014 – Relative importance of the NACE sub-sectors

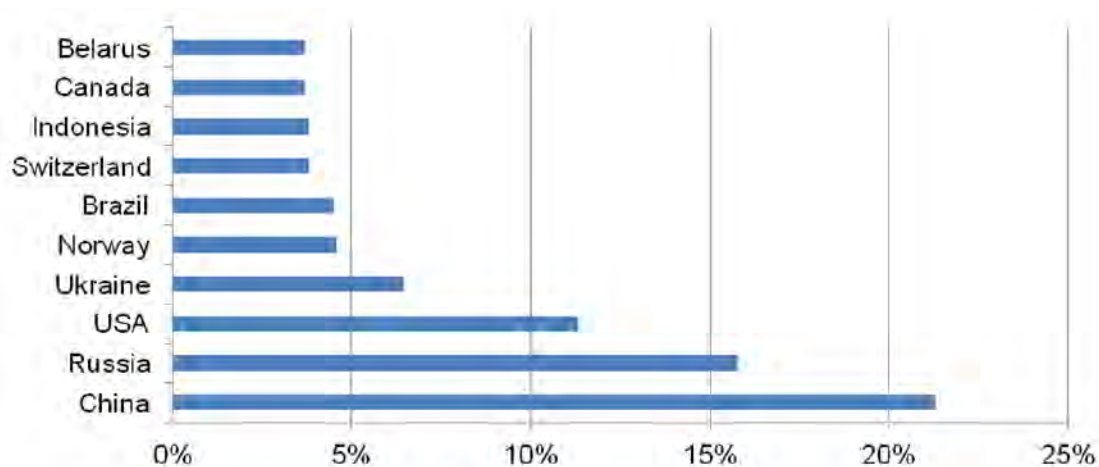


Source: CEI-Bois calculations & Eurostat

In 2014, China and Russia continued to be the largest Extra-EU suppliers of wood products to the EU, with stable market shares of 21% and 16% respectively. The United States were the third largest trading partner with a rising market share of 11%. As in 2013, imports from American countries such

as Brazil and Canada amounted together to approximately 9% of the market. 9% of imports also came from Norway and Switzerland together while 6% came from Ukraine and 4% from Belarus. Finally, Indonesia accounted for 4% of EU imports.

Figure 2.4: Extra-EU imports 2014 - Relative importance of main countries of origin



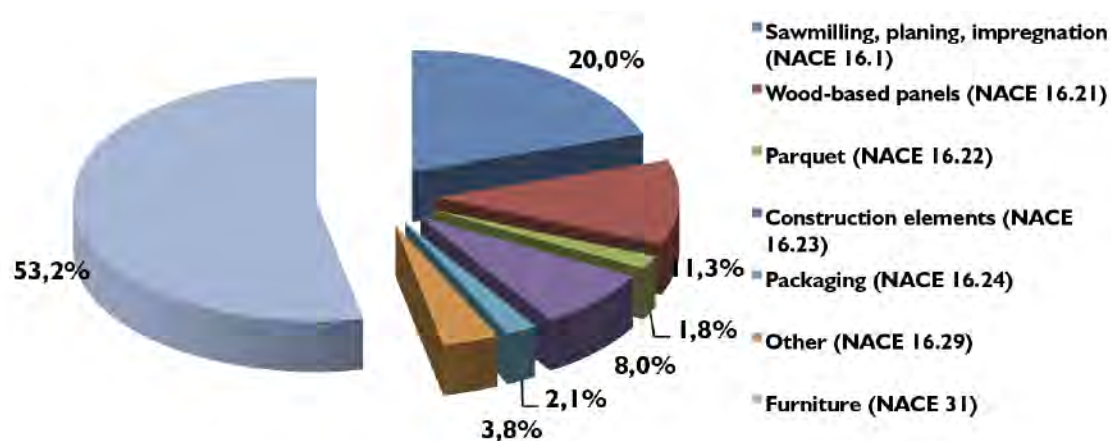
Source: CEI-Bois calculations & Eurostat

Table 2.7: Extra-EU exports in million EUR, 2010-2014

NACE code	2010	2011	2012	2013	2014	14/10	14/13
16.1	3.811	3.929	4.367	4.831	5.102	33,9%	5,6%
16.2	5.464	6.015	6.707	7.028	6.850	25,4%	-2,5%
16,21	2.483	2.603	2.915	3.002	2.882	16,1%	-4,0%
16,22	320	382	418	444	448	40,0%	0,9%
16,23	1.485	1.723	1.940	2.103	2.036	37,1%	-3,2%
16,24	392	429	479	530	524	33,7%	-1,1%
16,29	784	878	955	949	960	22,4%	1,2%
Subtotal 16	9.275	9.944	11.074	11.859	11.952	28,9%	0,8%
31	9.983	11.165	12.279	13.095	13.562	35,9%	3,6%
Total 16 + 31	19.258	21.109	23.353	24.954	25.514	32,5%	2,2%

Source: Eurostat

Figure 2.5: Extra-EU exports 2014 - Relative importance of the NACE sub-sectors



Source: CEI-Bois calculations & Eurostat

The overall value of EU-28 exports of woodworking products exceeded 25 billion EUR in 2014 which was 2.2% more than in 2013 and well above the 2010 level of 19.3 billion EUR (+32.5%). Nevertheless, exports of woodworking products *stricto-sensu* decreased by 2.5% in 2014, reflecting falls of exports by 4%, 3.2% and 1.1% of wood-based panels (NACE 16.21), construction elements (NACE 16.23) and packaging (NACE 16.24). Exports of other sub-sectors of other woodworking industries *stricto-sensu* (NACE 16.2) remained rather stable.

Furniture increased their exports by 3.6% while the value of sawmilling, planing and impregnation (NACE 16.1) exports exceeded 5 billion EUR (+5.6%).

Furniture (NACE 31) accounted for 53.2% of the extra-EU exports of woodworking products in 2014. Sawmilling products (NACE 16.1) accounted for an increasing share of 20% of exports and other wood products (NACE 16.2) for a decreasing share of 26.8%. More specifically, wood-based panels (NACE 16.21) and construction elements (NACE 16.23) represented 11% and 8% respectively.

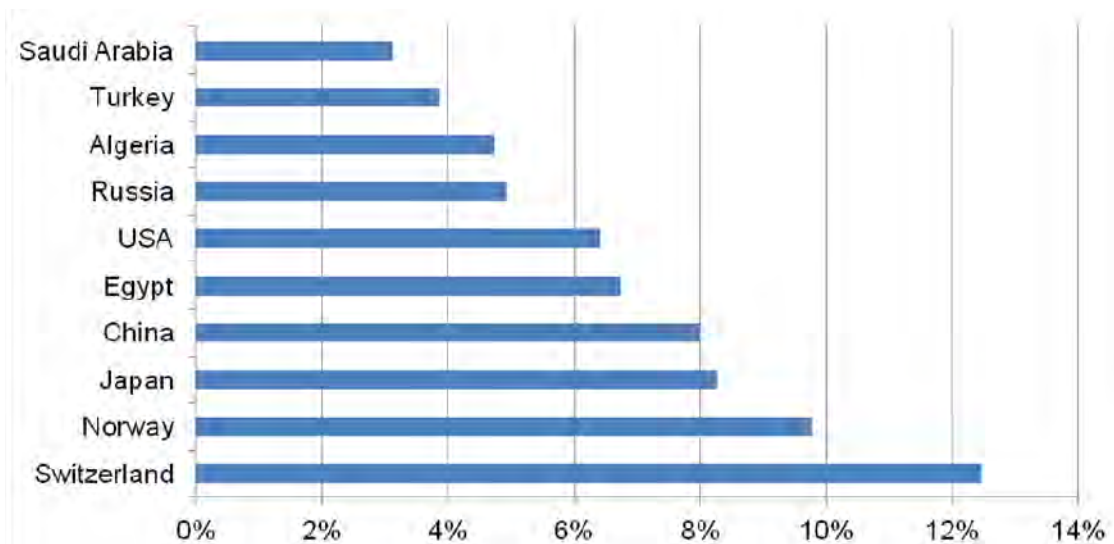
Transit trade not taken into consideration, the 28 Member States exports outside the EU amounted to 12.3% of their overall production compared to 12.5% in 2013. The woodworking industries *stricto-sensu* exported about 10.3% while the furniture sector sold 14.8% of its production outside the EU.

2.4 Destination of Exports

In 2014, the EU woodworking industries continued to export primarily to Switzerland, Norway and Japan which accounted for decreasing shares of 13%, 10% and 8% of extra-EU exports respectively. China and Egypt followed

with 8% and 7% of the extra-EU exports. USA and Russia also accounted for 6% and 5% of the extra-EU exports. Finally, Algeria, Turkey and Saudi Arabia completed the top ten destinations of extra-EU exports.

Figure 2.6: Extra-EU exports 2014 - Relative importance of main destinations



Source: CEI-Bois calculations & Eurostat

2.5 Trade Balance

The trade balance for the woodworking industries is different according to the products. In total, the EU trade balance decreased significantly from 6.1 billion EUR in 2013 to 4.5 billion EUR in 2014. The woodworking industries *stricto-sensu* (NACE 16) ended 2014 with a surplus of 3.5

billion EUR while the furniture industry (NACE 31) registered a lower surplus of 1 billion EUR. In 2014, all sub-sectors of the woodworking industries *stricto-sensu* have significantly positive trade balances except other woodworking products (NACE 16.29) whose balance remained, as usual, negative.

Table 2.8: Trade balance in million EUR, 2010-2014

NACE code	2010	2011	2012	2013	2014
16.1	366	555	1.370	2.067	2.101
16.2	232	670	1.495	2.129	1.369
16,21	472	478	921	1.048	660
16,22	-104	-67	-29	61	26
16,23	795	1.049	1.309	1.541	1.454
16,24	251	274	290	323	256
16,29	-1.182	-1.064	-996	-844	-1.027
Subtotal 16	598	1.225	2.865	4.196	3.470
31	-2.589	-806	64	1.901	1.064
Total 16 + 31	-1.991	419	2.929	6.097	4.534

Source: Eurostat

2.6 Apparent Consumption

Apparent consumption of wood products upturned by 5.3% in 2014 compared to 2013, and exceeded 203 billion EUR. The consumption of products from the woodworking industry stricto sensu increased by 4.9%, while the apparent

consumption of furniture rose by 5.8%. The sawmill, planing and impregnation products (NACE 16.1) sector experienced an increase by 6.8% in 2014.

Table 2.9: Apparent consumption per sub-sector in million EUR, 2010-2014

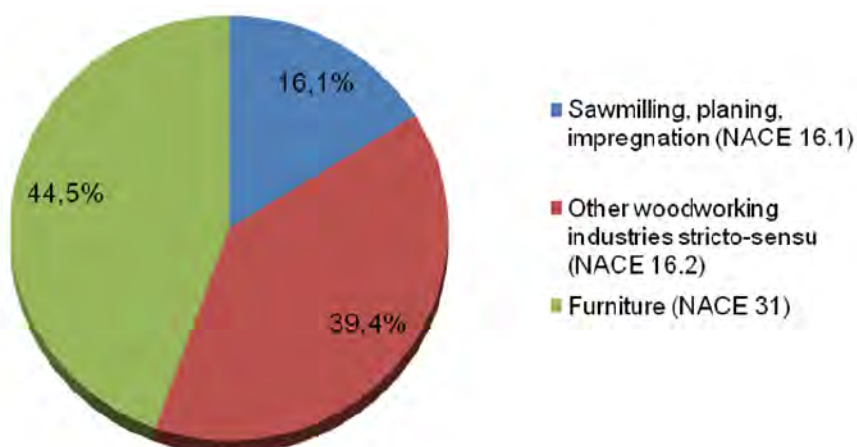
NACE code	2010	2011	2012	2013	2014	14/10	14/13
16.1	30.031	33.194	31.631	30.691	32.789	9,2%	6,8%
16.2	81.077	83.326	79.152	76.998	80.160	-1,1%	4,1%
Subtotal 16	111.108	116.520	110.783	107.689	112.949	1,7%	4,9%
31	94.121	91.366	89.119	85.590	90.560	-3,8%	5,8%
Total 16 + 31	205.229	207.886	199.902	193.279	203.508	-0,8%	5,3%

Source: CEI-Bois calculations & Eurostat

In this analysis, the consumption of sawmill products (NACE 16.1) amounted to 32.8 billion EUR and accounted for 16% of the total consumption of wood products in 2014. The consumption of other woodworking products (NACE 16.2)

exceeded 80 billion EUR and represented 39.4% of the total consumption of wood products while the consumption of furniture (NACE 31) exceeded 90.5 billion EUR, meaning a relative consumption of 44.5%.

Figure 2.7: Apparent consumption 2014 - Breakdown per NACE sub-sector



Source: CEI-Bois calculations & Eurostat

2.7 Employment

The figures on employment in the woodworking sector provide an indication of the overall employment, although it should be borne in mind that some countries do not take into account firms with less than 20 employees. Thus, the global figures tend to substantially underestimate the

employment in small and medium-sized industrial sectors. Given the SME structure of the woodworking industries, the actual total number of employees in the EU-28 wood industry should be estimated at substantially more than 2 million in 2014.

Table 2.10: Employment in the EU woodworking industries, 2010-2014

NACE code	2010	2011	2012	2012	2014	14/10	14/13
16.1	258.773	264.363	253.450	244.510	249.584	-3,6%	2,1%
16.2	801.187	775.651	746.348	721.986	741.021	-7,5%	2,6%
Subtotal 16	1.059.960	1.040.014	999.798	966.496	990.605	-6,5%	2,5%
31	1.051.784	1.035.364	998.680	971.007	964.856	-8,3%	-0,6%
Total 16 & 31	2.111.744	2.075.378	1.998.478	1.937.503	1.955.461	-7,4%	0,9%

Source: CEI-Bois calculations & Eurostat

According to the Eurostat data, employment in the woodworking industries rose slightly by 0.9% in 2014, being lower than the 2 million threshold. The increase of employment took place in the woodworking industries stricto-sensu (+2.5%) while employment dropped further

in the furniture sector by -0.6%. Within the woodworking industries stricto-sensu, increases of employment were observed both in the other woodworking industries (+2.6%) and in the sawmill sector (+2.1%).



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Table 2.11: Employment in the EU woodworking and furniture industries per EU Member State, 2010-2014

Number of Employees	2010	2011	2012	2013	2014	14/10	14/13
Austria	63.788	63.932	63.796	62.009	60.989	-4,4%	-1,6%
Belgium	26.736	26.957	25.117	24.573	25.171	-5,9%	2,4%
Bulgaria	38.206	38.288	38.126	38.376	38.815	1,6%	1,1%
Croatia	27.960	27.233	27.051	26.635	26.848	-4,0%	0,8%
Cyprus	4.534	4.296	3.668	2.942	2.714	-40,1%	-7,7%
Czech Republic	90.024	88.914	87.196	81.707	80.269	-10,8%	-1,8%
Denmark	17.962	21.721	21.059	20.053	20.174	12,3%	0,6%
Estonia	20.383	21.767	22.933	23.118	24.230	18,9%	4,8%
Finland	33.585	33.408	32.150	30.030	28.686	-14,6%	-4,5%
France	138.392	142.861	125.291	121.815	121.750	-12,0%	-0,1%
Germany	280.355	279.148	275.500	279.440	277.298	-1,1%	-0,8%
Greece	32.333	29.415	23.451	14.874	14.605	-54,8%	-1,8%
Hungary	35.878	34.609	33.817	33.402	34.043	-5,1%	1,9%
Ireland	7.045	6.722	5.453	5.898	5.900	-16,3%	0,0%
Italy	302.298	290.265	276.186	263.847	263.060	-13,0%	-0,3%
Latvia	26.967	28.029	29.404	30.825	30.604	13,5%	-0,7%
Lithuania	38.865	41.967	44.342	46.264	50.904	31,0%	10,0%
Luxembourg	183	187	173	169	161	-12,0%	-4,7%
Malta	1.823	1.691	1.524	1.503	1.781	-2,3%	18,5%
Poland	283.554	276.751	267.136	264.642	281.991	-0,6%	6,6%
Portugal	69.563	67.099	60.958	57.000	57.671	-17,1%	1,2%
Romania	115.068	119.040	119.976	119.796	118.123	2,7%	-1,4%
Slovakia	42.583	42.369	36.660	33.828	39.699	-6,8%	17,4%
Slovenia	18.580	17.017	15.531	14.306	14.249	-23,3%	-0,4%
Spain	156.390	138.136	119.812	108.634	103.317	-33,9%	-4,9%
Sweden	52.874	53.789	50.625	47.121	46.788	-11,5%	-0,7%
The Netherlands	41.837	40.326	39.256	37.327	35.810	-14,4%	-4,1%
United Kingdom	143.978	139.441	152.287	147.369	149.811	4,1%	1,7%
EU 28	2.111.744	2.075.378	1.998.478	1.937.503	1.955.461	-7,4%	0,9%

Source: CEI-Bois calculations & Eurostat

Among the 28 countries of the EU and thanks to an increase of 6.6%, Poland took the lead of the employment ranking in the woodworking industries (NACE 16 + 31) at the expense of Germany (-0.8%) and Italy (-0.3%). Poland has now more than 280,000 jobs in the woodworking industries. Cyprus,

Spain, Luxembourg, Finland and the Netherlands showed the most significant decreases while Malta (+18.5%), the Slovak Republic (+17.4%) and Lithuania (+10%) experienced the largest increases in employment in 2014.

Table 2.12: Employment in the EU woodworking and furniture industries per EU Member State, 2014

Number of Employees	16	16,1	16,2	31	16 + 31
Austria	32.896	10.577	22.319	28.093	60.989
Belgium	11.867	1.709	10.158	13.304	25.171
Bulgaria	16.862	6.355	10.507	21.953	38.815
Croatia	16.965	7.539	9.426	9.883	26.848
Cyprus	1.764	10	1.754	950	2.714
Czech Republic	54.283	8.061	46.222	25.986	80.269
Denmark	9.520	737	8.783	10.654	20.174
Estonia	16.538	4.924	11.614	7.692	24.230
Finland	21.357	8.699	12.658	7.329	28.686
France	67.150	18.000	49.150	54.600	121.750
Germany	134.958	26.063	108.895	142.340	277.298
Greece	6.366	661	5.705	8.239	14.605
Hungary	17.398	4.670	12.728	16.645	34.043
Ireland	3.400	800	2.600	2.500	5.900
Italy	120.353	16.447	103.906	142.707	263.060
Latvia	24.249	13.275	10.974	6.355	30.604
Lithuania	23.547	8.645	14.902	27.357	50.904
Luxembourg	0	0	0	161	161
Malta	321	0	321	1.460	1.781
Poland	120.810	35.769	85.041	161.181	281.991
Portugal	28.605	5.150	23.455	29.066	57.671
Romania	56.654	29.151	27.503	61.469	118.123
Slovakia	24.871	10.916	13.955	14.828	39.699
Slovenia	8.387	1.948	6.439	5.862	14.249
Spain	47.589	6.463	41.126	55.728	103.317
Sweden	32.038	12.571	19.467	14.750	46.788
The Netherlands	12.986	1.335	11.651	22.824	35.810
United Kingdom	78.871	9.109	69.762	70.940	149.811
EU 28	990.605	249.584	741.021	964.856	1.955.461

Source: CEI-Bois calculations & Eurostat

In terms of employment, the furniture industry represented 49.3% of the jobs, the sawmill industry accounted for 12.8% of the employment while the other sub-sectors accounted for 37.9%. In the sawmill industry (NACE 16.1) and the

furniture sector (NACE 31), most people were employed in Poland. Italy had thus not regained its leading position in the furniture sector nor its leading position in the other sub-sector (NACE16.2) which is still dominated by Germany.

2.8 Number of Enterprises

According to Eurostat, the woodworking industries counted more than 292,000 companies in 2014, of which about 121,000 companies were active in the furniture business (NACE 31). Within the woodworking industries stricto-

sensu, the sawmill industry (NACE 16.1) accounted for roughly 35,000 companies, while the other sub-sectors of woodworking products (NACE 16.2) counted some 136,000 companies. These figures remain underestimations since

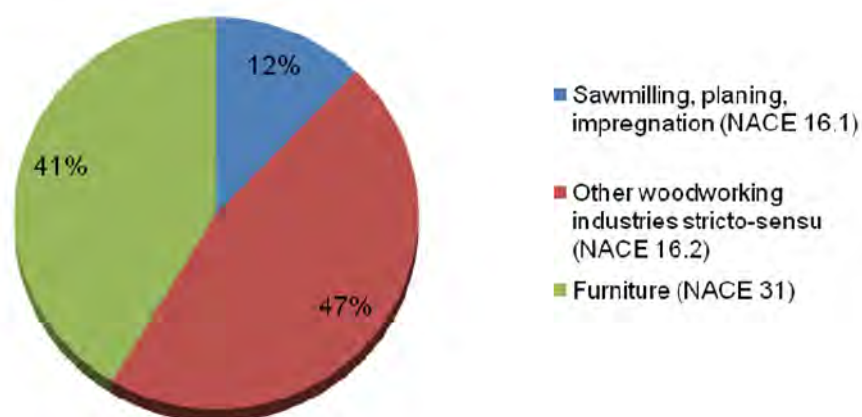


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small companies are not necessarily taken into account given the Member States' reporting. In the furniture and the construction elements sectors, the number of small

companies is considerable and therefore, the real number of firms could be estimated at more than 350,000 companies.

Figure 2.8: Number of enterprises 2014 - Breakdown per NACE sub-sector



Source: CEI-Bois calculations & Eurostat

3. Economic overview of the wood markets

3.1 Wood Raw Materials

Of the total roundwood removals of 1.1 billion m³ in the UNECE in 2014, approximately 17.9% (199 million m³) were used for fuel. This figure was projected to slightly increase to 18% in 2015 and 18.1% in 2016. In Europe up to 30.5% of wood was used for fuel (at the end of 2016 it is expected to be 30.6%), while in the CIS region in 2014 17% of wood was used for fuel, a percentage which is thought to drop to 16.7% at the end of 2016. In North America wood fuel constitutes 8.9% of total roundwood removals and at the end of 2016 this figure is projected to grow to 9.3%.

As regards logs, they constitute 58.4% of total roundwood removals in 2014, a figure which is projected to rise at the end of 2016 to 58.7%. In Europe logs removals accounted for 55.9% of total roundwood removals in 2014 (in 2016 this percentage is expected to rise to 56.2%), while in the US logs constituted almost 57% of total removals, a situation which

is expected to remain stable into 2016. In the CIS region logs have a much higher share as they account for more than two thirds (66.9%) of total roundwood removals.

Overall, the total apparent consumption of industrial roundwood in the UNECE region continued its upward trend in 2014, reaching 1.06 billion m³, up by 2% compared with 2013 and 6% higher than in 2010. The use of softwood industrial roundwood increased to 788.3 m³ (up by 2.1% over 2013 and 4.4% over 2010) and hardwood industrial roundwood increased to 275.5 million m³ in 2014 (up by 1.9% over 2013 and 10.7% over 2010).

The table below shows the main market indicators for the last 6 years in the UNECE region (2015 forecasts, data are shown in million m³). Not only has consumption increased, but also removals are on the rise and were projected to further increase in 2015.

Table 3.1: Industrial Roundwood main indicators, UNECE Region, 2010-2015 (1.000 m³)

UNECE region	Industrial Roundwood						I4/I3	I5/I4
	2010	2011	2012	2013	2014	2015		
Removals	1.022.653	1.066.535	1.053.932	1.069.894	1.093.374	1.105.632	2,2	1,1
Imports	57.541	59.720	56.399	62.815	63.163	64.222	0,6	1,7
Exports	76.516	82.366	81.211	90.249	92.833	95.276	2,9	2,6
Net trade	18.975	22.646	24.812	27.434	29.670	31.054		
Consumption	1.003.678	1.043.890	1.029.120	1.042.460	1.063.704	1.074.578	2,0	1,0

Source: FAO 2015 and EOS re-elaboration, 2015 data are estimates

The UNECE region is overall a net exporter of roundwood. Though trade has been growing for some years, exports are outpacing imports handily, which is causing the net trade to edge more and more on the positive side. Imports, however, are expected to grow in 2015 by 1.7%. The net trade was 19 million m³ in 2010 and rose to 31 million in 2015. The UNECE region mainly exports to Asia. The net export volume of softwood logs to destinations outside the UNECE region was 28 million m³ in 2014, while the net export of hardwood logs was nearly 2 million m³. Globally, the four biggest trade flows of softwood logs are all to China from (in descending

order, by volume) New Zealand, the Russian Federation, the US and Canada; the fifth-largest trade flow of softwood logs is from New Zealand to the Republic of Korea.

Taken as a whole, the global trade of softwood roundwood was almost unchanged in 2014 compared with 2013, at about 84 million m³ (Wood Resources International, 2015). However, trade slowed towards the end of 2014 and through the first five months of 2015. The biggest drops in imports in the first half of 2015 were in China (down by 23% compared with the same period in 2014) and Japan (down by 30%).

3.1.1 Europe

Table 3.2: Industrial Roundwood main indicators, Europe, 2010-2015 (1.000 m³)

Industrial Roundwood								
Europe	2010	2011	2012	2013	2014	2015	I4/I3	I5/I4
Removals	370.270	373.166	363.990	367.545	378.551	384.347	3,0	1,5
Imports	51.497	53.623	50.024	56.385	57.380	58.377	1,8	1,7
Exports	36.717	41.306	37.799	43.369	44.624	44.953	2,9	0,7
Net trade	-14.780	-12.317	-12.224	-13.016	-12.757	-13.424		
Consumption	385.050	385.483	376.214	380.561	391.307	397.771	2,8	1,7

Source: FAO 2015 and EOS re-elaboration, 2015 data are estimates

Industrial roundwood removals in 2014 amounted to 378.6 million m³, of which 76% (288.9 million m³) was softwood. In 2015 this figure was thought to grow to 384 million m³. Softwood removals were up by 3.1% in 2014 compared with 2013 (when they were 280.2 million m³). In 2015 softwood removals were expected to reach 293.5 million m³. Of the ten-largest log-producing countries, the biggest year-over-year increases in softwood log production in 2014 were in Norway (8.9%), Turkey (8.1%), France (5.6%), Poland (5.6%) and the Czech Republic (2.9%). Austria is the only major forest nation in Europe in which the timber harvest has dropped in recent years: softwood removals there declined by 13.4% from 2011 to 2014, to their lowest level since 2002. This trend however was expected to have been reversed in 2015 when roundwood removals were thought to grow by more than 6% compared to the previous year. A very interesting development in the last ten years took place in Turkey, where a rapidly expanding medium density fiberboard and particle board industry has increased demand for both domestic and imported wood raw material. As a consequence, Turkey's domestic softwood harvests have more than doubled since 2003, and Turkey was the sixth-largest roundwood producer in Europe in 2014 with a share of 4.8%. This figure was projected to grow to more than 5% in 2015. Hardwood roundwood removals in Europe have increased steadily in the last five years, reaching their highest level in more than ten years in 2014. Most of the increase was in (in descending order, by volume) Turkey, France, Slovenia, and Latvia.

As far as trade is concerned, Europe is a net importer of industrial roundwood - both softwood and hardwood, though over the last few years the two are showing diverging trends, since the difference between softwood imports and softwood exports is shrinking (it was almost 9 million m³ in 2010 but slightly above 4.5 million in 2015), so the softwood trade deficit is reducing, while the difference between hardwood imports and hardwood exports is augmenting (it was almost 5.8 million m³ in 2010 but 8.8 million in 2014), so the hardwood trade deficit is increasing.

Net imports of roundwood and wood chips to the Europe sub-region were 12.8 million m³ in 2014. The biggest increases between 2012 and 2014 were in Germany (up by 1.8 million m³, mostly softwood logs from the Czech Republic, Estonia and Norway), Sweden (up by 1.3 million m³, mostly softwood logs from Norway and the Russian Federation) and Portugal (up by 840 thousand m³, mostly hardwood logs from Spain).

Almost all major lumber-producing countries in Europe imported lower volumes of softwood logs in the first four months of 2015 than in the same period in 2014, with the biggest declines in Austria, Belgium, Finland, Italy and Sweden; imports increased only in Latvia, Poland and Turkey. The main reason for the reduced trade was a decline in lumber demand in many of the key markets in Europe.

3.1.2 CIS Region

The timber harvest in the CIS region has been healthily growing for a number of years, and it reached 208 million m³ in 2014, an increase by 4.2% to the previous year and

by over 17% since 2010. In the three major forest-rich countries of Belarus, the Russian Federation and Ukraine, timber removals reached their highest level in at least ten

years in 2014, with softwood species accounting for about two-thirds of the total harvest. The growth in removals of industrial roundwood in 2014 was higher in the Russian Federation than in Belarus and Ukraine. On the other hand, domestic log consumption rose at a slower rate in the Russian Federation, where log exports increased by almost 10%. However, the accuracy of Russian harvest data remains uncertain. In addition to official estimates, the

Russian Government has acknowledged that there is also “undocumented” timber harvesting, although estimates of the volume of timber harvested without permission vary substantially. According to the Russian Federal Forestry Agency, the estimated illegally logged volume was 1.2-1.8 million m³ in 2011, but the World Wildlife Fund and the World Bank put the figure at 35 million-40 million m³ for the same period (FAO, 2012).

Table 3.3: Industrial Roundwood main indicators, CIS Region, 2010-2015 (1.000 m³)

CIS	Industrial Roundwood						14/13	15/14
	2010	2011	2012	2013	2014	2015		
Removals	177.446	191.931	196.125	199.661	208.077	213.222	4,2	2,5
Imports	484	864	713	633	613	613	-3,1	0,0
Exports	26.140	25.949	23.149	25.158	27.012	28.983	7,4	7,3
Net trade	25.656	25.085	22.436	24.525	26.399	28.370		
Consumption	151.790	166.846	173.690	175.136	181.678	184.852	3,7	1,7

Source: FAO 2015 and EOS re-elaboration, 2015 data are estimates

The geopolitical tensions connected to the involvement of the Russian federation in Ukraine, which led to the imposition of sanctions by the US and European governments, and a major decline in oil prices (Russia is the second largest oil exporter in the world) have cast a shadow on the macroeconomic picture in Russia: 2015 was a recessionary year and the future does not look rosy. Lower disposable incomes, declining investments in construction and infrastructure, and a pessimistic outlook for economic growth for the next few years are all factors that have had a negative impact on the domestic consumption of wood products. The consumption of logs for domestically consumed forest products fell in the second half of 2014 and is expected to continue to decline through 2015 and 2016. On the other hand, total log consumption has increased steadily in the last five years thanks to the increased production of softwood lumber for export. Log consumption reached 167 million m³ in 2014, which was 19% higher than in 2010. As for trade, the massive devaluation of the rouble (almost 50% in 2014) made Russian exports more competitive: as Russia represents by far the largest market of the area, the CIS region saw the exports of roundwood grow by more than 7% in 2014 and a similar growth rate should have been achieved in 2015.

In just a few years, Ukraine has become Europe's second largest exporter (after Russia) of softwood logs and the fifth-largest exporter of softwood logs worldwide. Its export volume more than doubled from 2009 to 2014,

reaching a record high of 3.1 million m³, which was 38% of the country's official timber harvest. The outward flow of logs has not increased the harvest (at least not the legal harvest) in Ukraine; rather, it has resulted in a reduction in log consumption by the domestic forest industry. In an attempt to reduce illegal logging, minimize corruption, boost employment and encourage an increase in the manufacture of processed and higher-value products, the Government of Ukraine passed a law in April 2015 banning log exports. The law has taken effect on 1 January 2016 for all species except pine, which will be banned from export from 1 January 2017. The law will be in place for ten years. China is the number-one destination for Ukrainian softwood logs, followed by Romania and Turkey; all three countries are likely to be affected by Ukraine's log export ban. Ukraine is the fifth-largest supplier of logs to China, accounting for about 4% of that country's total import volume in 2014.

However, The Economic Development and Trade Ministry of Ukraine at the beginning of March 2016, proposed to revoke a ban on exports of round timber that allegedly causes alarm among the EU member states, reports Interfax-Ukraine. According to the Ukrainian authorities, a better option would be the introduction of new mechanisms for protecting the domestic market that meet the requirements and are more compatible with the interests of the World Trade Organization. It remains to be seen what will happen over the next few months (Fordaq, March 2016).

3.1.3 North America

Table 3.4: Industrial Roundwood main indicators, North America, 2010-2015 (1.000 m³)

North America	Industrial Roundwood							14/13	15/14
	2010	2011	2012	2013	2014	2015			
Removals	474.937	501.439	493.817	502.688	506.746	508.062	0,8		0,3
Imports	5.561	5.233	5.662	5.798	5.170	5.232	-10,8		1,2
Exports	13.660	15.111	20.263	21.723	21.197	21.340	-2,4		0,7
Net trade	8.098	9.878	14.601	15.925	16.028	16.108			
Consumption	466.839	491.561	479.216	486.764	490.718	491.954	0,8		0,3

Source: FAO 2015 and EOS re-elaboration, 2015 data are estimates

Since 2012 both production and consumption in North America have been slightly trending upwards, though growth is projected to slow down in 2015. Canada accounts for a little more than 29% of total North American production, and this share has been substantially stable over the last few years. Canada harvested an estimated 150 million m³ of industrial roundwood in 2014, up by 1.5% compared with 2013 and by 8.0% compared with 2010. A large majority (84%) of the 2014 harvest in Canada comprised softwood sawlogs for sawmills in the provinces of Alberta, British Columbia and Quebec. A large share of the hardwood harvest comprises small diameter logs used by pulp mills and oriented strandboard (OSB) manufacturers in Alberta and the eastern provinces. The biggest changes in log use in Canada in the last five years have been the increased use of softwood sawlogs for lumber production and the increased consumption of hardwood logs by the OSB industry. Timber harvests increased in the US from 336 million m³ in 2010 to 357 million m³ in 2014. Almost 344 million m³ was consumed domestically in 2014 and about 14 million m³ was exported, mainly to Canada, China and Japan. Softwood accounted for about 73% of the US harvest in 2014, a slightly higher percentage than in 2010.

As far as trade is concerned, the North American region is a net exporter. Both imports and exports decreased in 2014 but trade was expected to resume in 2015. Imports reached their lowest level for the last 5 years, while exports, despite slowing down overall grew by more than 55% since 2010. The US exports more logs than Canada, but Canada has increased its shipments relative to the US since 2012. In practice all log exports to overseas markets are from the US northwest and British Columbia. Total US softwood log exports were down by 8.3% in 2014 compared with the 17-year high achieved in 2013. The US exported almost 11.8 million m³ of softwood logs in 2014, of which 72% was to Asian markets (the share was less than 50% in 2005). US softwood log export volumes to Asia doubled in just six years, from 4.2 million m³ in 2009 to 8.5 million m³ in 2014. However, US shipments to China plummeted by 34% in the second half of 2014 compared with the first half of the year, to their lowest level since 2012. Two major factors influenced this decline: decreased demand for wood in China, and high log inventories in China. The decline in log exports from North America continued in the first five months of 2015, with US and Canadian shipments down by 28% and 14%, respectively, compared with the same period in 2014.

3.1.4 Global focus and Extra UNECE region

Outside the UNECE region, China, Brasil and Indonesia are major producers, while New Zealand is the second largest exporter in the world, Papua New Guinea the seventh and Malaysia the ninth. China is by far the largest importer, as it imports six more times as much roundwood as Germany, which is the second largest importer in the world. Overall China's share of world roundwood imports is a whopping 39%.

China also set a new record high for its consumption of imported softwood logs. The seemingly endless increase in demand for wood raw materials from Chinese wood-product manufacturers has resulted in year-over-year import increases in eight of the past ten years. The value of logs imported into China surged from \$2.2 billion in 2009 to \$5.4 billion in 2014 (Wood Resources International, 2015). The volume of logs unloaded at Chinese ports has almost

Table 3.5: World largest producers, exporters and importers of roundwood, 2014 (m³)

Production		Exports		Imports	
United States of America	356.812.000	Russian Federation	20.899.100	China	52.694.020
Russian Federation	188.299.678	New Zealand	16.563.961	Germany	8.317.411
China	161.017.000	United States of America	13.962.174	Sweden	8.127.462
Canada	149.933.963	Canada	7.235.062	Austria	7.259.532
Brazil	149.530.000	Czech Republic	4.931.000	India	6.530.917
Sweden	66.800.000	France	4.397.246	Finland	6.256.010
Indonesia	62.605.500	Papua New Guinea	4.009.629	Belgium	4.506.680
Finland	50.678.000	Latvia	3.836.744	Canada	4.260.571
India	49.517.000	Malaysia	3.497.000	Japan	4.199.476
Germany	43.242.535	Ukraine	3.453.900	Republic of Korea	3.775.094
Chile	42.590.000	Norway	3.295.347	Italy	2.910.957
Poland	35.425.000	Germany	3.278.038	Poland	2.803.915
New Zealand	29.956.000	Poland	2.970.724	Portugal	2.484.761
France	25.832.279	Slovakia	2.932.366	Czech Republic	2.439.000
Australia	25.299.000	Estonia	2.757.808	Viet Nam	2.109.762
Japan	21.057.000	Belarus	2.659.000	Spain	1.749.521
Turkey	18.535.000	Australia	2.613.684	France	1.502.632
Malaysia	17.786.000	Spain	2.604.375	Latvia	1.299.513
Thailand	14.600.000	Solomon Islands	2.295.000	Romania	1.007.602
South Africa	14.406.172	Myanmar	2.284.500	United States of America	909.094

Source: FAO 2015 and EOS re-elaboration

doubled in the last five years. The majority of those logs are from New Zealand, the Russian Federation and the US, although the number of countries supplying significant volumes has expanded. In 2009, logs from the 'big three' countries accounted for 93% of all softwood logs imported by China. In 2014, this share was down to 76%, with log-sellers in Australia, Canada and Ukraine increasing their contributions to the world's largest log import market. Australia alone shipped almost 2.2 million m³ in 2014, compared with 1.1 million m³ in 2011. China reduced its log imports towards the end of 2014 and into 2015 because of high log inventories and lower demand, with the volume of imports reaching its lowest level in years in the first quarter of 2015. The biggest year-over-year declines were in imports from Canada and the US, while the falls were more modest for New Zealand and the Russian Federation.

In March 2016, new figures were released on China log suppliers. New Zealand was the main log supplier to China in 2015 accounting for 24% of the national total. Imports from New Zealand totalled 10.77 million cubic metres, a year on year decline of 8%.

The second ranked supplier of logs was Russia at 10.61 million cubic metres, accounting for just over 23% of the national total. In 2015 a year on year decline of 7% was recorded in log imports from Russia. Australia keeps increasing its logs exports to China, while Ukraine suffered a sharp decline (Fordaq, March 2016).

Table 3.6: Top 10 countries shipping logs to China, 2015

	2015 m ³ mil.	Change in % 2014/2015
New Zealand	10.77	-8%
Russia	10.61	-7%
USA	4.12	-32%
Papua New Guinea	3.16	-4%
Australia	2.83	21%
Canada	2.36	-22%
Solomon Island	2.22	1%
Ukraine	0.96	-42%
Eq. Guinea	0.66	32%
France	0.65	-11%

Source: Fordaq, March 2016

3.2 Sawn Softwood

The table below shows the main market indicators for the last 6 years in the UNECE region (2015 data are estimates, data are shown in million m³). Overall in the last few years, production, consumption (which is always calculated as apparent consumption: production plus imports minus

exports) are all growing. In 2015 growth is projected to slow down across all dimensions. The region is a net exporter of softwood, and exports have been growing faster than imports for several years.

Table 3.7: Sawn Softwood main indicators, UNECE Region, 2010-2015 (1.000 m³)

UNECE region	Softwood						14/13	15/14
	2010	2011	2012	2013	2014	2015		
Production	209.374	216.715	219.479	226.206	232.905	237.508	3,0	2,0
Imports	54.137	54.248	53.080	57.001	59.993	60.804	5,3	1,4
Exports	86.651	91.937	92.581	98.486	103.146	106.031	4,7	2,8
Net trade	32.514	37.689	39.501	41.485	43.153	45.227		
Consumption	176.860	179.026	179.978	184.721	189.752	192.281	2,7	1,3

Source: FAO 2015 and EOS re-elaboration, 2015 data are estimates

Sawn softwood consumption increased in North America (by 4.2%) and Europe (by 2.7%) in 2014 but declined in the CIS (by 3.7%). Volatile exchange rates affected countries differently as the US dollar strengthened against most currencies in late 2014 and the first quarter of 2015.

The construction industry is traditionally important for the softwood industry. At their 80th conference in Budapest in December, Euroconstruct projected that total construction output in Europe increased 1.6% during 2015. This compares to their more optimistic forecast of 1.9% growth made at the previous Euroconstruct Conference in June 2015. However, Euroconstruct is now more optimistic about prospects for 2016, forecasting 3% growth during the year (compared to their June forecast of only 2.4% growth).

Euroconstruct also forecast growth of 2.7% in 2017 and 2% in 2018. They estimate European construction output will have a value of €1412 billion in 2016, €1450 billion in 2017 and €1478 billion in 2018. This compares to a peak of €1532 billion just before the financial crises. Euroconstruct forecast that the construction sectors of all 19 countries represented

by the organisation will grow between 2016 and 2018. They noted that, during 2015, growth was particularly rapid in Ireland (+10.6%), Slovakia (+10.3%), Czech Republic (+7.4%), and the Netherlands (+6%).

In 2016-2018, annual construction growth is expected to exceed 7% in Poland and Ireland. On top of this, the five largest construction markets in Europe – Germany, UK, France, Italy, and Spain – are also expected to grow more strongly and together they will contribute more than two thirds of the forecast market expansion in 2016.

In recent years, much of the growth in European construction activity has been in repair, renovation and maintenance. These activities accounted for 60% of the total residential market in 2015. However, Euroconstruct suggest that much increased growth in construction activity in 2016-2018 will be in the residential new build sector. This will be driven by the massive influx of migrants arriving in Western European countries such as Germany, the Netherlands, and to the Nordic countries of Denmark, Finland, Norway and Sweden (Source ITTO/Fordaq, January 15, 2016).

3.2.1 Europe

Table 3.8 Sawn Softwood main indicators, Europe, 2010-2015 (1.000 m³)

Europe	Softwood						14/13	15/14
	2010	2011	2012	2013	2014	2015		
Production	99.310	100.889	97.037	97.929	101.098	103.750	3,2	2,6
Imports	34.321	33.181	31.079	31.575	32.945	33.526	4,3	1,8
Exports	43.808	44.625	43.787	45.271	47.517	48.618	5,0	2,3
Net trade	9.487	11.444	12.708	13.696	14.572	15.092		
Consumption	89.823	89.445	84.329	84.233	86.526	88.658	2,7	2,5

Source: FAO 2015 and EOS re-elaboration, 2015 data are estimates

Overall all indicators are on the rise in Europe both in 2014 and in 2015 (only imports in 2015 will grow less than 2%). After some years of stagnation, production in 2014 surpassed the 2011 level, reaching 101 million m³. Consumption instead, though it was on the rise, is still below the 2010 level, which has not been reached even in 2015. Consumption rose by 2.7% in 2014 and reached 86.5 million m³. Some markets clearly underperformed, while others experienced remarkable growth. It is, however, worth pointing out that in Europe production remains 10% below the 2007 peak which was observed before the global economic crisis.

The Nordic countries (Finland, Norway and Sweden) contributed more than half (1.2 million m³) of the increase in European apparent consumption, with growth in Sweden especially high (up by 17%, or 0.8 million m³). Growth in Finland and Norway was 4.9% and 7.8%, respectively, and Estonia, Lithuania, Poland, Turkey and the UK also reported growth rates well above the sub-regional average. Estonia now has the highest sawn softwood consumption per capita in the sub-region due to a rapidly growing remanufacturing sector. Three years of decline in the apparent consumption of sawn softwood in Austria and France have removed 2.6 million m³ from Europe's total apparent consumption. Consumption has also declined in the smaller markets of Latvia, Portugal, Romania and Slovenia, although it is still within the five-year averages for all those countries except Portugal, where consumption in 2014 was less than half what it was in 2010. However, the decline of consumption in Portugal was projected to come to a halt in 2015 and in 2016.

As for demand, it rose in Europe as well as in overseas markets. The increase occurred mainly in Finland, Germany and Sweden, which collectively added 2.3 million m³ to total production. Sweden alone accounted for half the growth

in the sub-region, increasing its production by 9% due to remarkable increases in consumption by the domestic construction and remanufacturing sectors as well as to steadily growing export demand and a build-up in stocks. Growth in Finland was also driven by domestic and export demand, whereas production increased in Germany mainly because of growing exports. Some of the smaller producer countries (e.g., Lithuania, 38.4%; Norway, 9.1%; Poland, 7.1%; and the UK, 5.1%) reported production increases of more than 5%, with a combined increase of 0.9 million m³ in 2014. On the other hand, production decreased in Austria, France and the Czech Republic for the third year in a row as these countries struggled with declining domestic demand.

As for trade, the fact that production is growing faster than consumption is limiting the necessity for imports from outside Europe. Also, the majority of the imports were intra-sub-regional. The EU countries imported about 6.2 million m³ of sawn softwood from outside the area in 2014, up by 11% over 2013, mainly from Belarus, the Russian Federation and Ukraine. EU countries imports from the Russian Federation were stable, but volumes from Belarus and Ukraine increased by 25% and 94%, respectively. Imports from North America doubled, reaching 0.5 million m³ in 2014. The trend of increasing overseas exports continued, with more than 21 million m³ (up by 17%) exported mainly to Asia and North Africa. Overseas markets accounted for 45% of total European trade in 2014. Egypt reclaimed the number one position from Japan in 2014 as Europe's largest overseas export market, with a volume of 3.5 million m³ (up by 33%, in total 68% Egypt's softwood imports came from 3 European countries: Sweden with a share of 34%, Finland 26% and Latvia 8%). Exports to Japan dropped significantly – by 18% – compared with 2013. Two other important markets, Saudi Arabia and Morocco, were relatively stable in 2014 at 1.5 million m³ and 1.3 million m³, respectively.

Exports to Morocco are projected to remain stable or to slightly rise up until 2017. Exports to Algeria continued to increase, reaching 2.2 million m³ in 2014. They are thought, however, to slightly decrease this year and to resume again in 2017, when they should reach the 2014 level. Growth in Chinese imports from the Europe slowed, although the increase was still significant at 0.4 million m³, representing

year-over-year growth of 33%; total import volume was 1.7 million m³ in 2014. European exports to the Republic of Korea and Australia have grown rapidly; both countries imported more than 0.6 million m³ of European sawn softwood in 2014. Exports to China and the US were up by 24% and 31%, respectively, in the quarter, but exports to Japan were down by 21%.

3.2.2 CIS Region

Table 3.9: Sawn Softwood main indicators, CIS Region, 2010-2015 (1.000 m³)

CIS	Softwood						14/13	15/14
	2010	2011	2012	2013	2014	2015		
Production	30.188	32.936	34.408	35.801	36.113	36.633	0,9	1,4
Imports	3.087	4.820	4.612	5.041	5.161	5.161	2,4	0,0
Exports	18.561	20.558	21.149	22.535	23.645	23.980	4,9	1,4
Net trade	15.474	15.738	16.537	17.494	18.484	18.819		
Consumption	14.715	17.198	17.871	18.307	17.629	17.814	-3,7	1,1

Source: FAO 2015 and EOS re-elaboration, 2015 data are estimates

Russia accounts for more than 87% of total softwood production in the CIS region. Overall, production rose by 0.9% in 2014, a much slower pace than in the previous years due to, partly, the geopolitical turmoil which is affecting the CIS countries. In 2015 growth should have slightly accelerated, and also consumption, after a negative 2014, should pick up and reach 17.8 million m³.

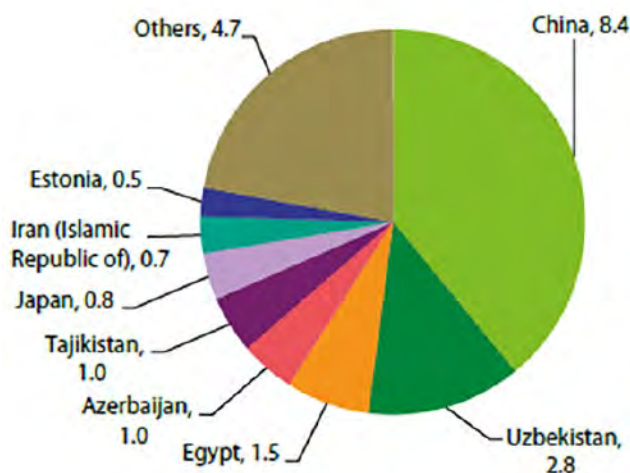
The dramatic weakening of the rouble in December 2014 and January 2015 made Russian sawn softwood exports extremely attractive. The devaluation contributed to an increase in exports of softwood logs to China, which, in turn, led to an increase in rouble prices in the domestic market, making it difficult for companies to procure raw materials for their sawmills. At any rate, prices in the domestic market grew more slowly than the rouble weakened, and prices started to adjust in early 2015. Sawmills moved to full production capacity in 2014, fuelled by strong export demand, with the volume of sawn softwood production increasing by 1.0%, to 31.5 million m³ (see the Russia chapter for more information).

As for trade, China remained the Russian Federation's largest export market in 2014 but the rate of growth declined. Russian sawn softwood shipments to China rose by 11% in 2014, to 8.4 million m³; their customs value at the Russian

Federation-China border was \$1.06 billion (an average of \$127 per m³). Other key export markets for Russian sawn softwood included:

- Uzbekistan (up by 4%, to 2.78 million m³).
- Egypt (up by 9%, to 1.49 million m³).
- Tajikistan (up by 8%, to 1.03 million m³);
- Azerbaijan (down by 3%, to 984 thousand m³).
- Japan (down by 12%, to 832 thousand m³).

Figure 3.1: Russian sawn softwood exports by market in 2014, million m³



Source: Whatwood, 2015

Apart from Estonia, no European countries are in top-bracket group of countries which import wood from Russia. At any rate, Russian exports of sawn softwood to Europe increased by 6% in 2014, to 3.24 million m³. The largest growth was in the UK, where imports were up by 14%, to 316 thousand m³,

while Estonia's imports increased by 2%, to 517 thousand m³. On the other hand, Russian exports to Belgium fell by 14%, to 152 thousand m³, and those to Austria dropped by 17%, to 90 thousand m³.

3.2.3 North America

Table 3.10: Sawn Softwood main indicators, North America, 2010-2015 (1.000 m³)

North America	Softwood							14/13	15/14
	2010	2011	2012	2013	2014	2015			
Production	79.875	82.891	88.034	92.475	95.695	97.125	3,5		1,5
Imports	16.729	16.247	17.389	20.385	21.888	22.116	7,4		1,0
Exports	24.282	26.754	27.645	30.680	31.984	33.433	4,3		4,5
Net trade	7.553	10.508	10.256	10.295	10.097	11.316			
Consumption	72.322	72.383	77.778	82.181	85.598	85.809	4,2		0,2

Source: FAO 2015 and EOS re-elaboration, 2015 data are estimates

In 2014 all main market indicators showed a healthy growth, which should however slow down in 2015. Production rose by 3.5% and reached 95.7 m³; since 2010 production has grown by almost 20%. US sawn softwood output in 2014 was 53.80 million m³, an increase of 5.4% over 2013. Production gains were highest in the South (up by 6.9%), followed by the Inland (5.2%) and Coast (2.9%) regions. Access to low-cost timber, investment in new and upgraded capacity, and healthy demand driven by a strong housing sector has put the South in a leading position among US producing regions. Steady demand throughout 2014 (but less so in early 2015) enabled mills to maintain or increase production. Canadian sawn softwood production gains trailed those of US mills. Output was 41.9 million m³ in 2014, up by 1.1% over 2013. The British Columbia Interior, Canada's leading region for sawn softwood production (46% of Canada's total production in 2014), posted a 1.4% reduction in output in 2014 (18.8 million m³, versus 19.1 million m³ in 2013). Eastern Canada (dominated by New Brunswick, Nova Scotia, Ontario and Quebec) was once again able to increase its sawn softwood output in 2014, with production up by 1.1% to its highest level since 2008 (Statistics Canada, 2015). Growth in residential housing starts and continued strength in repair and remodeling activity, as well as gains in the non-residential sector, drove a 4.2% increase in North American apparent sawn softwood consumption in 2014, to 85.6 million m³. Of this, 72.0 million m³ (up by 6.4%) was in the US and 13.6 million m³ (down by 6.4%, the second consecutive year of decline) was in Canada.

As for consumption, the U.S. housing market is the primary driver behind softwood lumber and in North America. The U.S. housing market has strengthened considerably from the depths of economic recession. Starts have grown considerably since 2012, when they totalled 784,000 units. Starts grew to 928,000 units in 2013 and reached 1 million units in 2014. In the first 8 months of 2015, annualized starts averaged 1.126 million units. This level of housing starts is still below the long-term (20 year) average of 1.4 million annual starts, although the market has seen steady improvement from 2009, when housing starts had dropped to a low of 554,000 units (FAO market forecasts, 2015).

The single-family component grew by only 5% in 2014, but multi-family starts maintained a strong pace, rising by 16% in 2014 on top of substantial gains each year since 2010 to the highest number of multi-family starts in any year since 1989. Notably, multi-family construction consumes approximately 65% less sawn softwood and wood-based panels per family unit than do traditional single-family units. Industry promotional efforts, including the Softwood Lumber Board initiative to foster an increase of wood use in taller/larger apartment buildings, should lead to further increases in North American wood consumption. Growth in residential housing starts and continued strength in repair and re-modeling activity, as well as gains in the non-residential sector, drove a 4.2% increase in North American apparent sawn softwood consumption in 2014, to 85.6

million m³. Of this, 72.0 million m³ (up by 6.4%) was in the US and 13.6 million m³ (down by 6.4%, the second consecutive year of decline) was in Canada.

As for trade, imports and exports are both on the rise for a number of years. In 2014 imports reached 21.9 million m³ while exports reached 32 million m³. Growth in trade, however, is projected to slow down in 2015. Indeed, in addition to the decreasing consumption of sawn softwood in key export markets, the progressive strengthening of the US dollar weakened the purchasing power of offshore importers of wood products. Conversely, the relatively weaker currency of other exporting regions has increased the competitiveness of those regions. After enjoying an upswing in 2013, North American sawn softwood exporters lost ground in 2014, with the largest drops in export volumes occurring in the Chinese and Japanese markets.

In the case of China, the reduction in Canadian and US sawn softwood exports was attributed to a slowdown in China's construction market, coupled with a rise in Russian log and sawn softwood exports due to the devaluation of the rouble. Overall, sawn softwood exports to China grew by 4.3% in 2014, to 17.6 million m³, with the Russian Federation leading the growth and becoming the single-largest supplier.

Looking at the big picture, however, China has become a significant offshore market for Canadian sawn softwood products as exports have increased tremendously over the span of a decade. As of January to August 2015, China holds a 16.9% share of total Canadian sawn softwood exports (by volume). Demand in China has been driven by large government infrastructure projects. A switch to a slower-growth, more consumer-driven economy, could negatively impact demand for lumber. During 2005 to 2014, sawn softwood exports to China increased by almost 30-fold on a volume basis, from 253,280 m³ to more than 7.5 million m³. The volume of softwood lumber exports to China decreased by 4.5% in the first 6 months of 2015 (FAO market forecasts, 2015).

As regards Japan, much of the decline in Japan's sawn softwood imports can be attributed to an increase in that country's consumption tax and the rise of domestic sawn softwood output using domestically produced logs. Sawn softwood imports to Japan from all countries shrank by 17.6% in 2014, to 2.4 million m³. Canadian shipments to most offshore export markets were flat in the first four months of 2015 relative to the same period in 2014. US imports continued to rise as a result of increasing domestic demand and a strong US dollar, both of which limit exports and attract imports.



3.2.4 Global focus and Extra UNECE region

Table 3.11: World largest producers, exporters and importers of sawn softwood, 2014 (m³)

Production		Exports		Imports	
United States of America	53.803.300	Canada	28.943.081	United States of America	21.200.590
Canada	41.891.207	Russian Federation	21.676.000	China	17.700.000
Russian Federation	31.500.000	Sweden	12.131.469	Japan	6.549.480
China	30.458.000	Finland	7.464.308	United Kingdom	5.928.216
Germany	20.757.000	Germany	6.831.000	Germany	4.229.000
Sweden	17.500.000	Austria	4.873.104	Egypt	4.174.778
Finland	10.900.000	United States of America	3.041.107	Italy	3.904.428
Japan	9.512.000	Romania	2.950.515	Uzbekistan	2.785.000
Brazil	9.230.000	Chile	2.881.800	Denmark	2.290.000
Austria	8.215.000	Latvia	2.274.751	France	2.206.747
Chile	7.859.000	New Zealand	1.700.852	Algeria	2.166.000
France	6.347.758	Czech Republic	1.688.797	Netherlands	2.105.200
Turkey	4.285.000	Ukraine	1.162.902	Saudi Arabia	2.082.000
Poland	4.150.000	Brazil	1.122.761	Republic of Korea	1.792.000
Australia	4.090.000	Belgium	1.000.000	Austria	1.618.257
New Zealand	3.960.000	Slovenia	942.632	Belgium	1.600.000
United Kingdom	3.716.296	Belarus	786.000	Mexico	1.430.000
Romania	3.716.000	Estonia	748.833	Morocco	1.348.000
Czech Republic	3.610.000	France	730.364	United Arab Emirates	1.067.000
Latvia	2.767.654	Ireland	717.604	Turkey	1.010.806

Source: FAO 2015 and EOS re-elaboration

Outside the UNECE region, the largest producer is China, which is also the fourth largest in the world and has seen its production double in just 4 years. China is also the second largest importer in the world, as in 2014 it imported 17.7 million m³ of softwood. Considering that its imports were still below 10 million m³ in 2010, it is likely that soon China will surpass the US and become the largest importer in the world; China's imports in 2014 were predominantly from UNECE sources, particularly Canada and the Russian Federation, with Chile and New Zealand the only significant competitors from outside the UNECE region. China's sawn softwood imports from non-UNECE countries increased by 14% (by volume) in 2014, attributable to structural economic reforms targeted at domestic consumption and the real-estate sector aimed at cushioning the effects of a planned economic slowdown. The reforms resulted in sustained growth in demand for raw materials in domestic construction activity, although that activity slowed towards the end of 2014. China's sawn softwood imports are destined mainly for housing and construction (tropical

and temperate hardwoods, on the other hand, are used mainly for furniture and interior decoration). Japan is also a relevant producer (the eighth largest in the world in 2014) and the third largest exporter. Japanese import demand was also affected by a weakening yen, which pushed up the cost of imported sawnwood.

The only significant exporters of sawn softwoods outside the UNECE region in 2014 were Chile, New Zealand, and Brazil. New Zealand's major markets are in the Asia-Pacific region: Australia, China, the Republic of Korea, Taiwan Province of China, Thailand, the US and Viet Nam. Chile's export markets are more diversified, with significant volumes shipped to Asian, Latin American and Middle Eastern markets. Although the volume of New Zealand's roundwood harvest and log exports have increased dramatically in recent years, sawnwood production and exports have been relatively static: high log demand and log export prices in China until late 2014 led to intense competition for logs among domestic sawmills in New Zealand (and consequently higher prices).





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3.3 Sawn Hardwood

The table below shows the main market indicators for the last 6 years in the UNECE region. After a tentative 2013, growth in production of hardwood picked up in the UNECE region in 2014, though for 2015 a slowdown has been forecast. Sawn hardwood production in the UNECE region increased by 5.8%

in 2014, to 39.1 million m³. Production had increased in the CIS and North America in 2013 and declined in Europe, but it increased in all three subregions in 2014.

Table 3.12: Sawn Hardwood main indicators, UNECE Region, 2010-2015 (1.000 m³)

UNECE region	Hardwood							I4/I3	I5/I4
	2010	2011	2012	2013	2014	2015			
Production	34.908	34.797	36.017	36.967	39.093	39.341	5,8		0,6
Imports	6.437	6.711	6.342	6.209	6.689	6.815	7,7		1,9
Exports	8.763	9.515	9.860	9.876	11.373	11.545	15,2		1,5
Net trade	2.326	2.804	3.517	3.667	4.685	4.730			
Consumption	32.582	31.993	32.500	33.300	34.409	34.611	3,3		0,6

Source: FAO 2015 and EOS re-elaboration, 2015 data are estimates

Consumption has been growing slower than production, which is due to buoyant exports, which in 2014 posted a double-digit growth. Even trade – in a similar fashion to production –, however, is expected to slow down in 2015,

though it is expected to still post an increase. The UNECE region exported 11.4 million m³ of sawn hardwood in 2014, up by 15.2% over 2013, with exports increasing in all three subregions.

3.3.1 Europe

Table 3.13 Sawn Hardwood main indicators, Europe, 2010-2015 (1.000 m³)

Hardwood								
Europe	2010	2011	2012	2013	2014	2015	14/13	15/14
Production	12.810	12.583	12.953	12.395	13.414	13.639	8,2	1,7
Imports	5.107	5.202	4.892	4.629	4.864	4.965	5,1	2,1
Exports	4.675	5.046	4.975	4.805	5.514	5.610	14,7	1,8
Net trade	-432	-156	83	176	649	645		
Consumption	13.242	12.738	12.869	12.219	12.765	12.994	4,5	1,8

Source: FAO 2015 and EOS re-elaboration, 2015 data are estimates

2014 was as a whole a good year for European hardwood. After some indifferent years, growth finally resumed. However, the upward trend observed in 2014 is projected to slow down in 2015, both in terms of production and in terms of trade, as imports is the only indicator which is projected to grow by more than 2%. European production rose in 2013 by more than 8% and reached 13.4 million m³.

Moreover, despite log shortages in parts of the year, overall sawn hardwood output in Croatia and France was higher in 2014 than in 2013. Romania also produced significantly more sawn hardwood in 2014 than in 2013, while German sawn hardwood production fell slightly. The pace of closures and insolvencies in the western European hardwood sawmilling sector started to slow in 2013 and, in Germany, this stabilization continued through 2014. The financial position of German sawmills, especially those targeting the oak market, improved in 2014. Sawmill closures in Germany in 2014 primarily involved smaller mills belonging to parquet or furniture producers.

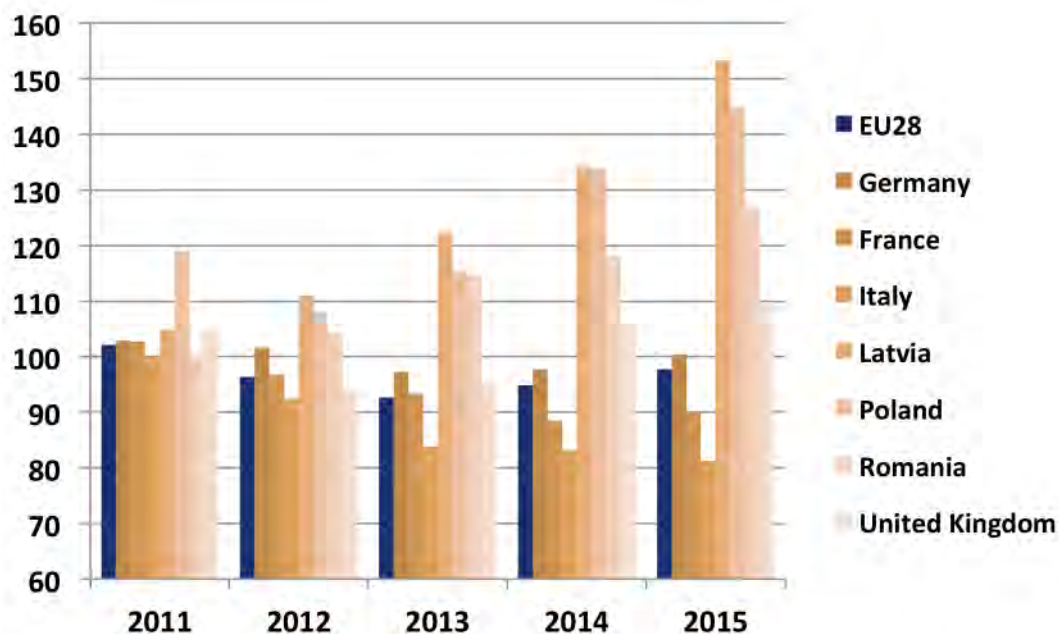
The growth in consumption (4.5%) is strongly correlated to the continued preference of Europeans for oak, which accounts for more than 70% of wood flooring manufacture. Other temperate species have only a small share of the market, while tropical hardwoods' share keeps declining.

Several large hardwood-consuming markets in Europe took advantage from activity in the renovation sector in 2014 and

in 2015, and from a moderate recovery in new construction and furniture manufacturing but the recovery failed to filter through to all market sectors. Indeed, furniture and joinery, two of the subsectors that drive sawn hardwood demand, showed a modest recovery compared to 2013 and 2014 but they are still below 2010 level.



Figure 3.2: Index of Furniture Manufacturing, selected European Countries (Index 2010=100)



Source: Eurostat and EOS re-elaboration

The figure above shows the Eurostat seasonally adjusted index of furniture manufacturing. It is evident that at EU level activity picked up in the last two years – however, the index in 2015 was still at 97.7, so below the 2010 level. Some European countries, notably in Central-Eastern Europe have fully recovered: in Latvia, Poland and Romania the index was in 2015, respectively, 153, 145, and 127.

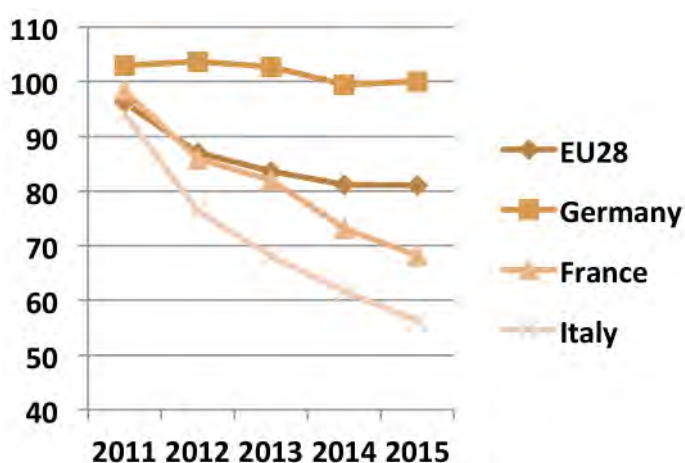
UK had a particularly good year which saw its index climbing to 110; Germany managed to reach the 2010 level.

Instead France and Italy are lagging behind: the index in France was still at around 90 in 2015, and in Italy at 81, which represented the fifth year in a row of decline.

As far as wood-joinery activity is concerned, the situation is similar to manufacture production, though in France and Italy it is even more challenging.

French, German and Romanian hardwood sawmills reported stronger European demand for sawn oak in 2014. French

Figure 3.3: Index of Wood-joinery Activity, selected European Countries (Index 2010=100)



Source: Eurostat and EOS re-elaboration

The figure shows that in France, and especially in Italy the wood-joinery activity has been declining for several years, while in Germany it is overall stable.

sawmills were sometimes unable to satisfy all inquiries due to a shortage of oak logs (EUWID, 2014), and sawn oak production in Croatia was also at times restricted by log shortages. German sawmills registered continued strong demand for oak in the first half of 2015 (EUWID, 2015). In 2014, German sawmills reported weakening demand for beech in the domestic furniture industry and in furniture industry supply businesses, including glulam-board and cutsize manufacturers, but this was counterbalanced by good demand for sawn beech among German packaging and pallet producers. Demand for sawn beech grew in some European markets, notably Scandinavia, Spain and the UK. German sawmills reported a recovery in the domestic market for sawn beech in the first half of 2015 and continuing growth in demand in other European markets (EUWID, 2015). In contrast, Romanian sawmills delivered less sawn beech to European countries and the Middle East in 2014 (EUWID, 2015). Romania is the eleventh largest producer of hardwood in the world.

After struggling for a couple of years, exports reported an impressive growth in 2014, which reached almost 15%. A large proportion of this increase was due to Croatia, whose exports increased by 35.4%, to 869 thousand m³, driven mainly by an increase in shipments to Egypt after a sharp decline in 2013. Romania's exports of sawn hardwood increased by 3.8% in 2014, to 753 thousand m³; its exports to Egypt, its largest market, declined slightly, but this was offset by rising exports to China and Hong Kong. Germany's exports increased by 7.3% in 2014, to 690 thousand m³, with significant gains in sales to China, the US and Viet Nam. Exports from countries in the euro zone were boosted in the second half of 2014 by a sharp depreciation in the euro relative to the US dollar. 2015 has also seen a growth of exports, albeit much less bold than in 2014.

Imports also rose in 2014, though growth is expected to be more moderate in 2015, when they are expected to reach almost 7 million m³.

3.3.2 CIS region

Since 2011 production is growing, albeit at a quite slow pace. In 2015 it was presumed to reach almost 3.3 million m³.

Growth in CIS sawn hardwood production and exports was driven by developments in the Russian Federation. Russian sawn hardwood production was up by 4.3% in 2014, to 2.4

million m³. Due to continuing demand from furniture producers, Italy remained the largest importer, even though its imports grew by only 1.5% in 2014, to 728 thousand m³. Germany's imports increased by 6.4%, to 450 thousand m³, making that country the second-largest importer in 2014. Much of the growth in Germany was due to increased imports of lower-grade products from Latvia and Lithuania destined for pallets and other industrial applications. Imports to the UK increased by 2.8% in 2014, to 448 thousand m³, driven by rising imports of American and tropical wood for joinery applications. After a sharp fall in 2013, imports by Belgium rebounded by 14.8% in 2014, to 418 thousand m³.

Some very recent data regarding tropical hardwood are available: EU imports of tropical sawn wood in the first 11 months of 2015 were 992,000 m³, 9% more than the same period the previous year. It's therefore almost certain that EU imports for the full year will exceed 1 million m³ for the first time since 2012. While an encouraging landmark, this is still well down on levels prevailing before the 2008 global economic crisis when annual imports exceeded 2 million per year.

Cameroon, from which the EU imported 300,800 m³ in the first eleven months of last year, an increase by 11%, cemented its leading position as the EU's most important supplier of tropical sawn wood.

The four next largest suppliers all had lower growth rates than Cameroon: imports increased by 7% from Malaysia to 225,700 m³, by 9% from Brazil to 115,700 m³, by 8% from Gabon to 87,200 m³, and by 8% from Ivory Coast to 75,800 m³. However there was an above average in imports from several smaller suppliers including Congo (+15% to 50,200 m³), Ghana (+14% to 24,700 m³) and Indonesia (+12% to 20,400 m³) (Fordaq, February 2016).

million m³, and exports showed a strong upward trend. Russian sawn hardwood exports fell by 13% in 2013, due primarily to lower deliveries to China, which is the dominant export market, but they increased sharply in 2014, rising by 22.8% to 911 thousand m³. The Russian Federation delivered 783 thousand m³ of sawn hardwood to China in 2014; Russian

Table 3.14 Sawn Hardwood main indicators, CIS Region, 2010-2015 (1.000 m³)

CIS	Hardwood						I4/I3	I5/I4
	2010	2011	2012	2013	2014	2015		
Production	3.293	3.051	3.060	3.119	3.219	3.273	3,2	1,7
Imports	72	68	78	92	83	83	-9,7	0,0
Exports	1.035	1.293	1.292	1.137	1.397	1.397	22,8	0,0
Net trade	963	1.225	1.214	1.045	1.314	1.314		
Apparent consumption	2.330	1.826	1.846	2.074	1.906	1.960	-8,1	2,8

Source: FAO 2015 and EOS re-elaboration, 2015 data are estimates

sawn hardwood exports to several other CIS countries, including Kazakhstan and Uzbekistan, and to EU countries such as Estonia, Germany, Latvia and Poland, were also higher in 2014. This trend was facilitated by weakness in the Russian rouble. In sum, the competitiveness of the Russian currency facilitated a sharp increase of exports (the opposite is valid for imports, which were made pricier by the weak rouble), which reached 1.4 million m³ in the region in 2014. No significant trends are expected in 2015. Consumption in

the region dropped by more than 8% in 2014 to 1.9 million m³.

Ukraine's exports of sawn hardwood increased by 20.5% in 2014, and reached 353 thousand m³. Demand for Ukrainian sawn oak was strong in Asia and in various European markets. The political crisis and military conflict have not had major impacts on sawn hardwood production and deliveries because most sawmills and export companies are in the western part of the country. (EUWID, 2014)

3.3.3 North America

Table 3.15 Sawn Hardwood main indicators, North America, 2010-2015 (1.000 m³)

North America	Hardwood						I4/I3	I5/I4
	2010	2011	2012	2013	2014	2015		
Production	18.805	19.163	20.004	21.453	22.460	22.428	4,7	-0,1
Imports	1.258	1.441	1.373	1.488	1.741	1.766	17,0	1,5
Exports	3.053	3.176	3.593	3.933	4.463	4.538	13,5	1,7
Net trade	1.795	1.735	2.220	2.445	2.722	2.772		
Apparent consumption	17.010	17.428	17.784	19.008	19.738	19.657	3,8	-0,4

Source: FAO 2015 and EOS re-elaboration, 2015 data are estimates

Production has steadily increased in North America from 2010 to 2014, but in 2015 growth was expected to come to a halt at around 22.4 million m³. Consumption has also been buoyant for a number of years but that, too, was expected to plateau at around 19.7 million in 2015.

US sawn hardwood production increased by 4.7% in 2014, and reached 21.0 million m³. Production was 17.6% higher in 2014 than in 2010, increasing on the back of robust domestic demand, continuing growth in exports to Asia, and recovery in business with Europe. Production remains well below historic levels, however; US sawn hardwood

production roughly halved between 2005 and 2009 and has increased only slowly since 2012. The trend in the US is for an ongoing consolidation: in the coming years several small and medium-size enterprises are expected to exit the market.

US sawn hardwood consumption increased by 4.1% in 2014, and reached 18.1 million m³. Consumption increased in the pallets, furniture, millwork, and cabinets subsectors, but these gains were partly offset by declining sawn hardwood consumption in subsectors producing flooring, railway ties and board roads. In Canada, sawn hardwood consumption

increased by 0.6% in 2014, to 1.60 million m³, broadly in line with trends in the Canadian construction sector, which grew by 0.7% in 2014. Despite increases in household debt ratios and the potential for higher interest rates, housing start data show ongoing health, and the outlook for 2015 is stable.

Trade was projected to increase in 2015, after a year in which it grew double-digit. North America remains a net exporter with exports reaching 4.5 million m³ and imports almost 1.8 million m³. Net trade is also around 2.7 million m³, which represents an increase of more than 1 million with respect to 2011. Trade has also sharply increased cross-border: the US imported 408 thousand m³ of sawn hardwood from Canada in 2014, up by 34% compared with 2013 and on the heels of a 23% increase in 2013. Canadian imports from the US increased by 5% in 2014, to 627 thousand m³ (Global Trade Atlas, 2015). US imports of temperate sawn hardwood from outside the subregion increased by 15% in 2014, to 181 thousand m³, driven by a significant rise in imports from Germany (mainly beech), Uruguay (*Eucalyptus grandis*) and Italy. The US imports between 300 thousand m³ and 400 thousand m³ of tropical sawn hardwood each year, consisting mainly of decking and flooring from Brazil, Cameroon and Malaysia, and balsa from Ecuador. Canadian imports of sawn hardwood from outside the sub-region

increased by 70% in 2014 but, at 64 thousand m³, this was still only a small share of total consumption.

US sawn hardwood exports to countries outside the sub-region increased by 15% in 2014, to 3.3 million m³. This followed a 14% increase in 2013 and was the fifth consecutive year of double-digit growth. China accounted for 49% (by volume) of US sawn hardwood exports in 2014. Exports to Europe - which declined by 13% in 2012 and remained stable in 2013 - increased by 14% in 2014, and reached 390 thousand m³. There was particularly strong growth in exports to the UK, which has overtaken Italy as the US's largest sawn hardwood market in Europe (USDA, 2015).

US sawn hardwood exports could decline in 2015 for the first time since 2009, with the export volume down by 9% in the first five months of the year compared with the same period in 2014. The decline is also projected to continue into 2016. Canadian exporters keep focusing on North American market. In 2014, Canadian exports of sawn hardwood to countries outside the sub-region increased by only 3%, to 158 thousand m³. Canada's total sawn hardwood exports were down by 5% in the first five months of 2015 compared with the same period in 2014 and even in Canada exports were thought to decline both in 2015 and in 2016.



3.3.4 Global focus and Extra UNECE region

Table 3.16 World largest producers, exporters and importers of sawn hardwood, 2014 (m³)

Production		Exports		Imports	
China	37912000	United States of America	3901234	China	8088000
United States of America	21000000	Malaysia	1950048	Viet Nam	1388690
Viet Nam	6000000	Thailand	1936349	United States of America	1040989
Brazil	5997000	Laos	1128000	Italy	728050
India	4889000	Indonesia	953000	Canada	700000
Malaysia	4443000	Russian Federation	911000	Mexico	641157
Indonesia	4169000	Croatia	869000	Egypt	522000
Thailand	2850000	Romania	753083	United Kingdom	448000
Russian Federation	2400000	Germany	689502	Thailand	440000
Turkey	2350000	Gabon	610000	Germany	422800
Romania	2046450	Canada	561539	Belgium	418000
Nigeria	2000000	Latvia	513000	Taiwan	381175
Myanmar	1530400	Cameroon	509888	Israel	368200
Argentina	1472000	Philippines	491000	Netherlands	330600
Canada	1460000	Viet Nam	410470	France	284344
France	1438776	France	395644	India	271401
Laos	1200000	Brazil	376093	South Africa	261270
Croatia	1150000	Ukraine	353000	Japan	259640
Japan	1104000	Peru	329130	Poland	236838
Germany	1025793	Belgium	307000	Malaysia	195221

Source: FAO 2015 and EOS re-elaboration

China is by far the largest producer of hardwood in the world. The combined production of the second, third, fourth and fifth largest producers are equivalent to China's production. Apart from the United States, the largest producers of hardwood are all outside the UNECE region – Viet Nam, Brazil, India, Malaysia, Indonesia, and Thailand. China also plays a very important role in trade: its imports are larger than the sum of the 13 countries that follow China in the global import ranking. China's sawn hardwood imports increased by 32% in 2014, to \$4.2 billion, and its share of total global trade value increased from 33% to 39%. The continued rise in Chinese consumption was the major factor driving sawn hardwood supply shortages and price increases in 2014, especially in the first half of the year. There were signs of a slowdown in the growth of demand in China towards the end of 2014, and these signs were also evident in the first quarter of 2015 (ITTO MIS, 2015).

As for the exports, the United States are the largest producer in the world in 2014, followed by Malaysia and Thailand, which sold abroad more than 19.5 million each. Excluding Russia, Croatia is the largest European exporter – and the seventh in the world – followed by Romania.

Sources if not otherwise mentioned: FAO Annual Review 2014-2015 and Faostat 2016.

Special focus on the Russian Federation



EOS expresses its gratitude to Mr Svyatoslav Bychkov of Ilim Timber for the valuable information which has been used to write this special focus.

In 2015, the Russian wood-working industry was affected by the economic turmoil which followed the geopolitical tensions connected to the situation in Ukraine. As of February 2016, the Russian rouble suffered a massive devaluation against the US dollar of -135% in the period from January 2014 to February 2016, which, as we shall see, had a remarkable impact on the trade patterns of logs and sawnwoods. Overall, the currency devaluation will stimulate timber exports from Russia, giving short term competitive advantage.

The growing stock of Russian forests in 2015 equaled 82.1 billion m³, of which 77% coniferous (softwood) and 23% deciduous (hardwood). The annual available cut in 2015 was 717 million m³, of which just 205 million m³ was harvested (+1.5% vs 2014). At the beginning of the 90s the total wood harvested was around 120 million m³, and in these 25 years the harvested wood rose steadily, with the exception of the period of the global economic crisis.

Regarding the softwood roundwood, 145 million m³ were harvested in 2015. In Siberia and the Far East just 20% of the annual available cut was utilized (in the North West this figure was 60%). The total softwood saw log

production was 72.9 million m³, which represents a 2.1% increase compared to 2014.

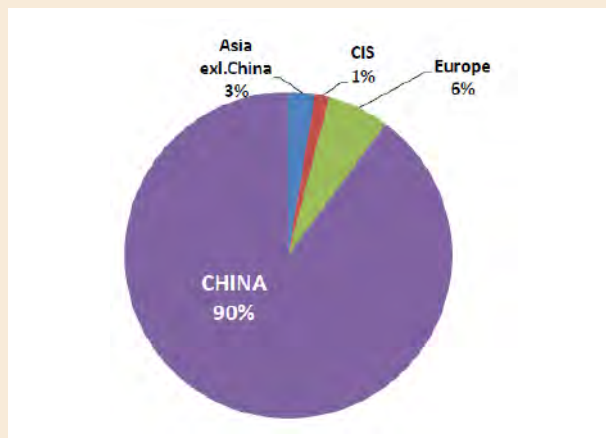
Out of the 10.3 million m³ which were exported by Russia in 2015 (-11% in volume, -25% in value, the difference is due to currency fluctuations), 9.3 million were exported to China (-7% in volume, -24% in value). 630,000 m³ were exported to Europe (Finland +61%, Sweden +15%, Germany -13%).

Looking at the species breakdown, Russia exported 4.7 million m³ of pine logs (46% of total exports), 2.7 million m³ of spruce logs (26% of total exports), 2.6 million m³ of larch logs (25% of total exports), and 0.35 million m³ of other species. Pine and spruce exports decreased, while larch exports rose, due to high demand in China.

Sawn Softwood

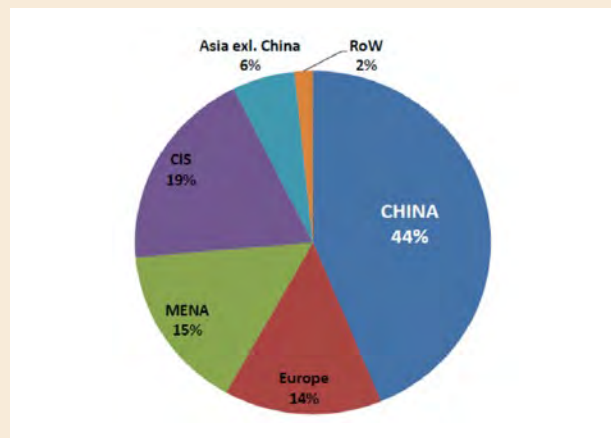
Concerning the sawn softwood exports from the Russian Federation in 2015 (*expressed in percentage*) the total export volume was around 22.4 million m³ (4.7% increase in volume compared to 2014, but a remarkable 23% decrease in value in dollar terms: this is connected to the massive devaluation of the rouble which

Figure 1: Log softwood exports markets, 2015



Source: Russian Customs

Figure 2: Sawn Softwood exports markets, 2015



Source: Russian Customs



© Shutterstock

ultimately damaged the earnings of Russian exporters of sawnwood). China is again the main market (9.8 million m³, which is 16% more than in 2014, but in value it is a 9% decline in dollar terms). In 2014 China's share was 39%. The increase in imports from Russia penalized the Canadian exports. Canada is the other large supplier of logs to China: the Russian Federation and Canada have a combined share of over 75% in Chinese logs imports.

The share of the rest of the CIS area, which also suffered currency devaluations, decreased by 7 percentage points – 26% in 2014, 19% in 2015; Europe's and MENA's shares remain stable.

The species proportion breakdown remains the same: pine, with 14 million m³, is still the most exported species with a stable amount compared to 2014, while there was a slight increase of spruce exports, which reached almost 6 million m³. Larch remains stable with 2 million m³ exported.

In conclusion, there is strong a reason to believe that China will remain for the years to come the main market for Russian timber. Indeed the Russian Federation is increasing capacity and modernizing wood working facilities in Siberia and the Far East. The major driver of this is indeed the large China market. However, the infrastructure (forest roads quality) of the Russian federation in the Far East is quite poor, which is a limiting factor. Consumption in China outpaces growth of domestic wood plantations and Russia is China's lowest cost source of softwood – all the more with a weakened rouble – with daily deliveries.

Responsibility for the information and views set out in this article lies entirely with the author.

Focus on Egypt



Introduction

Egypt, a land who witnessed one of the most ancient civilizations on earth, was always a very attractive location for humans.

Now it is one of the world biggest softwood consumers and a very important market for European Sawmills.

And this is the reason why I believe that it would be useful for the European sawmilling companies to have some preliminary information about Egypt. I hope that this report will help the readers to understand the Egypt softwood market and its forecasted developments for the short and long term.

1. History of timber in Egypt

Egypt has a unique location in the Middle East, as it lies just south of the Mediterranean Sea and west of the Red Sea, with the river Nile splitting it in two sides, and a wonderful climate during the whole year.

On the other hand, more than 90% of Egypt's lands are deserts; and throughout history Egypt has lacked forest and tall trees and its native timber has been mostly of low quality. Therefore, ancient Egyptians did not use timber as main construction material. However, timber was still needed for roofs, windows, doors, pillars, furniture, and ships for military and trading fleet.

During the era of the Pharaohs, ancient Egyptians needed timber in order to ensure the development of their civilization. Due the local timber low quality and not sufficient to fulfill their needs, Egyptians depended on import from a very early age: indeed they were mainly importing Cedar from Lebanon and some hardwood species, such as Ebony, were imported from eastern Africa.



Figure 1. Map of Egypt (Source: World Factbook)

At the beginning of the Islamic era in Egypt (641 A.D.), Egyptians started to use more timber in their houses. Early Muslim rulers cared about education and encouraged people to learn engineering, architecture, crafts, and many other sciences. The development of timber usage continued among the Islamic age, and it reached a high level during the Islamic Ottoman era in Egypt (1517 – 1805 A.D.).

Muslim architects achieved a perfect harmony between beautiful designs, climatic control and a living environment characterized by privacy, which is one of the main Islamic characteristics. Architects intensively used timber to make doors, windows “Mashrabeya”, furniture, shades, ceiling, decoration knew as “Arabisc wood art” and finally they use timber as construction elements especially to build multi-story buildings.



Figure 2. Khufu ship in Giza pyramid complex, made of Lebanese cedar about 2500 B.C. (Source: Wikipedia)



Figure 3. Bayt Al-Suhaymi in Cairo (Source: Wikipedia)
Construction started: 1648

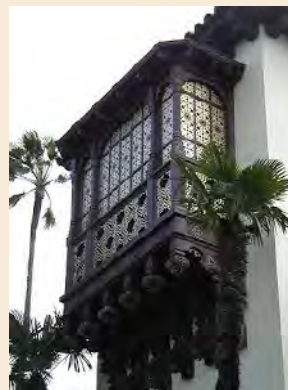


Figure 4. Showing a sample of
"Mashrabeya"

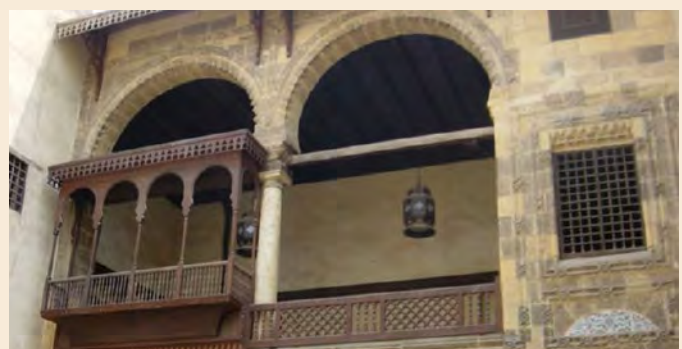


Figure 6. Photo from Bayt Al-Sinnari in Cairo
Construction started 1794



Figure 5. Bayt Al-Suhaymi in Cairo (Source: Wikipedia)
Construction started: 1648

During the British occupation period (1882 – 1953), timber usage did not increase, as the British did not use timber as a main construction element for building houses in Egypt. They developed constructions using bricks, stones and steel become a new element used for some specific type of constructions such as bridges and covered warehouses.

2. Egypt Now

Egypt is the most populous country in Middle East and North Africa region. In December 2015, its population reached 90 million with 2.15% growth rate and about 99% of them live on 4% of Egypt's land only: the highest density is around river Nile, Cairo and Alexandria, whose density is more than 25,000 p/km² in some places.

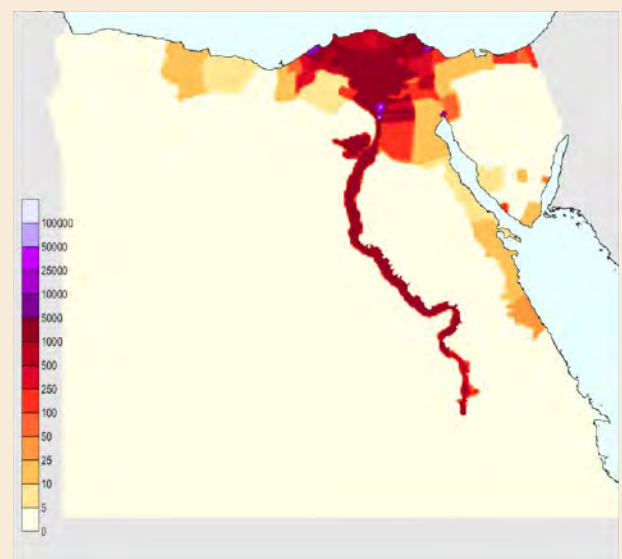


Figure 7. Population density distribution P/KM2
Source Wikipedia

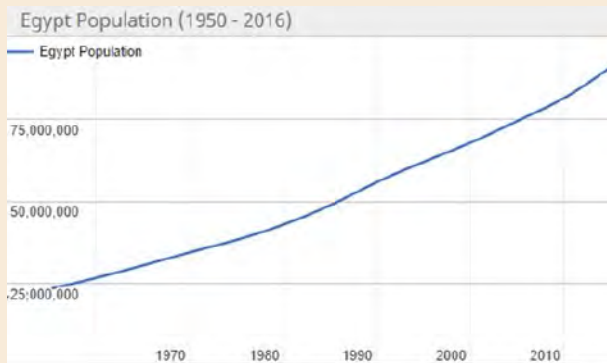


Figure 8. Egypt population 1950 – 2016 (Source: Worldometers)

Most of Egypt's areas need new construction projects in order to face problems related to the structure of the new urban communities and the redistribution of the population

Demographic figures for 2015:

- General population density: 92 p/km²
- Cairo population density: 2,976.8 p/km²
- Median age: 24.7
- Age 20-44: 39.4%
- Unemployment rate: 12.8 %
- Poverty rate below 1\$/day: 19.6%

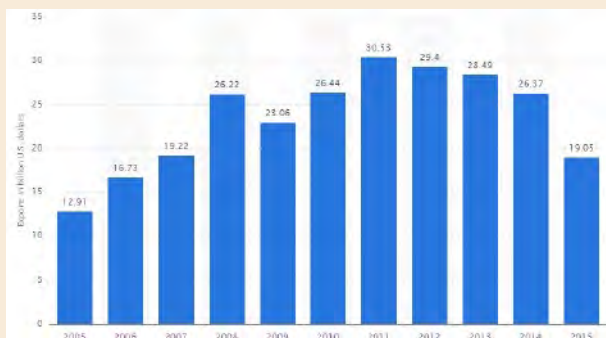


Figure 10. Export of goods from 2005 to 2015 (in billion USD) (Source: Statista)

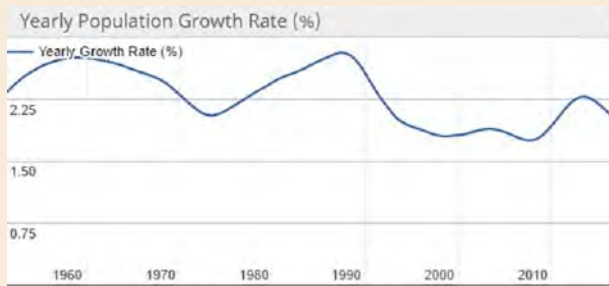


Figure 9. Yearly population growth rate % (Source: Worldometers)

Economic figures for 2015:

- GDP: 289.47 billion USD
 - GDP growth rate: 4.2%, BUT expected to reach 3.3 % in FY16
 - Budget deficit: 11.5 % of GDP
 - Import of goods: 65.04 bil. USD
 - Export of goods: 19.05 bil. USD
 - Inflation rate 2015: 11%
 - General debt: 260.52 bil. USD
 - General debt % of GDP: 90%
 - International reserves: 16.46 bil. USD
 - USD/EGP rate on April 30, 2016: 8.88
 - USD/EGP parallel market rate on April 30, 2016: 11.00
- (Company date, Elshal Timber)

Key Economic Indicators

	FY14	FY15e	FY16p	FY17p
Real GDP Growth (%)	2.2	4.2	3.3	4.2
Inflation Rate (%)	10.1	10.9	9.8	9.5
Fiscal Balance (% of GDP)	-12.2	-11.5	-11.3	-9.8
Current Account Balance (% of GDP)	-0.9	-3.7	-4.6	-4.6

Figure 11. Key Economic indicator, World Bank outlook-Spring 2016 (Source: World Bank)



Figure 11. New addition to Suez Canal (Source: Economist)

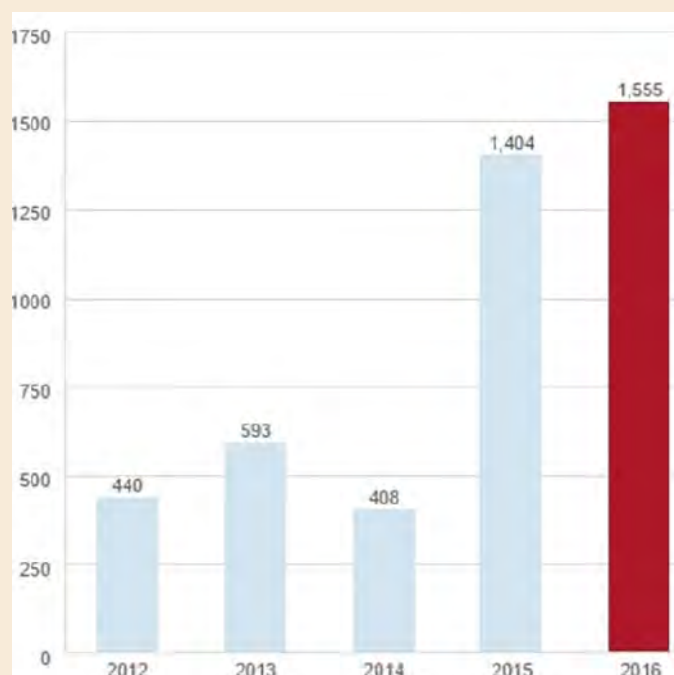


Figure 12. Commitments by Fiscal Year in millions USD (Source: The World Bank)

3. Overview on main political and economic developments

As reported by International press, in February 2011, the former president Mubarak was forced to step down - after 30 years in power - under the pressure of huge demonstrations in Egypt. This event can be considered as the main cause of political uncertainty in the Country. On 3 July 2013, the Army leaders - supported by many demonstrations - toppled the government of president Morsi and put him in jail.

The political transition process initiated in July 2013 ended with the election of Abdel Fattah El-sisi - former minister of defense - as new president in June 2014.

As mentioned during the last International Softwood conference (November 2015, ISC), the launch of two enormous projects The New Capital and The New Suez Canal were announced.

Regretfully, until now these projects did not have an immediate positive effect on the Egyptian economy. The New Capital infrastructure projects have barely started. Looking at the short term, the New Suez Canal project had several unproductive effects; it exhausted the Forex reserves and the Forex crises started to deepen. Additionally, the traffic rate in the Canal slightly

decreased, comparing with previous years, because of a falling of oil prices - which made it cheaper for some vessels to avoid Suez Canal - and a global slowing in international trade.

The tourism sector has a big share of Egypt economy, it is a main source of Forex and it was expected to grow in 2015/2016. However, on October 31, 2015, the Russian Metrojet plane crashed over the Sinai desert causing the death of 224 people. The Kremlin confirmed that the plane was destroyed by a terrorist act. This incident affected the tourism revenues as the hotel's occupancy rate fell down to 12% in April 2016 compared with 80% before the incident.

Additionally, the economic situation was affected by a new unfortunate event: on 25 January 2016, the Italian PhD student of the University of Cambridge, Giulio Regeni, disappeared in Cairo. His body was found a week later on the outskirts of Cairo, showing signs of severe torture.

In the World Bank overview about the Egyptian economy, which was released on April 1, 2016, we can read some positive news about 2015, growth was 4.2% in 2014/15, twice as much as the GDP growth over the previous four years, but on the other hand, the World Bank has many

concerns, and here I quote a part from their report:

“Unemployment remains high, particularly for women and youth. At the same time, the fiscal deficit is still large, reserves are only at about 3 months of imports, and political and social risks remain because their underlying causes – shortage of formal sector jobs, high unemployment and underemployment among Egyptian youth, and exclusion of poor segments of the population – persist.”

On February 6, 2016, in his public speech, President El-Sisi said new austerity measures are required, explaining that the government is not able to continue bearing subsidies for oil, electricity and water.

Few days after, several draft laws for economic projects were proposed to the parliament for discussion and Prime Minister Sharif Ismael announced that the government will soon forward the proposal for a VAT law to the parliament for approval. The VAT draft law aims to subject services to taxes. However the government stressed that the draft law will not affect basic goods for low-income citizens.

According to some unofficial news, it appears that **sawn timber will be subject to 10% VAT instead of the current 5% GST “general sales tax”**.

In my view, the Egypt government has chosen to increase its local income as much as possible in order to finance infrastructure and mega housing projects. Indeed the Government needs to compensate the decrease in exports, tourism, Suez Canal revenues and the remittances of Egyptians living abroad.

However, the situation still seems to be hard, president El-sisi said that *“he would sell himself to help economy”*. “If it were possible for me to be sold, I would sell myself” he said in a speech on February 24, and he encouraged Egyptians to pay one Pound each morning via SMS to support economy!

Aid from Gulf countries was the main support of Egypt's economy during the last three years, and likely, it will remain crucial on the short term.

Recently, on April 9, King Salman, the King of Saudi Arabia, has done his first trip to Egypt after he came to power. It was a 5 days visit, and he signed 17 agreements between Saudi Arabia and Egypt. The icon of the visit was the 50 KM bridge between Egypt and Saudi Arabia and it



Figure 13. King Salman & President El-sisi
(Source: Alarabiya)



Figure 14. Mohamed bin Zayed & El-sisi
(Source: CCTV)

named “King Salman Bridge”. Unofficial news said that Saudi government will make a big deposit in the CBE to beef up foreign reserves, but officially, the visit ended without Saudi deposits.

Two weeks later, The UAE official news agency says the country's ruler has pledged four billion dollars to boost Egypt's economy. Two billion were devoted to investment, while the remaining two billion as a deposit to the CBE to beef up its foreign reserves. The announcement comes a day after Abu Dhabi's Prince Mohammed bin Zayed visited Egypt.

4. The Forex Crisis

I would like to provide reader with an idea about this crisis to help all of us to analyze future developments. Egypt highly depends on imports to fulfill the majority of its needs: in 2015 Egypt import was 65.04 billion USD while export sharply declined to 19.05 billion USD. Forex is highly needed to finance imports from wheat to consumer goods in addition to Timber.

Egypt's sources of forex

During the last 6 decades, there were four main sources of Forex to Egypt: remittances from Egyptians abroad, The



Figure 15. Egypt Foreign Exchange Reserves 2011-2016 in Million USD
(Source: Trading economics, and CBE)

Suez Canal, Egyptian exports and tourism revenues. In the past, these four sources were enough for the country, and at the beginning of 2011, the Forex reserves reached 35 billion USD.

After the revolution in 2011, the military council took power, and a sharp decline has been recorded, at beginning of 2012, about 57% of Forex reserves vanished. In July 2013, after the overthrow of Morsi, Saudi Arabia, UAE and Kuwait backed El-sisi with 23 billion USD until the end of 2014 as declared by the Minister of Investment. This was a very crucial aid and a small share of this aid was given in order to support forex reserves.

The Council on Foreign Relations CFR published a report on April 2014 titled "Egypt's Solvency Crisis", from its conclusion I quote: *"Egypt is perilously close to becoming insolvent. Despite Gulf assistance"*

At a level of 16 billion USD, Egypt forex reserves are enough for 3 months only of Egypt's imports, and we should consider that Gulf countries cannot give free aid forever.

On the other hand, as I mentioned earlier in this report, short-term forecasts of tourism revenues, Suez Canal and exports are likely negative.

Remittances from Egyptians abroad is the biggest source of forex during last 40 years, it was 19.2 billion USD in FY 2014/2015 with 13% decline from FY 2013/2014, and it is highly likely to decline again in the current FY because of economic difficulties in Gulf countries which contain about 57% of Egyptians living abroad.

Therefore, we can conclude and confirm that Gulf countries aid is very important for Egypt timber market for the short-term.

Implications of the forex crisis

Egyptian importers and foreign companies during last the three years have been facing serious difficulties to get forex from banks or from the parallel "black" market. At the beginning of 2014, banks started refusing to sell forex to importers on the usual old terms.

On February 9, General Motors - which has a nearly 25% share of the country's car market - temporarily suspended operations because of forex crisis. Still in February, many airlines like Air France-KLM, British airlines and Fly emirates announced that their revenue stuck in Egypt amid forex crisis.

Related government and customs decisions

Egypt government took some decisions to ban or limit import of some unnecessary commodities; they increased imposed tax on many commodities, and they clearly refused to sell forex to importers of unnecessary goods to give priority for the basic commodities in the first place, then raw materials and production requisites in the second place.

Fortunately, Egyptian banks considered sawn timber as a raw material required for production.

To decrease imports and to fight tax evasion, Egyptian customs authority issued a circular in December 2015, saying that any import invoice must be approved from

the chamber of commerce in the country of origin or the exporter's country.

CBE decisions and their effects on timber market and status of Egypt ports

From the onset of the crisis, the Egyptian Central Bank did not do much, it released confusing bulleting for all stakeholders, the importers were not satisfied with the way the crisis was handled.

At the beginning of 2014, most of timber importers were not able to buy USD as usual from banks; many of them were forced to buy USD from the parallel market at a 5-20% higher rate than official market. In the night of February 2, 2015, while Egypt timber importers have to pay millions of USD to their main suppliers who usually sell to them on credit basis, the CBE issued a circular which limit forex deposits to be 10,000 USD/day and 50,000 USD/month to fight black markets and decrease imports. It was a nightmare for some timber importers, but it was a more terrifying nightmare for timber exporters, some of them had to wait for 5-8 months to receive their money.

On 21 December 2015, the circular, issued by Tarek Amer, the Head of the Central Bank of Egypt (CBE), ties banks with customs in the process. The circular mandates that, effective from 21 Jan 2016, the documentary collection process for payment of goods should go through foreign banks and not through the clients/creditors. The circular imposes on foreign banks to pass the payment documents directly to the Egyptian bank. Branches and Affiliates of foreign companies, as well as importers of manufacturing needs and spare parts shipped by air, were later excluded from this requirement via CBE circular dated 27 January 2016. The circular also increases the value of cash deposits to be paid by the client in order to open a letter of credit from 50% of the value of the L/C to 100%. As per the amendment dated 27 January 2016, clients may provide such cash deposits in EGP, adding an appropriate mark-up for currency fluctuation.

During February-March 2015, a specific segment of timber importers managed to get most of their forex at the official rate, therefore, they trusted banks and CBE, and they made big volumes contracts, but the forex crisis severed and the situation changed. In April 2015, CBE



Figure 16. Photo of Russian timber vessel in Alexandria port (Source: seanews.com.tr)

of USD: for instance, one importer got 4 million USD in one day at the official rate. As a direct result, by the end of November 2015, there were no more crises in ports, no waiting vessels and no waiting containers.

In December 2015, most of timber importers and some exporters – mistakenly - trusted the ability of CBE to provide them with USD, and again they made big contracts for January delivery, but it was a shock for everyone that since December 13, CBE stopped - almost completely - offering USD for timber imports. Therefore, problems in ports arose once more and importers again paid demurrages but this time, not for too long.

On January 26, 2016, CBE new governor Tarek Amer changed everything, as he increased monthly deposit limit to 250,000 USD -instead of 50,000 USD- without daily limit for basic commodities, raw materials and production requisites. Good news, sawn timber is included.

On March 8-9, CBE completely lifted deposit limits for personal accounts and for basic commodities, raw material and productions requisites.

USD/EGP official and parallel rate

After the revolution in 2011, lack of forex started and Egyptian Pound (EGP) was under pressure, Egypt government was forced to depreciate EGP several times during the last 5 years.

On March 13, 2016, the CBE depreciated EGP from 7.83 per 1 USD to 8.95 per 1 USD, which was the highest EGP depreciation in one day (14.3%). It highly affected the



Figure 17. USD/EGP official rate (2011-2016)
(Source: XE.com)

purchasing power of Egyptians, and it badly affected timber importers, especially those who sell on long-term credit basis and with a huge credit limit. Timber importers lost about 18% of the value of their credit from March to April 2016, which is really a great loss in one month.

Before 2012, there was no forex black market; it started when banks were not able to offer all required forex at the official rate.

On 20 April 2015, the USD parallel market rate reached 11.40; it is the highest level ever.

As shown in Figure 18, in March-April the black market rate was like roller coaster, and timber importers are forced to gamble, some catch the lower rate and some take the hit of the highest rate. Such a situation forces timber importers to work in a gambling and unfair environment.

In the last four months, sometimes, even the black market delayed to fulfill timber importers needs of USD,

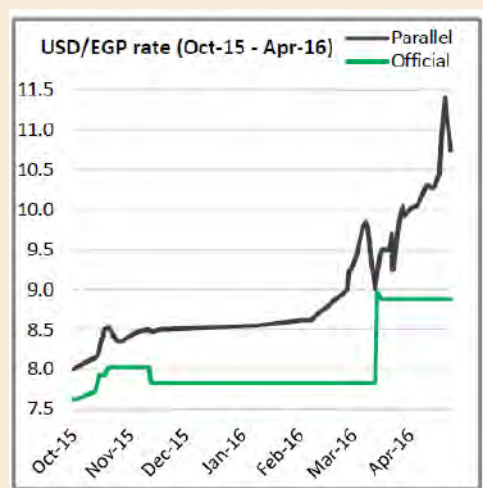


Figure 18. USD/EGP rate (Oct-15 to Apr-16)
(Source: Company data, Elshal Timber)

especially in the bulk amounts that needed in short period, but until now it still never completely failed to fulfill timber importers needs, but it is clear that there are difficulties and it is not a smooth process.

5. Construction Market in Egypt.

The Egyptian construction market still has a large potential for growth in the coming years, according to construction and real estate experts speaking at a panel discussion during the Euromoney conference in September 2015.



Figure 19. Photo of housing buildings under construction in Egypt (Source: dailynewsegypt.com)

It is a logic estimate as Egypt population is expected to exceed 170 million by 2050.

On December 2015, Egyptian Ministry of Finance has reported that construction industry in Egypt has been projected to grow by 8% in 2016 after an estimated 9.8% in 2015.

Egypt's president El-Sisi and his government announced many construction enormous projects in the last two years. Briefly, I will mention the main projects that are expected to push forward the construction and timber market.

Infrastructure projects

The Engineering Authority of the Egyptian Armed Forces (EAEAF) took the majority of enormous infrastructure projects in the country such as roads, bridges, water and electricity supplies. They are finishing their projects faster than any other governmental entity, since the Army has his own budget separated from the country's budget. Many infrastructure projects have been allocated for 2016-2017, but the only obstacle is lack of finance, therefore, Gulf countries aid is crucial again.



Figure 20. Recent photo of Sandob Bridge project under construction by EAEAF in Mansoura, Egypt.
(Source: company data, Elshal Timber)



Figure 21. Photo of Mohamed bin Zayed & El-sisi checking The Compound of Sheikh Mohamed bin Zayed
(Source: cairoportal.com)



Figure 22. Photo of Sheikh Mohamed bin Zayed axis took from the helicopter of El-Sisi and Mohamed bin Zayed
(Source: cairoportal.com)



Figure 23. President El-Sisi check the project with Hasan Ismaik the CEO of Arabtec (Source: Arabic CNN)

National Housing Projects

In early March 2014, Egyptian Armed Forces agreed with Arabtec -UAE company- to work together to build housing for youth and those in lower-income brackets, the mega-project named “Million residential units project”, estimated cost is 40 billion USD, and the project is expected to be completed by the end of 2020. However, until the middle of 2015 Arabtec did not start the project and announced that negotiations were still underway.

At the same time, in September 2015, Egypt’s minister of housing announced that now they are negotiating with Arabtec only 100,000 units of medium housing instead of the low-income 1 million housing project, and until now, there is no clear view about the situation of this project.

Nevertheless, there were other normal housing projects announced. At the beginning of 2016, some Army housing projects were grouped under the Slogan “Social housing year” and the government has already started working in some of these projects.

The New Capital Project

A Giga project was announced by Egyptian housing minister Mostafa Madbouly at the Egypt Economic Development Conference on 13 March 2015, and it was revealed that the city will be built by Capital City Partners, a private real estate investment firm led by Emirati businessman Mohamed Alabbar.

In March 2015, it was revealed that the Egyptian military had already begun building a road from Cairo to the site of the future capital. Such project is really needed to



Figure 24. El-Sisi, Sheikh Mohammed bin Rashid, Mohamed Alabbar and Minister of housing with a scale model of the new capital (Source: middleeasteye.net)



Figure 25. Photo for a street in the heart of Cairo
(Source: madamasr.com)

resolve the issue of the very high population density in Cairo.

The new capital planned to be 60 km away from the heart of old Cairo on land area of 700 km², contains 21 residential districts, which include 1,100,000 residential units for a population of about 5 million.

However, we should consider an important issue, what is the cost?

Total cost is 300 billion USD. El-Sisi said, "It should be completed in 5-7 years"!

At the beginning of September 2015, unofficial news said that the Emirati company withdrew from such project, and in September 7, the Housing Minister announced that Egypt signs a deal with China Construction to finance and build part of the new capital.

He also said "the cost of first phase only is 45 billion USD;

18 billion of them are for infrastructures of first phase, 5 billion of them are already allocated, and infrastructure projects have already started"

In December 10 2015, Egypt Minister of housing said to Reuters that Mohamed Alabbar, the Emirati company president, would not be the lead partner in the venture due to disagreements on the finances. Instead, the government will set up a state owned company to lead the venture and allocate specific projects to private developers from the Gulf and elsewhere, which may include Alabbar's Capital City Partners.

On April 6 2016, president El-Sisi met with Minister of housing Mostafa Madbouly and the Leader of EAEAF Major General Kamel Elwazer to check the status of the country's main construction projects. On the same day, the presidential spokesperson announced that 10% of roads and 30% of bridges have been accomplished.

The Egypt construction market is very promising. The only concern is finance.

Private housing

According to investigations reported on national press, the private housing sector in Egypt is a combination of two parts, legal and illegal.

In both cases, private housing was always the main economic player in Egypt housing market, and likely, it will remain in the short and long term.

The below chart does not include housing units in Egypt rural areas, I could not get confirmed figures about or

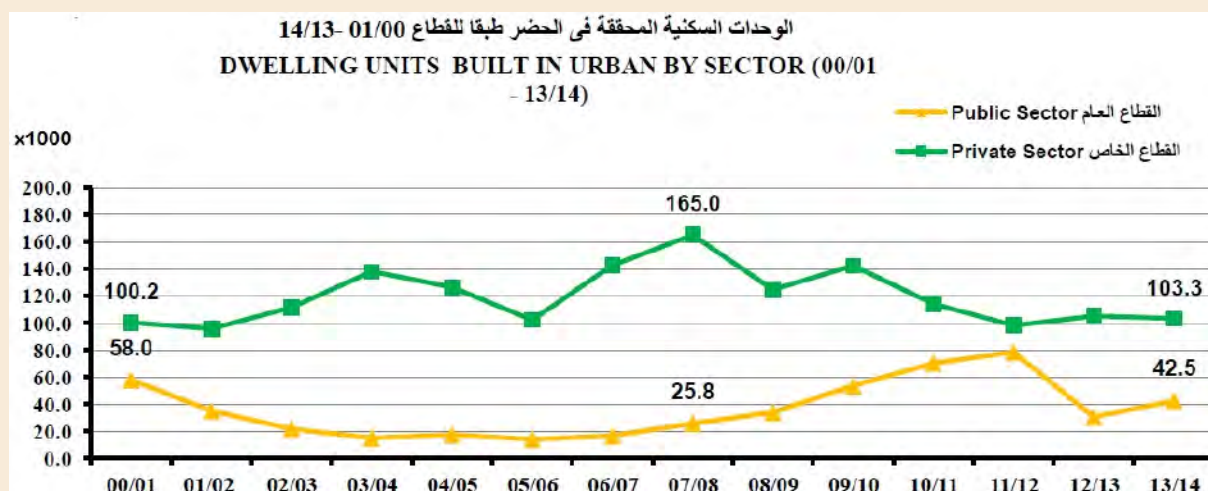


Figure 27. Dwelling units built in urban x1000 FY 00/01 - 13/14 (Source: capmas.gov.eg) Not including housing units in rural or illegal units.



Figure 28. Photo of private housing building in Egypt.
(Source: mubasher.info)

charts for housing units in rural areas. However, we should consider that yearly housing units built in rural areas almost equal or a bit higher than those built in urban areas. The chart also does not include illegal units.

Private housing main drivers are:

- High population growth rate and increase in the number of marriages.
- Shortage in housing units, as Egypt has a large gap between supply and demand.
- Investors who believe that real estate development is a safe and fruitful investment.
- Supportive financial sector. The quick expansion of Egypt banking sector helps private housing sector to get their suitable financial option.

Illegal building

Due of widespread corruption and poor sector legislation, illegal building is very common in Egypt. I do not have



Figure 30. Photo of illegal building in Egypt, some broken walls by authorities (Source: Alwafd)



Figure 29. Elawkaf housing building in Qalyoub, Egypt.
(Source: wikimapia.org)

reliable figures about it, but I confirm it makes up a big share of the market.

Egypt witnessed the problem of losing agricultural land due to urbanisation since 1952. In 1996, the Egyptian government passed a law to ban any kind of building on agricultural land and new building. It declared that any building in violation of this law must be immediately demolished without any judiciary procedure. This law prevents people living outside the main cities to build new building, and the same for many Egyptian cities that do not have a desert extension. The situation was still the same until 2011, and this long period generated a lot of pressure.

After the revolution in 2011, there was political and social unrest and the security situation was out of control. Therefore, as a normal result of prior pressure, people in all Egyptian regions intensively started illegal construction.



Figure 31. Photo of illegal building on agricultural land in Cairo-Fayoum road, Egypt (Source: dotmsr.com)



Figure 32. Photo of slums in Cairo.
(Source: almorakib.com)

We can divide it to five main types:

- Building of housing units in random area and slums.
- Building of housing units on agricultural land.
- Commercial or industrial buildings on agricultural land.
- Buildings that do not comply with the legal specifications or engineering requirements.
- Building on state owned land.

Illegal building activity was the main driver of timber market in 2011-2013 in all Egypt, and it was the main reason which caused Egypt import volumes of timber to grow rather than to decline. After president El-sisi came to power, the illegal construction level decreased but it did not stop, it just returned to its old level.



Figure 34. Photo shows slum named "Ramlt Bolaq" in the back of Nile City Towers in Cairo (Source: arabi.assafir.com)

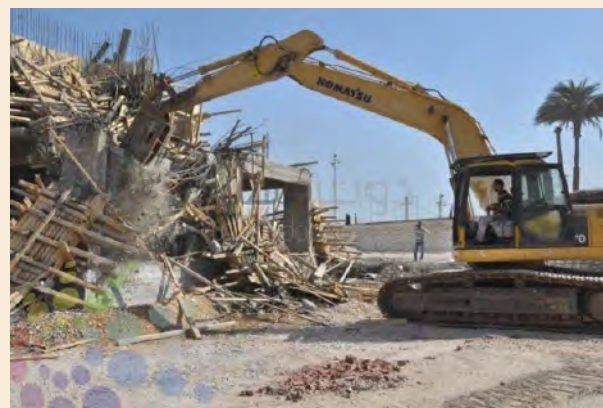


Figure 33. Authority demolish a building, which built on agricultural land in Asyut, Egypt. Date: 4-Nov-2015
(Source: dotmsr.com)

6. Info about Egypt Softwood market

As mentioned at the beginning of this report, Egypt is a large importer and user of wood. Since Egypt lacks a saw-milling industry, most of its needs of softwood is imported as lumber. Egyptians are used to import sawn timber, and only limited amount of softwood logs are imported, but it is very small comparing to sawn timber volumes.

Traditionally, Egyptians do not use timber as the main structural building material, as the majority of building are constructed using reinforced concrete and bricks, since Egypt has local factories of cement and steel. However, now Egypt is a huge timber consumer and it is the biggest timber consumer for some European countries. Moreover, about 70% of softwood is still consumed by the construction industry - including doors and windows - and the balance is used mainly by the furniture industry. (FAO & Elshal Timber estimate)

Supply chain

In April 19, 1951, King Farouk issued a Royal decree to establish a company for importing, trading, distributing, producing and exporting of woods and building materials. The company was named FABAS. After the 1952 revolution, the socialist regime ruled Egypt and the company was nationalized and became a fully state-owned company.

During the socialist regime age, no one could import timber except for FABAS; about 60% of its imports were through barter agreement with the former USSR. Under the agreement, Egypt supplied agricultural and



Figure 35. FABAS headquarter building in Alexandria.
(Source: fabas.com.eg)



Figure 36. Egyptians used to see trucks carrying such load on Egyptian highways (Source: vetogate.com)

petroleum products in exchange for lumber and other Soviet goods. Each timber trader had to go to FABAS and ask for his share. (FAO & Elshal Timber data)

In 1973, after the Arab-Israeli war, president El-Sadat adopted a policy of economic openness, and it became possible for the private sector to import timber alongside FABAS. Private sector activities continued to expand until they reached 75% of timber imports on 1992. Later the FABAS was subject to structural reform, and it has hardly any activity in the timber market.

After 1973, timber importers were buying the majority of goods from Scandinavia, Russia, Romania and Canada through big reselling companies or sales agencies, payment was by L/C or on credit basis, then importers sold to traders and distributors, then to joinery or end user. Until now, the majority of softwood has gone through the same supply chain. However, during the last 20 years, a small segment of timber importers started to get their supplies directly from sawmilling companies. Such segment is still small but increases year after year, and most likely, it will continue to expand in the future.

Imported Softwood characteristics

Main softwood species are Redwood “Pine” and Whitewood “mainly Spruce”. Spruce accounts for roughly 25% of overall imports, while the remaining three quarters are accounted for by pine.

The majority of Egyptian importers prefer to buy rough sawn softwood, as planned or profiled timber is subject to 10-35% general sales tax. Usually, they prefer not to buy nominal sizes, rather goods to be invoiced and delivered in actual metric sizes after kiln drying. The majority of buyers have no problem with small positive tolerance, but they do not accept negative tolerance in their usual deals.

Egypt imports both Fresh and Kiln-dried Softwood, but majority of Softwood imported KD 18-22%. Generally, Egypt imports almost all grades, from the highest to the lowest, according to Scandinavian grading system; from US to 7th grade, and even stained timber. Egypt also imports a very wide spectrum of lengths and sections.



Figure 38. Scandinavian pine US 25x125 in Elshal Timber warehouse



Figure 39. Siberian Pine 4th 25x100 in Elshal Timber warehouse

Egypt's import of softwood lumber (1 000 m ³) from Europe 2015 (main export countries) excluding Baltic states		
Russia	2 055	43.3%
Sweden	1 327	28.0%
Finland	1253	26.4%
Romania	91	1.9%
Germany	16	0.3%
Total	4 742	

Figure 37. (Source: WOODSTAT data);
% by Author.

Softwood supplying countries

During the last 20 years, the main suppliers are Russia, Sweden, Finland, Romania, Canada, Chile, Germany, Austria, Latvia, Estonia and Ukraine.

The most appreciated Pine by the market is from Northern Scandinavia, and Siberia, followed by median and southern Scandinavian, Baltic and German Pine. The least appreciated pine is the Ukrainian pine.

Timber uses in Egypt

Softwood is used for doors, windows, scaffolding, concrete forming, furniture, flooring, decoration, joinery, shades, packing, kitchens, block boards manufacturing and others.



Figure 42. Photo of a sample of Pine-made balcony shutters.

Actually, I could not get a confirmed and updated data about percentage of each kind of use, however, I would estimate main uses to be ~30% for doors and windows, ~20% for scaffolding and concrete forming, ~15% for furniture.



Figure 40. Photo from Sandob Bridge, under construction project in Mansoura, Egypt (Elshal Timber company data)



Figure 41. Photo shows Fillery used in scaffolding.
(Source: Eng. Samir Abdu)



Figure 43. Photo shows a shop of Pine-made doors and windows in Tanta, Egypt.

The trend is increasing towards using more softwood in the furniture industry because of its relatively low price compared with hardwood. In scaffolding whitewood is used as poles as well as for planks. The poles are known in Egypt as “Fillery” white- wood. It is imported mainly from Scandinavia and Canada, but lately some considerable volumes were from Baltic and Russia.

7. Overview on Softwood Demand/Supply Situation

For years, Egypt has the largest importer of softwood lumber in North Africa and Middle East (MENA) region, and its share is increasing year after year.

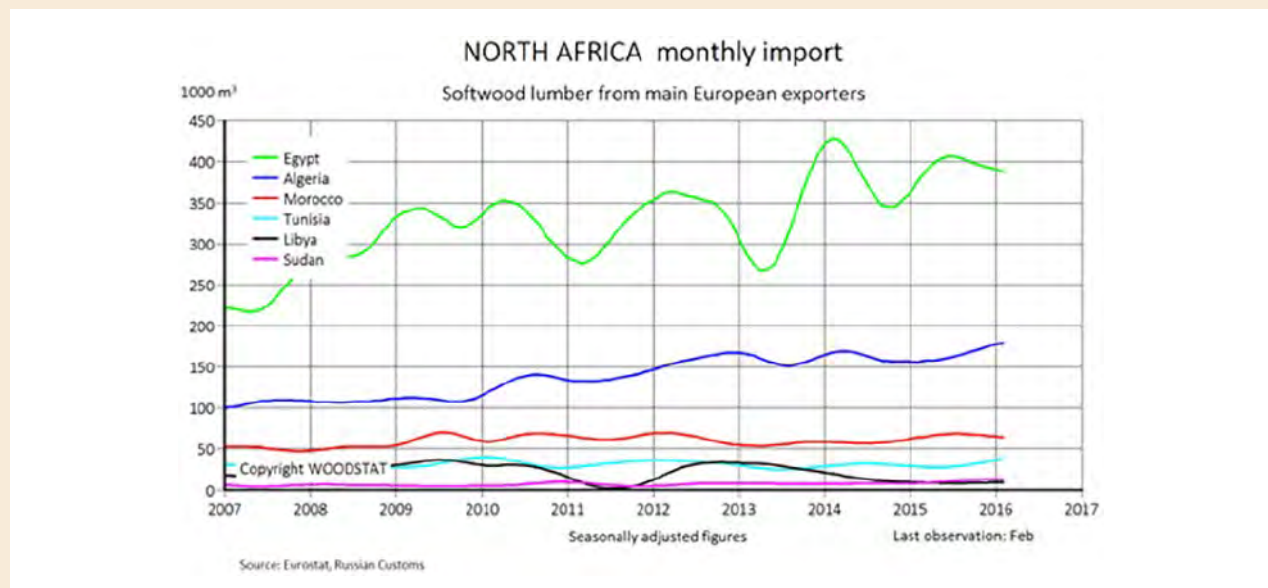


Figure 44. North Africa monthly import of softwood from main European leading exporters: Sweden, Finland, Russia, Romania, Austria, Slovenia and Germany, (Source: WOODSTAT)

In 2015, Egypt imported approximately 5 million m³ of softwood lumber. Although import volumes are showing distinctive patterns

in different months, we can say that total supplies are stable during 2014-2015 with a roughly 3% increase in the total volume imported in 2015 compared to 2014.

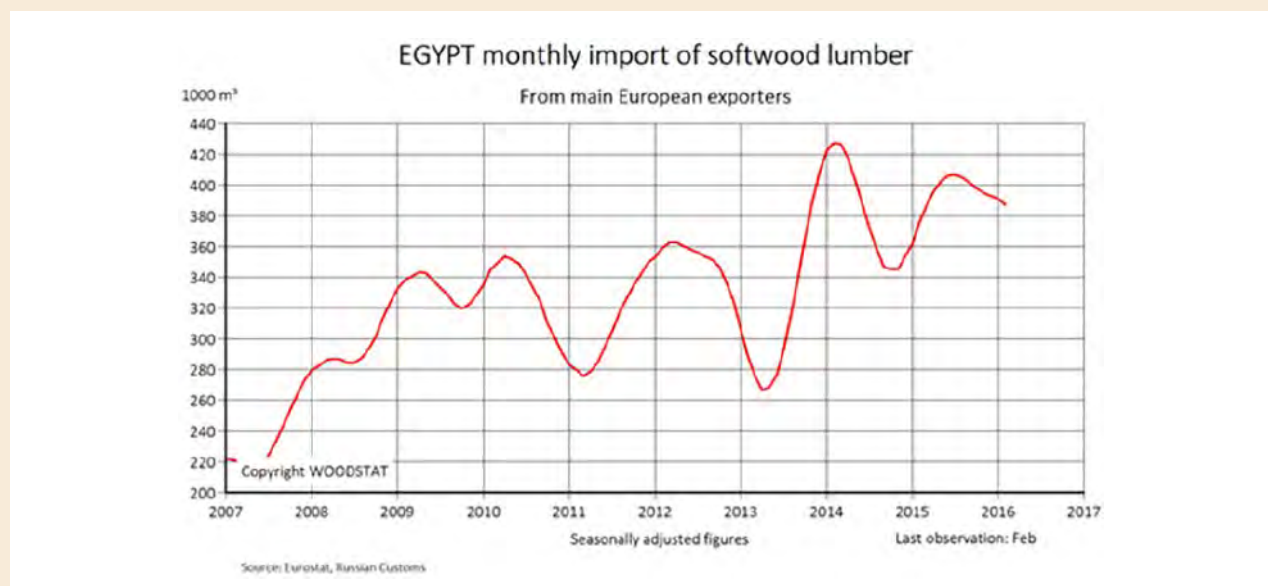


Figure 45. Egypt monthly import of softwood from main European leading exporters: Sweden, Finland, Russia, Romania, Austria, Slovenia and Germany, (Source: WOODSTAT)

Egypt's import of softwood lumber (1 000 m ³) from Europe (main export countries)			
	2015	2014	2015/2014
Russia	2 055	1 492	38%
Sweden	1 327	1 551	-14%
Finland	1 253	1 221	3%
Romania	91	157	-42%
Germany	16	186	-91%
Other	0	3	-100%
Total	4 742	4 610	3%

Figure 46. Egypt's import of softwood lumber from Europe main export countries, (Source: WOODSTAT)

As shown in Figure 46, import from main European exporters was 4.74 million m³ (+3% compared to 2014), but it seems that Baltic States (Latvia, Estonia and Lithuania) are not included in this table.

Russia keeps increasing its market share in the Egyptian timber market. This trend started in the mid of 2014 parallel to the depreciation of the Russian Ruble. Finland's share is almost flat while Sweden's is shrinking. Volumes from Romania decreased of 42%. Germany's volumes sharply decreased of 91%.

At the end of 2015, the trend line of import from Russia is clearly decreasing. The trend line for Finland is increasing. The trend line for Sweden is slightly decreasing.

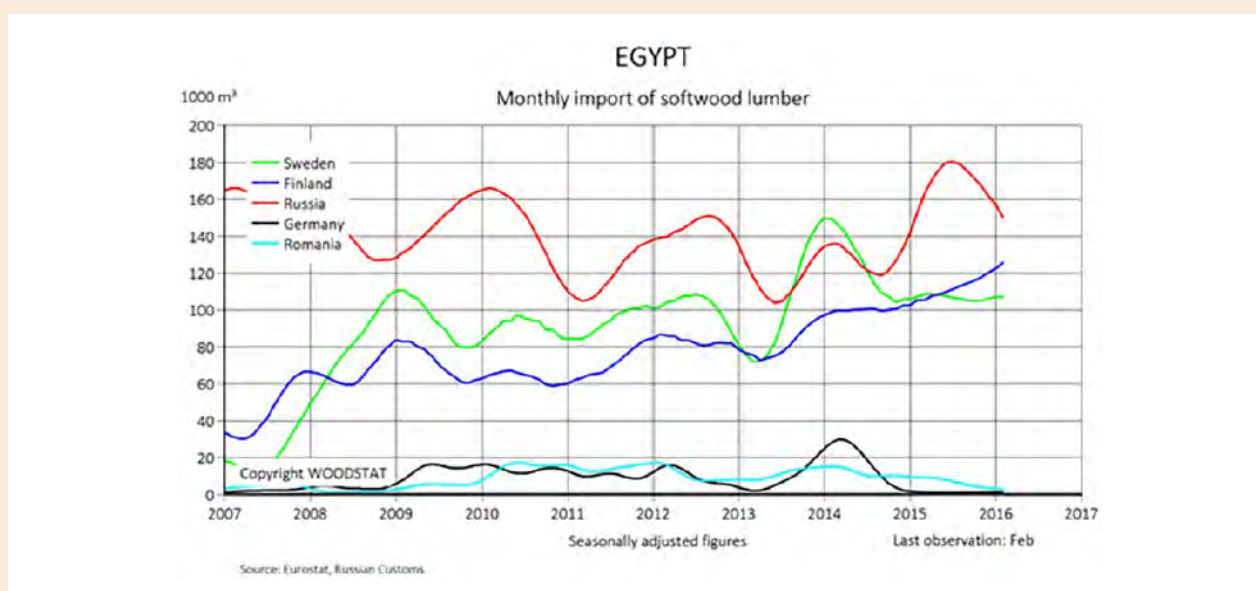


Figure 47. Egypt monthly import of softwood from Sweden, Finland, Russia, Romania and Germany, (Source: WOODSTAT)

At the beginning of 2016, supplies are higher than at the beginning of 2015. In January-February 2016, Egypt imported approximately 643,000 m³ of softwood lumber from main European exporters (+14% compared to 2015).

In February, Egypt imported approximately 366,000 m³ of softwood lumber from main European exporters (+36% compared to 2015). Sweden delivered 95,000 m³ during the month (+73%), Finland delivered 114,000 m³ (+41%) and Russia 151,000 m³ (+20%). (Source: WOODSTAT)

Egypt's import of softwood lumber (1 000 m ³) from Europe (main export countries)			
	Jan - Feb 2016	Jan - Feb 2015	2016/2015
Russia	236	269	-12%
Finland	212	150	41%
Sweden	187	126	48%
Romania	8	18	-56%
Germany	0	1	-100%
Other	0	0	-
Total	643	564	14%

Figure 48. Egypt's import of softwood lumber from Europe main export countries, (Source: WOODSTAT)

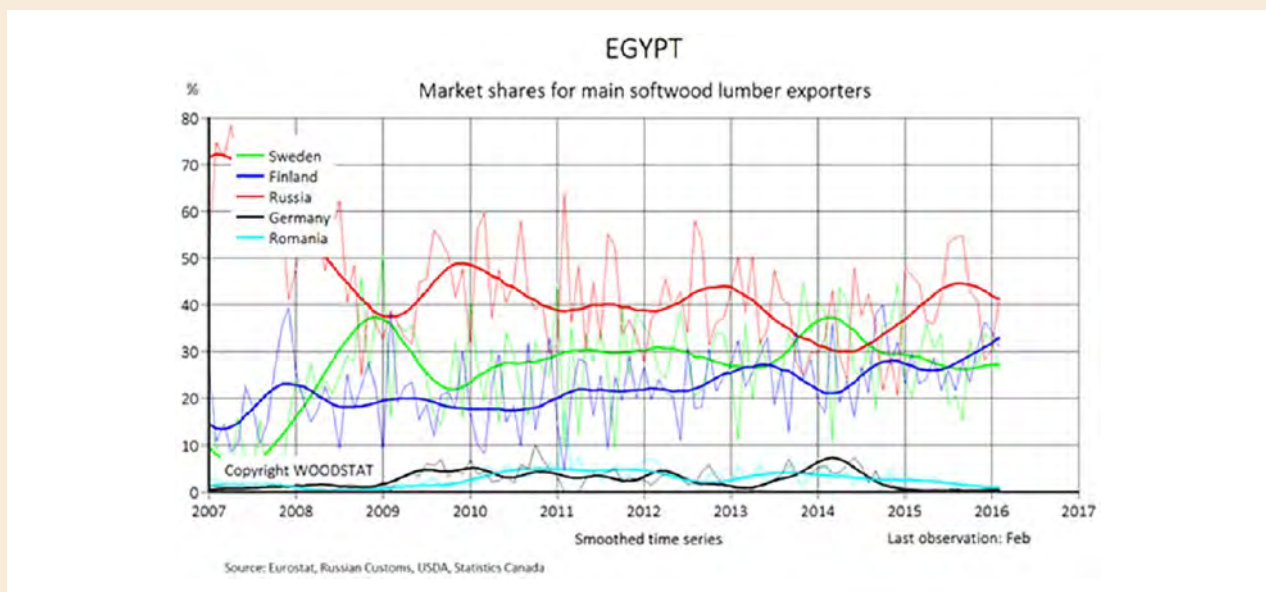


Figure 49. Egypt market shares for main softwood lumber exports, (Source: WOODSTAT)

An Inside Look

Briefly, I would like to give a short idea about the situation of demand/supply and stock volumes from inside Egypt, and I will divide the last ten months in two periods as follows:

August 2015 to mid-October 2015:

Prior to August, continues supplies in a bit-increasing trend from Sweden, Finland and Baltic, but Russian supplies were booming. A share of the demand redirected to Russia because of the lower prices that they can offer thanks to the Ruble depreciation and low demand from China, especially Siberian sawmills who were able to offer lower price. Therefore, a lot of Siberian lumber were in their way to Egypt. In addition, it was the White Sea shipping season for sawmills in Arkhangelsk and Russian Karelia.

At August 2015, the demand was at much lower level than required to consume these big supplies, therefore, Egypt market over supplied, importers yards were full, some of them put their goods in streets next to their yards.

Alexandria port was full of sawn timber; many vessels were waiting for the permission to enter the port because of the forex crisis; import documents delayed in banks waiting for USD to execute payments.

In October 2015, port problem started to be resolved, since public "State-owned" banks started to sell USD to



Figure 50. USD/RUB chart from Jan-14 to Apr-16 (Source: XE.com)

importers. By November 15, port problem resolved and return to normal status, but stocks still high.

Mid-October 2015 until now:

- A remarkable decrease in Russian offers started at beginning of November 2015, due to a kind of recovered demand from China, while Egyptians were pushing prices down, therefore, Russian sawmills prefer to sell to China before Russian and Chinese vacations.
- Shipping stopped from the White Sea after usual annually shipping period.
- Stable or a bit increasing supply from Sweden, Finland and Baltic until now.
- At the end of November 2015, we noticed a remarkable increase in demand.
- In December 2015, a bit decrease in stocks, especially high quality sawn Pine, and some specific dimensions.



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- At beginning of February 2016, Siberian sawmills resumed supplies after vacation at same USD price level of October 2015, in spite about 29% depreciation of Ruble (Oct-15 to Feb-16)
- In March-April, Russian supply recovered and I expect a change in (figure.47) if we add March-April data, I believe that we will see increasing trend for Russia.

Estimate for the Short-Term

At the end of April, I noticed a slide decline in demand which is projected to continue during the Ramadan period and the vacation for Eid-Alfetr. In June-July, the White Sea shipping season will start, and supplies from Arkhangelsk and Russian Karelia regions are expected to increase.

Conclusion of this chapter, if supplies continue with March-April trend, I think that Egypt softwood market will be oversupplied in about two months.

MAIN CONCLUSION OF THE REPORT:

Egypt construction market is very promising,
The only concern is finance.

If construction market does well,
Egypt timber market is very promising,
The only concern is forex.



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CEO

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3.4 Wood Energy market

3.4.1 The European renewable energy policy

The Renewable Energy Directive (Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC) establishes an overall policy for the production and promotion of energy from renewable sources in the EU. It requires the EU to fulfill at least 20% of its total energy needs with renewables by 2020 – to be achieved through the attainment of individual national targets. All EU countries must also ensure that at least 10% of their transport fuels come from renewable sources by 2020.

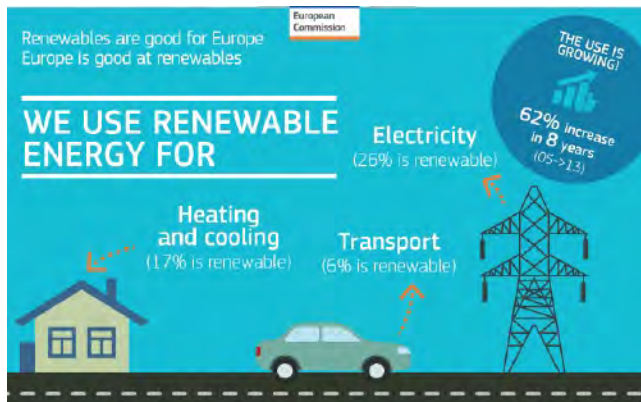
The Directive specifies national renewable energy targets for each country, taking into account its starting point and overall potential for renewables. These targets range from a low of 10% in Malta to a high of 49% in Sweden.

According to the latest data released by the EU Commission, last June 2015, EU countries are well on the way to meeting the EU's target for 20% renewable energy in the overall energy supply by 2020, a new report shows. Presented on 16 June 2015, the European Commission's renewable energy progress report reveals that 25 EU countries are expected to meet their 2013/2014 interim renewable energy targets. In 2014, the projected share of renewable energy in the gross final energy consumption is 15.3%.

"The EU's 2020 renewables target has resulted in around 326 Mt of avoided CO₂ emissions in 2012, rising to 388 Mt in 2013. It has also led to a reduction in the EU's demand for fossil fuels to the tune of 116 Mtoe (2013 figure), boosting the EU's security of energy supply".

The report also examined the EU's target for 10% renewable energy in transport. The 2014 projected share is 5.7% meaning that achieving the target will be challenging but feasible, with some EU countries making good progress.

Finally, the EU Commission report highlights that solid renewables (wood and other solid biomass, excluding renewable wastes) are also used in conventional thermal



generation power plants: their share in electricity from renewable sources grew from 3.5% in 1990 to 9.5% in 2013. Bioliquids and biogas, which were negligible in 1990, reached 6.7% in 2013.

For the period between 2020 and 2030, EU countries have agreed on a new 2030 Framework for climate and energy, including EU-wide targets and policy objectives. These targets aim to help the EU achieve a more competitive, secure and sustainable energy system and to meet its long-term 2050 greenhouse gas reductions target.

In particular the targets for 2030:

- I. a 40% cut in greenhouse gas emissions compared to 1990 levels;
- II. at least a 27% share of renewable energy consumption at European level;
- III. at least 27% energy savings compared with the business-as-usual scenario.

In order to meet these targets, the European Commission has proposed a reformed EU emissions trading scheme (ETS) and new indicators for the competitiveness and security of the energy system, such as price differences with major trading partners, diversification of supply, and interconnection capacity between EU countries.

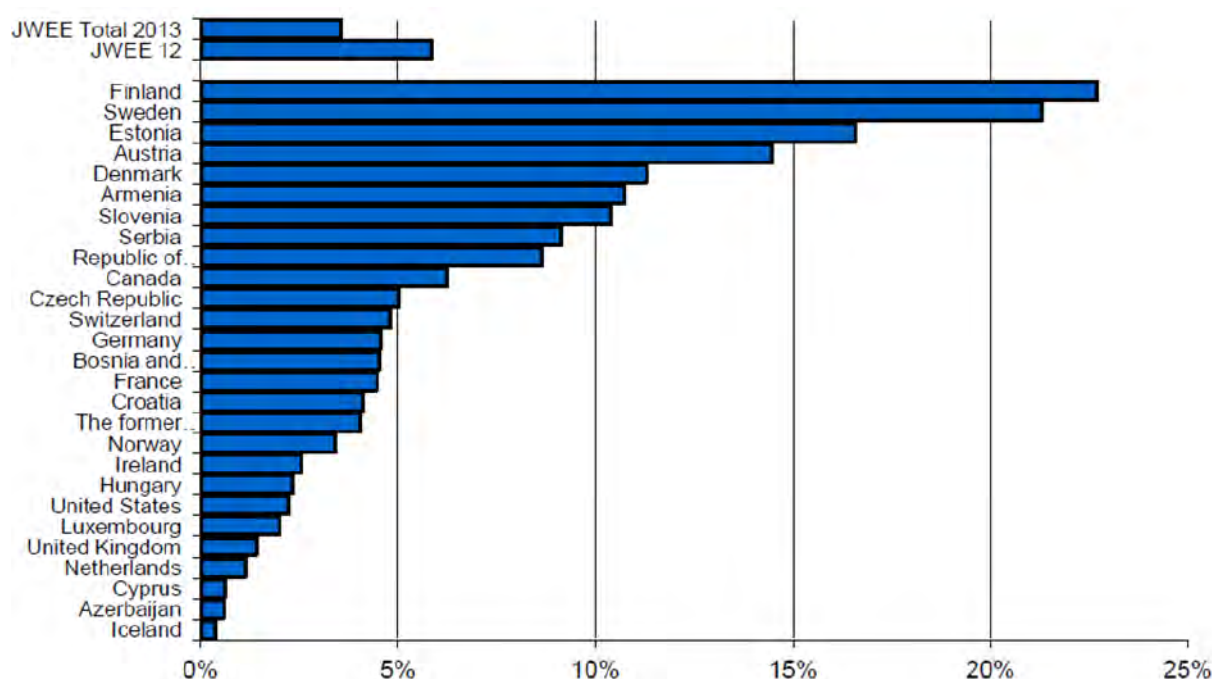
3.4.2 The “Joint Wood Energy Enquiry”

The UNECE/FAO Forestry and Timber Section in collaboration with the International Energy Agency (IEA), the Food and Agriculture Organization (FAO) and the European Commission (EC) decided in June 2006 to develop and launch a “Joint Wood Energy Enquiry”. This enquiry aims at improving knowledge and understanding of wood energy consumption and tries to shed light on the potential and future perspective of wood energy in the region. In particular this project collects data of both sources and uses of wood and promotes cooperation between the energy and forest

sectors, providing a comprehensive framework on the role of wood energy in Member States.

According to the main Study’s results published on 3 March 2016, “overall wood energy accounts for 3.5% of the total primary energy supply (+0.2 compared to 2011) and 38.2% of the renewable energy supply (-0.2) in 26 UNECE region countries in 2013, continuing its role as the leading source of renewable energy. Around 47% of all mobilized woody biomass supply (+7.0) is used for energy purposes”.

Figure 3.4.2.1: Share of woody biomass in 2013



(Source: “Joint Wood Energy Enquiry”)

In particular, according to the Joint Wood Energy Enquiry, woody biomass covers 21 to 23% of the primary energy demands of Finland and Sweden and 14 to 16% of the primary energy demands of Estonia and Austria. Woody biomass accounts for over half of the renewable energy supply in the Nordic and Baltic states as well as in Armenia, Republic of Moldova, Serbia, Slovenia, Czech Republic and Luxembourg. Around 42% of the total mobilized woody biomass supply is used for energy purposes.

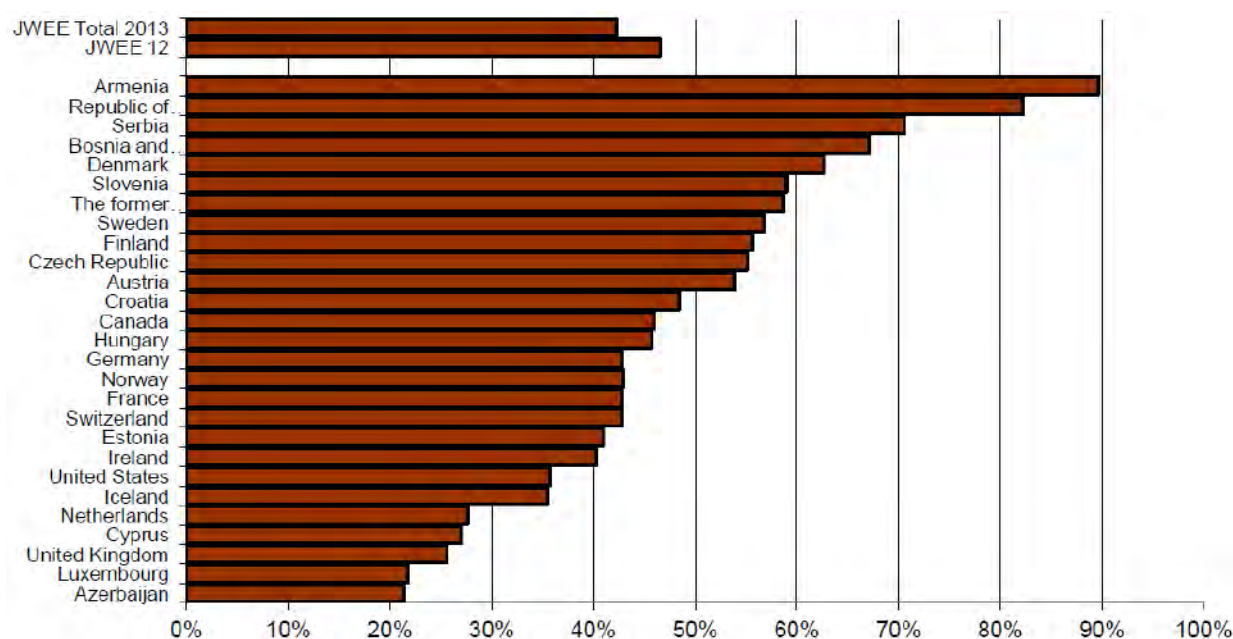
Co-products and residues from the forest-based industries contribute 62% of the wood fibres for energy generation.

Processed wood fuels with improved energy content such as wood pellets, briquettes and charcoal are also included under this category. 31% of the wood fibres for energy generation derive directly from woody biomass from forests and wooded areas outside forests. However, the proportion varies among countries with Armenia, Hungary, Macedonia, Moldova, Azerbaijan, Serbia, Croatia, Bosnia and Herzegovina, Slovenia and Czech Republic relying heavily (60% or more) on direct supplies (such as firewood) of wood fibres whereas countries such as the United States, Canada, United Kingdom, Ireland, Sweden, Austria and Finland rely mainly (60% or more) on wood supply from indirect sources such as co-products.

The United States (48%), Sweden (42%), Finland (41%) and Canada (29%) have large shares of energy generated from black liquor reflecting the relative importance of the pulp and paper industries in the forest sector for the generation of wood energy. Overall, recovered waste wood (mainly

waste from construction, but also packaging and old furniture) constitutes a minor category contributing 4.5% of wood energy. It is mainly consumed in power applications and waste to energy plants.

Figure 3.4.2.2: Share of energy use in domestic consumption of wood biomass (%), 2013



(Source: "Joint Wood Energy Enquiry")

The Joint Wood Energy Enquiry states that "wood energy is consumed by industry (49%) and final consumers (34%). Forest-based industries account for 75% of industrial use and households account for 93% of final consumption. The highest shares of industrial use are in Canada, the United States, Ireland, Sweden and Finland. The forest products industry typically consumes energy generated from the solid and liquid co-products of its manufacturing processes. Countries with important forest industries, such as Finland, Sweden, Canada and the United States therefore have a higher share of industrial consumption. Residential use, mainly dependent on primary solid biomass sources, is prevalent in most reporting countries except Canada,

Cyprus and Iceland where mainly wood charcoal is used for energy generation in the residential sector".

The document reports that the power and heat sector is the most important consumer of wood energy in Denmark, Netherlands and the United Kingdom, and has relatively large shares in Estonia, Switzerland, Sweden, Finland, Austria and Ireland.

Concerning the consumption of wood pellets, "it further increased as 38.8 kg of wood pellets were consumed per capita in the countries that reported figures from 2007 to 2013, an increase of 144% compared to 2007".

3.4.3 Overview of the wood energy markets

Wood energy is the most important source of renewable energy in the UNECE region. According to the FAO, wood for energy, as per the latest available data, was derived mainly from wood-processing co-products (57.8%) and

direct sources (36.4%), including trees in and outside forests.

The role of wood pellets in generating energy from wood is

still relatively minor, accounting for about 7% of total wood energy production in the UNECE region. However, pellets are the most dynamic wood energy commodity and have the biggest share of global trade.

According to the official FAO data released in September 2015, worldwide pellets production rose sharply in 2014 (+16% vs 2013 reaching 26.4 million tonnes). Even 2013 was also a positive year as the world production of pellets grew by 15% vs 2012.

The table below ranks the top 20 producers, exporters, and importers of pellets. The US is by far the largest producer of pellets with 6.9 million tonnes (26.1% of world share in 2014 – in 2015 it was 25.1%). Overall, production grew by more than 21% in the US. The second largest producer of pellets is Germany, which, however, saw its production decline by almost 6%. Canada is third in the ranking with a growing production (1.9 million tonnes, +5.6% vs 2013). The growth of Latvia's and France's production was especially remarkable (+17.1% and 34.8% respectively). Overall the EU28 accounts for 50% of world production (AEBIOM, 2014).

Table 3.4.3: World largest producers, exporters and importers of wood pellets, 2014, tonnes

Production		Exports		Imports	
United States of America	6900000	United States of America	4005057	United Kingdom	4757000
Germany	2078027	Canada	1637393	Denmark	2120800
Canada	1900000	Latvia	1290000	Italy	1935962
Sweden	1577000	Russian Federation	879028	Republic of Korea	1849641
Latvia	1280000	Portugal	749602	Belgium	656919
France	1200000	Germany	666000	Sweden	521630
Portugal	948000	Estonia	640838	Germany	419379
Austria	945000	Viet Nam	607379	Netherlands	383100
Russian Federation	891500	Austria	480754	Austria	341583
Romania	810000	Romania	412915	United States of America	219987
Estonia	770000	Lithuania	300066	Slovenia	158879
Ukraine	705900	Sweden	252793	France	138126
Viet Nam	650000	Netherlands	233200	Japan	96745
Poland	620000	Poland	181710	Latvia	87684
Italy	450000	Bosnia and Herzegovina	172000	Lithuania	72446
Belgium	390000	Malaysia	168588	Estonia	61668
China	370000	Denmark	166016	Switzerland	58511
Spain	350000	China	165654	Poland	51712
United Kingdom	334970	Croatia	161203	Finland	45976
Finland	324000	Bulgaria	154896	Portugal	37532

Source: FAO 2015 and EOS re-elaboration

The largest exporter in the world is the US (slightly more than 4 million tonnes imported in 2014, +38% vs 2013), followed by Canada, which produced 1.6 million tonnes with a stable trend. Exports rose sharply in Latvia, which posted a 22% growth reaching almost 1.3 million tonnes, while exports in Russia saw a decline of 3.5%.

As regards imports, the UK is by far the largest importer in the world. In 2014 it imported more than 4.7 million tonnes,

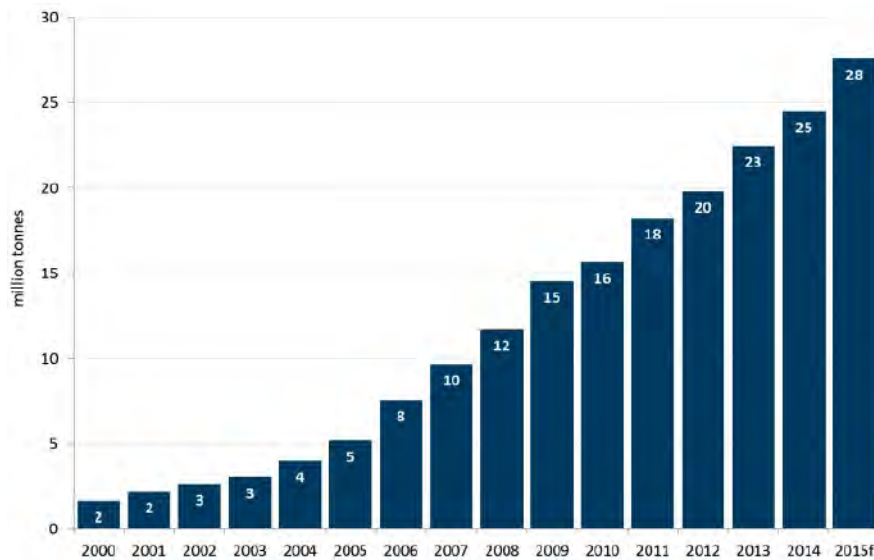
which represents a remarkable 40% increase compared to 2013. Denmark is the second largest importer, albeit with a shrinking share, as it imported about 2.1 million tonnes, which is 5% less than in 2013. Italy is the fourth largest importer with more than 1.9 million tonnes (+10.7% vs 2013).

In 2015 the market was projected to further increase to 27-28 million tonnes (15 million tonnes heating, 13 million tonnes industrial). Overall, the long term market prospects remain

very positive, with growth expected in both industrial and heating demand (Hawkins Wright, 2015).

The figure below, which utilizes a slightly different calculation with respect to FAO, represents the historic world production of wood pellets.

Figure 3.4.3.1: Global wood pellet production (million tonnes), 2000-2015

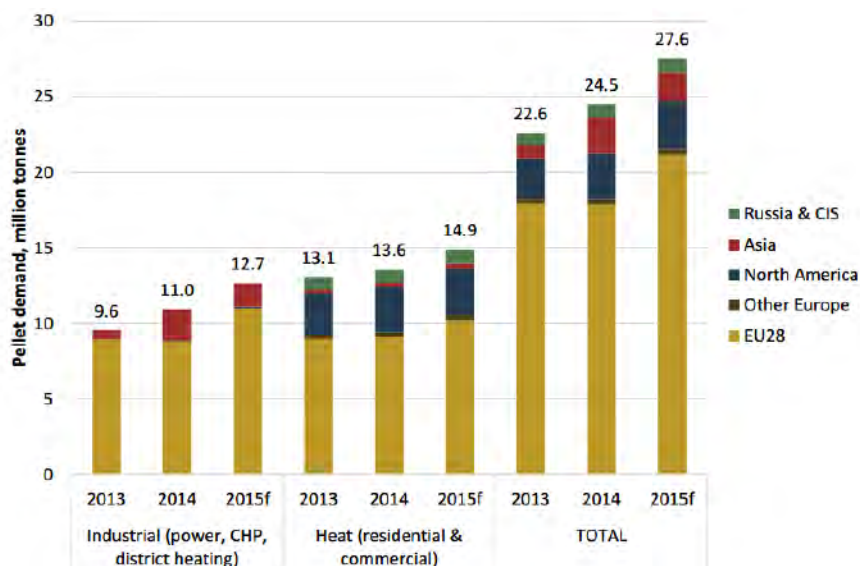


Source: Hawkins Wright

As regards pellet demand, as hinted above at global level there has been a remarkable growth over the last few years.

The growth dynamic is very positive for the industrial sector but also for the heat sector.

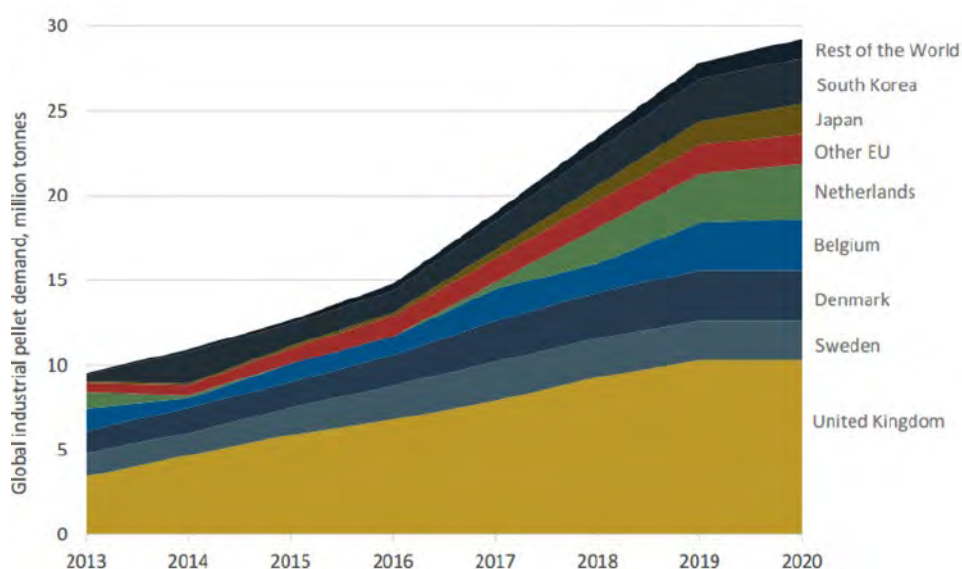
Figure 3.4.3.2: Global wood pellet demand (million tonnes), breakdown by sector and by region, 2013-2015



Source: Hawkins Wright

As regards the breakdown of consumption by sector and by country, the figure below represents the global industrial wood pellet outlook for the next few years.

Figure 3.4.3.3: Global industrial wood pellet production (million tonnes), breakdown by region



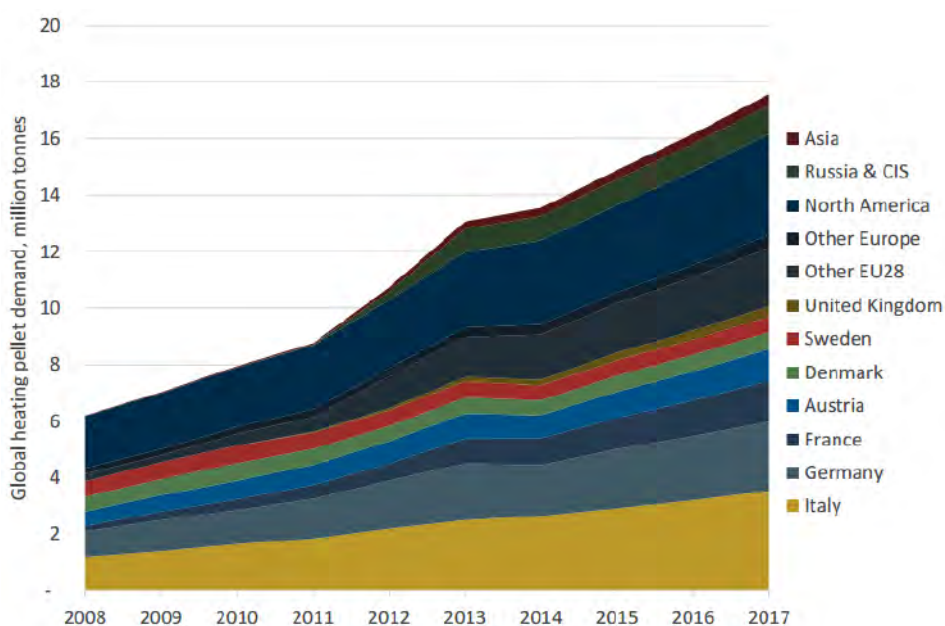
Source: Hawkins Wright

From the figure it is evident that demand is projected to grow remarkably in the next few years. The UK (one third of global market share), Denmark, Sweden, Belgium and especially the Netherlands will all see their demand rise. These countries combined will account for more than two

thirds of global market share. Outside Europe, the only significant players will remain Japan and South Korea.

The picture is different when it comes to wood pellets for heating, which will grow at a slower pace.

Figure 3.4.3.4: Global heating wood pellet production (million tonnes), breakdown by region



Source: Hawkins Wright

3.4.4 Sustainable biomass

According to the European Commission, increasing the use of biomass (*biomass is derived from organic material such as trees, plants, and agricultural and urban waste*) can help diversify Europe's energy supply, create growth and jobs, and lower greenhouse gas emissions.

Nevertheless, the EU Commission has underlined that in order to be effective at reducing greenhouse gas emissions, biomass must be produced in a sustainable way: biomass production involves a chain of activities ranging from the growing of feedstock to final energy conversion. Each step along the way can pose different sustainability challenges that need to be managed.

In particular, in 2010 the EU Commission issued non-binding recommendations on sustainability criteria for biomass has been defined and they were meant to apply to energy installations of at least 1MW thermal heat or electrical power. They:

- forbid the use of biomass from land converted from forest, and other high carbon stock areas, as well as highly biodiverse areas;
- ensure that biofuels emit at least 35% less greenhouse gases over their lifecycle (cultivation, processing, transport, etc.) when compared to fossil fuels. For new installations this amount rises to 50% in 2017 and 60% in 2018;
- favour national biofuels support schemes for highly efficient installations;
- encourage the monitoring of the origin of all biomass consumed in the EU to ensure their sustainability.

In 2014, the European Commission published a report on the sustainability of solid and gaseous biomass for heat and electricity generation. The report includes information on current and planned EU actions to maximise the benefits of using biomass while avoiding negative impacts on the environment. Copy of this report is available at the following link:

https://ec.europa.eu/energy/sites/ener/files/2014_biomass_state_of_play_.pdf

At the beginning of 2016, the European Commission launched an online consultation on what should be the scope and objectives of a new EU bioenergy sustainability policy.

The consultation asks respondents to rate the importance of a number of potential objectives for the sustainability policy, including cutting greenhouse gas emissions, and minimising impacts on biodiversity, water and air quality. Other possible objectives include "promoting energy security" and "promoting free trade and competition in the EU among all end-users of the biomass resource". The Commission has pledged to bring forward a bioenergy sustainability policy to be implemented alongside the new Renewable Energy Directive after 2020, after dropping a previous attempt to set near-term biomass sustainability criteria due to internal opposition. Reform of the EU's biofuels rules was also protracted and acrimonious.

Respondents to the consultation are asked whether a new EU bioenergy sustainability policy is needed at all, or whether the current policy framework – including the sustainability scheme for biofuels and EU and national policies covering solid biomass and biogas – is sufficient.

The possibility of a new policy covering only solid biomass and biogas, or covering only biofuels and bioliquids, is also suggested.

The European Commission asked whether bioenergy, which already accounts for over 60% of renewable energy in Europe, should continue to dominate the renewable energy mix or whether other sources such as solar, wind and hydro should "increase significantly" or "become dominant". This consultation seeks views on whether public policy should support, encourage or be neutral in relation to different types of bio-energy sources. In particular, these include biofuels from food crops, energy crops or waste; biogas from manure, food crops or waste; heat and power from forest biomass, forest residues, agricultural biomass or waste; large-scale power generation or combined heat and power from solid biomass; domestic biomass heating; and bio-energy based on local, EU or non-EU feedstocks.

EOS submitted a response to the European Consultation on “A sustainable bioenergy policy for the period after 2020”.

In particular the following elements were highlighted (*list non exhaustive of the EOS responses*):

EOS recognizes that the sustainable biomass can play an important role in tackling climate change, assuring security of energy supply and leading to significant greenhouse gas savings compared to the use of fossil fuels. Moreover greater awareness of the value of biomass can help motivate small forest owners to consider carrying out active and sustainable management of their forests. By incentivizing forest management, biomass markets (including the entire forestry chain –bioenergy and woodworking industries) can help many European forest owners to adapt their forest to the ongoing climatic change and give a great contribution to reducing fire risks, particularly in the EU’s Mediterranean countries.

EOS take the opportunity of this consultation to stress that using biomass for direct substitution of fossil fuels or fossil fuel-intensive materials is an important tool for reducing greenhouse gas emissions as it provides permanent and cumulative reduction in CO₂ emission.

Next to mitigating climate change, EOS believes that the development of bioenergy from biomass and the use of forest biomass as material should be part of an integrated sustainable development strategy.

Biomass is most economical as a fuel source when the CHP system is located at or close to the woody biomass fuel stock. In some cases, the availability of biomass in a location may prompt the search for an appropriate thermal host for a CHP or heat application. In other circumstances, a site may be driven by a need for energy savings to search for biomass fuel within a reasonable radius of the facility.

Matching the conversion technology to the fuel source and to the products needed (i.e., electricity, steam, hot water, and mechanical energy) is essential to achieve the maximum economic returns and long-term performance from a bioenergy system.

The potential competition for land and for raw material with other biomass uses must be carefully managed but there are few concerns within the EU territory. However, the productivity of food and biomass feedstocks needs to be increased by improved agricultural and forestry practices so that we can benefit of more autonomy. Logistics and infrastructure issues must be addressed, and there is need for further technological innovation leading to more efficient and cleaner conversion of a more diverse range of feedstocks.

EOS believes that the production of solid biomass from energy crops, or residues from forests should guarantee sustainable land use and ecosystems. Indeed rapid conversion of primary forest to cultivated use can result in a significant loss of terrestrial carbon through the release of CO₂ to the atmosphere reducing the GHG saving expected from bioenergy.

Further work on these issues is essential so that policies can focus on encouraging sustainable routes and provide confidence to policy makers and the public at large.

The use of domestic biomass resources and especially wood is currently a significant contribution to EU energy security. The biomass and especially wood available resources in the EU are very important (forest superficies and wood volumes are still increasing) with a high potential of more intense and sustainable forest management. Public policies on wood energy have to be articulated with the one on wood material development. Each time that a public policy will favor the use of wood as a material, it will stimulate the whole forestry and wood industry sector, increasing as a side effect the availability of more forest and wood secondary products for energy. As far as biomass imports for bioenergy have to be considered, EU autonomy criteria which is directly measurable should come first the before complex ILUC concepts which are based on modelling and not on measurement. Biomass imports can be necessary, especially for Member States with low availability of local biomass, but EU resource should be preferred each time it is possible.

EOS recalls that during the combustion of solid biomass the emission of particulate matter (PM) can cause adverse effects on lung health. For this reason, a moderate reduction of emission of particulate matter from wood fiels appears necessary. Combustion of contaminated biomass (e.g. chemically treated waste wood should be possible only in specialized combustion plans in order to minimize emissions such as heavy metals.

Concerning the production of liquid biofuels, EOS recalls that the use of lignocellulosic liquid biofuels is very costly and could require a high level of bio resources in the future leading to a disruption of the forest-wood based sector.

One of the great promises of biofuels is their potential to provide an environmentally sustainable alternative to the petroleum fuels that have exacted such a heavy toll on the planet. Biofuels do have the ability to reduce pollution, but they can also exacerbate a range of other environmental problems if not developed very carefully. Biofuels are essentially a way to convert solar energy into solid and liquid form via photosynthesis. Advances in technology have improved production efficiency, giving virtually all current biofuels a positive fossil energy balance.

Moreover further development of bioenergy technologies is needed mainly to improve the efficiency, reliability and sustainability of bioenergy chains. In the heat sector, improvement would lead to cleaner, more reliable systems linked to higher quality fuel supplies. Wood pellet for domestic heating is a good example of what allows technology to improve combustion efficiency and reduce particle emissions in simple home devices. In the electricity sector, the development of smaller and more cost-effective electricity or CHP systems could better match local resource availability. In the transport sector, improvements could lead to higher quality and more sustainable biofuels. Special care will have to be taken about the development of production of lignocellulosic liquid biofuels within the EU. They will have to be integrated into the existing wood transformation sector and the impact of their development on the wood market will have to be assessed.

EOS believes that the recommendations sets by the EU Commission in its Report on the sustainability requirements for the use of solid and gaseous biomass sources in electricity, heating and cooling are still a valid instrument for assuring the development of a sustainable bioenergy policy.

In particular EOS considers valid the recommendation that sustainability schemes should apply only to larger energy producers of 1 MW thermal or 1MW electrical capacity or above. Placing requirements on small-scale producers to prove sustainability would create undue administrative burden, although higher performance and efficiency should be encouraged. Binding criteria should be applicable only for large energy producers above 20MW capacity.

Additionally, sustainable Forest Management (SFM), thus the “management regime that integrates and balances social, economic, ecological, needs of present and future generations” represents a key tool for assuring that all products coming from forest are sustainable. Additionally imported forest products certified with FSC and PEFC already respect the sustainability concept.



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4. Main results from the EOS market survey – April 2016

4.1 General information about the timber market

Country	Year	Production (1.000 m³)		Imports (1.000 m³)		Exports (1.000 m³)		Consumption (1.000 m³)	
		softwood	hardwood	softwood	hardwood	softwood	hardwood	softwood	hardwood
Austria	2010	9.445	158	1.592	190	5.981	132	5.056	216
	2011	9.485	151	1.729	204	5.586	130	5.628	225
	2012	8.793	159	1.721	207	5.036	132	5.478	236
	2013	8.385	149	1.736	166	4.932	113	5.189	202
	2014	8.326	134	1.614	145	4.884	127	5.056	152
	2015	8.681	126	1.627	155	5.040	123	5.268	158
	2016	8.700	130	1.600	150	5.100	125	5.200	155
Belgium	2010	1.350	245	1.300	420	800	235	1.850	430
	2011	1.480	275	1.350	440	850	245	1.980	470
	2012	1.530	300	1.400	420	900	240	2.030	480
	2013	1.460	285	1.300	400	880	240	1.880	445
	2014	1.520	285	1.330	380	920	230	1.930	435
	2015	1.400	290	1.400	370	870	220	1.930	440
	2016	1.350	285	1.450	370	860	210	1.940	445
Denmark	2010	500	400	1.240	170	135	30	1.605	540
	2011	500	125	1.234	200	108	100	1.626	225
	2012	500	125	1.125	200	106	100	1.519	225
	2013	295	69	1.034	200	89	100	1.240	225
	2014	290	73	1.285	200	105	100	1.470	225
	2015	310	76	1.400	200	111	100	1.599	176
	2016	320	81	1.500	200	120	100	1.700	181
Germany	2010	21.192	924	4.041	458	6.953	618	18.280	763
	2011	21.608	996	4.237	446	7.101	615	18.744	827
	2012	20.032	983	4.077	427	6.430	575	17.678	835
	2013	20.428	1.031	4.243	401	6.512	639	18.159	793
	2014	20.757	1.015	4.348	418	6.935	692	18.170	741
	2015	20.485	1.026	4.443	400	6.462	710	18.465	740
	2016	21.500	1.050	4.500	400	6.500	690	19.500	760
Finland	2010	9.400	73	625	27	5.880	14	4.000	86
	2011	9.700	50	500	31	6.200	13	4.000	68
	2012	9.300	50	500	27	6.500	13	3.300	63
	2013	10.400	50	300	27	6.700	13	3.700	63
	2014	10.800	40	300	42	7.050	5	3.750	77
	2015	10.600	40	400	46	7.350	4	3.950	82
	2016	10.600	40	400	46	7.400	4	3.900	82

Country	Year	Production (1.000 m³)		Imports (1.000 m³)		Exports (1.000 m³)		Consumption (1.000 m³)	
		softwood	hardwood	softwood	hardwood	softwood	hardwood	softwood	hardwood
France	2010	6.800	1.500	4.000	160	630	390	10.170	1.270
	2011	7.219	1.456	3.060	324	455	373	9.824	1.407
	2012	6.750	1.430	2.400	270	507	363	8.643	1.148
	2013	6.800	1.380	2.200	243	600	380	8.400	1.243
	2014	6.900	1.330	2.200	220	700	400	8.400	1.150
	2015	6.700	1.300	2.000	200	837	430	7.863	1.070
	2016	6.700	1.400	1.900	200	850	450	7.750	1.150
Italy	2010	715	600	4.675	1.100	91	110	5.768	1.590
	2011	850	550	5.195	940	142	122	5.729	1.368
	2012	850	550	5.002	765	123	99	4.860	1.216
	2013	860	500	3.936	622	120	115	4.676	1.007
	2014	910	520	3.904	628	140	150	4.674	998
	2015	920	550	3.873	601	150	154	4.643	997
	2016	950	550	3.900	615	140	160	4.710	1.005
Latvia	2010	2.631	500	191	10	1.836	312	986	198
	2011	2.657	550	164	10	1.880	332	941	228
	2012	2.582	570	215	15	1.954	346	843	239
	2013	2.600	659	252	8.5	2.069	428	783	239
	2014	2.620	717	439	21	2.258	498	801	240
	2015	2.690	810	570	30	2.440	590	820	250
	2016	2.580	720	600	30	2.320	500	860	250
Norway	2010	2.100	28	919	43	517	8	2.500	35
	2011	2.270	12	900	85	470	1	2.700	96
	2012	2.280	0	980	82	500	1	2.760	81
	2013	2.200	0	960	82	515	1	2.645	81
	2014	2.400	0	970	58	512	2	2.858	56
	2015	2.444	0	979	60	560	2	2.863	58
	2016	2.500	0	980	60	580	2	2.900	58
Romania	2010	2.700	1.541	15	30	1.700	652	950	750
	2011	2.900	1.541	30	15	1.800	546	1.000	850
	2012	3.390	1.758	39	32	2.475	750	954	1.040
	2013	3.762	1.756	16	68	2.607	968	1.171	856
	2014	3.500	1.700	16	68	2.600	850	916	918
	2015	4.317	1.795	90	38	1.744	654	2.663	1.179
	2016	3.454	1.437	90	40	1.369	524	1.975	953
Sweden	2010	16.600	100	122	60	11.500	10	5.100	100
	2011	16.400	100	100	64	11.660	23	4.700	141
	2012	16.100	100	100	49	11.840	11	4.500	138
	2013	16.100	90	120	40	11.700	10	4.600	120
	2014	17.660	260	150	28	12.300	9	5.000	278
	2015	18.074	250	130	30	12.820	10	5.200	270
	2016	18.100	250	130	30	13.300	10	5.300	270

Country	Year	Production (1.000 m³)		Imports (1.000 m³)		Exports (1.000 m³)		Consumption (1.000 m³)	
		softwood	hardwood	softwood	hardwood	softwood	hardwood	softwood	hardwood
Switzerland	2010	1.397	55	374	35	436	15	1.335	75
	2011	1.149	55	361	35	201	15	1.309	75
	2012	1.079	50	344	35	190	15	1.233	70
	2013	986	58	320	35	175	15	1.131	78
	2014	1.080	65	330	35	180	15	1.230	85
	2015	1.060	60	310	35	180	15	1.190	80
	2016	1.040	55	295	35	170	10	1.165	80
United Kingdom	2010	3.053	48	5.230	469	164	31	8.119	486
	2011	3.227	52	4.514	410	131	32	7.611	430
	2012	3.361	48	4.756	423	116	25	8.002	446
	2013	3.536	46	5.101	380	130	20	8.491	410
	2014	3.716	47	5.352	400	140	20	8.870	430
	2015	3.550	50	5.900	450	160	20	9.290	480
	2016	3.600	50	6.050	460	160	20	9.490	490
EOS TOTAL	2010	77.883	6.122	24.844	3.012	36.674	2.569	65.719	6.317
	2011	79.445	5.913	23.181	3.029	36.565	2.524	65.792	6.258
	2012	76.547	6.093	21.813	2.799	36.700	2.670	61.800	6.034
	2013	77.812	6.073	21.518	2.673	37.029	3.042	62.065	5.763
	2014	80.479	6.186	22.238	2.643	38.724	3.098	63.125	5.785
	2015	81.231	6.373	23.122	2.615	38.724	3.032	65.744	5.980
	2016	81.394	6.048	23.395	2.636	38.869	2.805	66.390	5.879

4.2 Sawn softwood

4.2.1 Overview of EOS Sawn Softwood Production

Table 4.1: Overview of the EOS sawn softwood production 2011-2016 in 1.000 m³

	2011	2012	2013	2014	2015	2016*	15/14	16/15	Share 2015
AT	9.485	8.793	8.385	8.326	8.681	8.700	4,3%	0,2%	10,7%
BE	1.480	1.530	1.460	1.520	1.400	1.350	-7,9%	-3,6%	1,7%
CH	1.149	1.079	986	1.080	1.060	1.040	-1,9%	-1,9%	1,3%
DE	21.608	20.032	20.428	20.757	20.485	21.500	-1,3%	5,0%	25,2%
DK	500	500	295	290	310	320	6,9%	3,2%	0,4%
FI	9.700	9.300	10.400	10.800	10.600	10.600	-1,9%	0,0%	13,0%
FR	7.219	6.750	6.800	6.900	6.700	6.700	-2,9%	0,0%	8,3%
IT	850	850	860	910	920	950	1,1%	3,3%	1,1%
LV	2.657	2.582	2.600	2.620	2.690	2.580	2,7%	-4,1%	3,3%
NO	2.270	2.280	2.200	2.400	2.444	2.500	1,8%	2,3%	3,0%
RO	2.900	3.390	3.762	3.500	4.317	3.454	23,3%	-20,0%	5,3%
SE	16.400	16.100	16.100	17.660	18.074	18.100	2,3%	0,1%	22,3%
UK	3.227	3.361	3.536	3.716	3.550	3.600	-4,5%	1,4%	4,4%
EOS	79.445	76.547	77.812	80.479	81.231	81.394	0,9%	0,2%	100,0%

*Estimates

The recovery of sawn softwood production that started in 2013 continued during 2015, albeit at a slow pace. In the EOS member countries, total production of sawn softwood increased by 0.9% reaching a volume of 81.2 million m³ in 2015. The recovery seems to continue this year, but it will further slow down with total production reaching 81.4 million m³. Developments in 2015 were not equal among the EOS member countries. Some are in negative territory while in Romania, Denmark, Austria, Latvia and Sweden the growth in production was particularly high.

With a production of nearly 20.5 million m³ and a share of 25.2% (26.1% in 2014), Germany remained in 2015 the largest sawn softwood producer within the EOS community. Sweden ranks second with 18.1 million m³ (22.3% vs 21.7 in 2014). Finland remains the third largest producer with 10.6 million m³ (13.0% vs 13.4 in 2014) ahead of Austria with 8.7 million m³ (10.7% vs 10.2 in 2014). France remains the fifth largest producer within EOS with a share of 8.3%.

Figure 4.1: Sawn softwood production volumes in the EOS member countries 2007-2016 (000 m³)

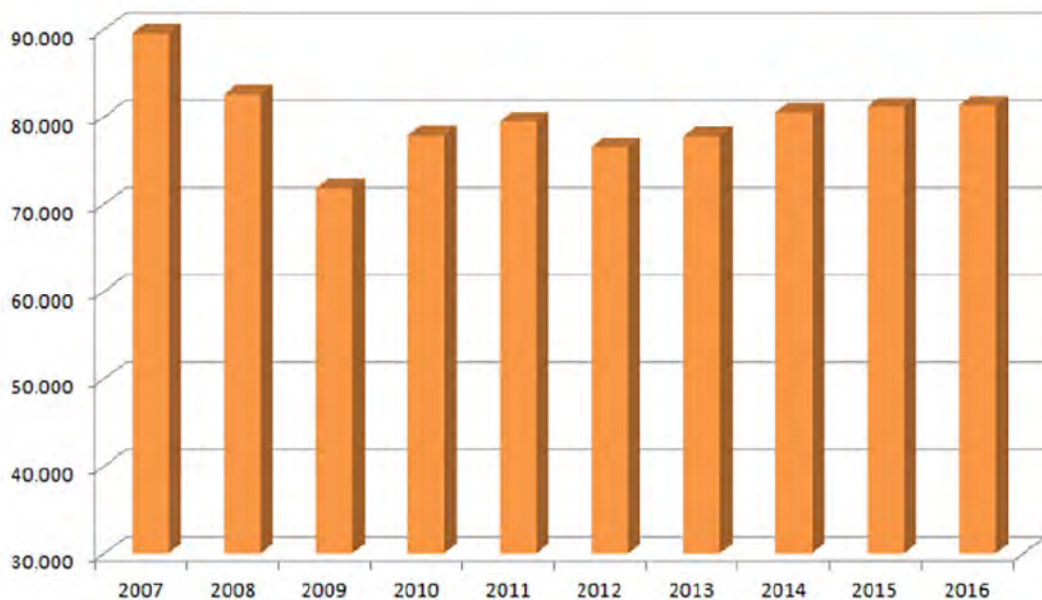
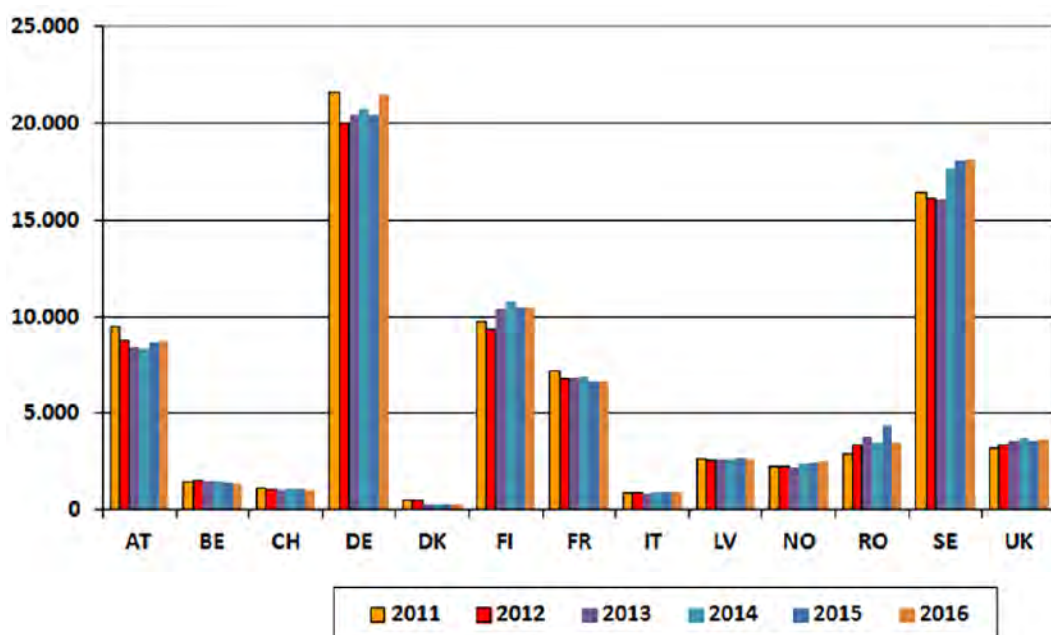


Figure: 4.2 Sawn softwood production volumes in the EOS member countries 2011-2016 (000 m³)



4.2.2. Overview of the EOS Sawn Softwood Consumption

Table 4.2: Overview of the EOS sawn softwood consumption 2011-2016 in 1.000 m³

	2011	2012	2013	2014	2015	2016*	15/14	16/15	Share 2015
AT	5.628	5.478	5.189	5.056	5.268	5.200	4,2%	-1,3%	8,0%
BE	1.980	2.030	1.880	1.930	1.930	1.940	0,0%	0,5%	2,9%
CH	1.309	1.233	1.131	1.230	1.190	1.165	-3,3%	-2,1%	1,8%
DE	18.744	17.678	18.159	18.170	18.465	19.500	1,6%	5,6%	28,1%
DK	1.626	1.519	1.240	1.470	1.599	1.700	8,8%	6,3%	2,4%
FI	4.000	3.300	3.700	3.750	3.950	3.900	5,3%	-1,3%	6,0%
FR	9.824	8.643	8.400	8.400	7.863	7.750	-6,4%	-1,4%	12,1%
IT	5.729	4.860	4.676	4.674	4.643	4.710	-0,7%	1,4%	7,1%
LV	941	843	783	801	820	860	2,4%	4,9%	1,2%
NO	2.700	2.760	2.645	2.858	2.863	2.900	0,2%	1,3%	4,4%
RO	1.000	954	1.171	916	2.663	1.975	190,7%	-25,8%	4,1%
SE	4.700	4.500	4.600	5.000	5.200	5.300	4,0%	1,9%	7,9%
UK	7.611	8.002	8.491	8.870	9.290	9.490	4,7%	2,2%	14,1%
EOS	65.792	61.800	62.065	63.125	65.744	66.390	4,1%	1,0%	100,0%

*Estimates

In 2015, the total demand grew by 4.1% and reached almost 65.75 million m³. Consumption is expected to further increase this year, albeit at a slower pace. Demand showed a remarkable increase in Romania. Denmark, Austria, Sweden, UK and Latvia all saw their demand grow, while, on the contrary, France, and Switzerland reported a drop.

Germany has been the most important market for sawn softwood products with a volume of 18.5 million m³ (28.1% vs 29.6% in 2014) followed by the UK with 9.3 million m³ (14.1%). France ranks third with a share of 12.1% (12.8% in 2014) and a demand of 7.9 million m³. Austria is now in fourth position, just ahead of Sweden.

Figure 4.3: Sawn softwood consumption volumes in the EOS member countries 2007-2016 (000 m³)

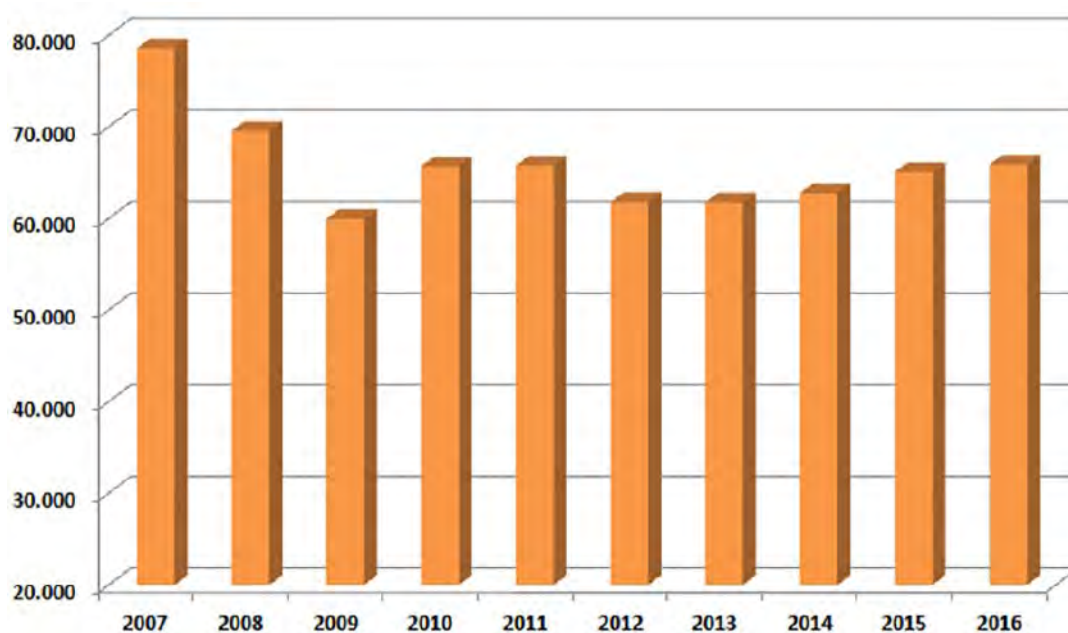
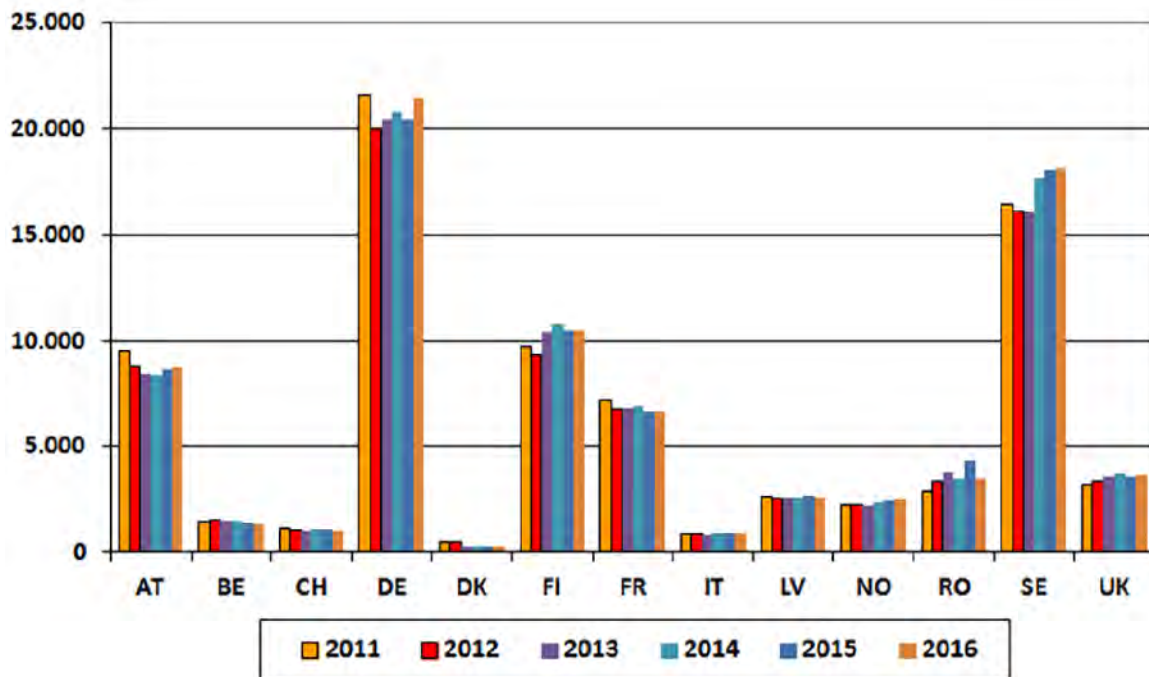


Figure 4.4: Sawn softwood consumption volumes in the EOS member countries 2011-2016 (000 m³)

4.3 Sawn hardwood

4.3.1 Overview of EOS Sawn Hardwood Production

Table 4.3: Overview of the EOS sawn hardwood production 2011-2016 in 1.000 m³

	2011	2012	2013	2014	2015	2016*	15/14	16/15	Share 2015
AT	151	159	149	134	126	130	-6,0%	3,2%	2,0%
BE	275	300	285	285	290	285	1,8%	-1,7%	4,6%
CH	55	50	58	65	60	55	-7,7%	-8,3%	0,9%
DE	996	983	1.031	1.015	1.026	1.050	1,1%	2,4%	16,1%
DK	125	125	69	73	76	81	4,1%	6,6%	1,2%
FI	50	50	50	40	40	40	0,0%	0,0%	0,6%
FR	1.456	1.430	1.380	1.330	1.300	1.400	-2,3%	7,7%	20,4%
IT	550	520	500	520	550	550	5,8%	0,0%	8,6%
LV	550	570	659	717	810	720	13,0%	-11,1%	12,7%
NO	12	0	0	0	0	0	-	-	0,0%
RO	1.541	1.758	1.756	1.700	1.795	1.437	5,6%	-19,9%	28,2%
SE	100	100	90	260	250	250	-3,8%	0,0%	3,9%
UK	52	48	46	47	50	50	6,4%	0,0%	0,8%
EOS	5.913	6.093	6.073	6.186	6.373	6.048	3,0%	-5,1%	100,0%

*Estimates

The hardwood sector reported in 2015 a production increase of 3% compared to 2014. This year, however, production is projected to decline. Developments differed strongly from country to country. Among the largest producers, Romania,

Latvia and Germany saw their production grow, while France reported a 2.3% drop. Italy's decline has apparently bottomed out in 2013.

Romania and France remain the biggest sawn hardwood producers within the EOS community, with 28.2% (28.0% in 2014) and 20.4% (21.9% in 2014) respectively covering half

of the entire production followed by Germany (16.1% vs 16.5% in 2014) and Latvia (12.7% vs 11.8% in 2014).

Figure 4.5: Sawn hardwood production volumes in the EOS member countries 2007-2016 (000 m³)

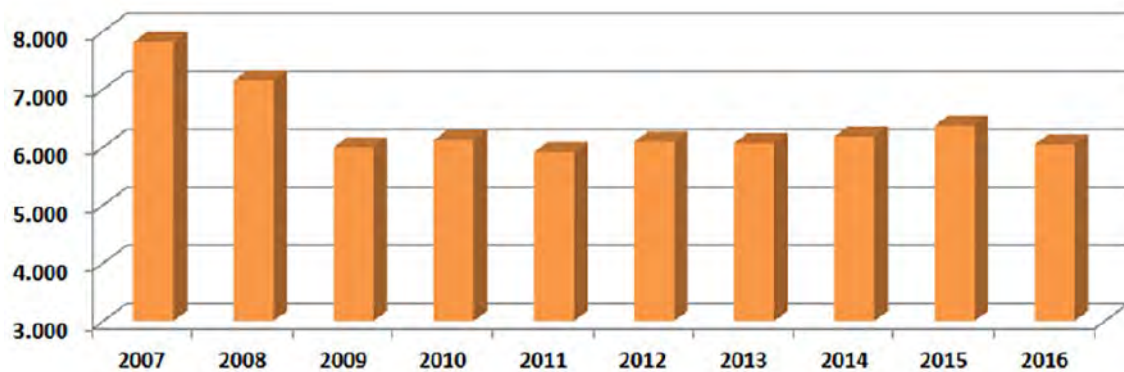
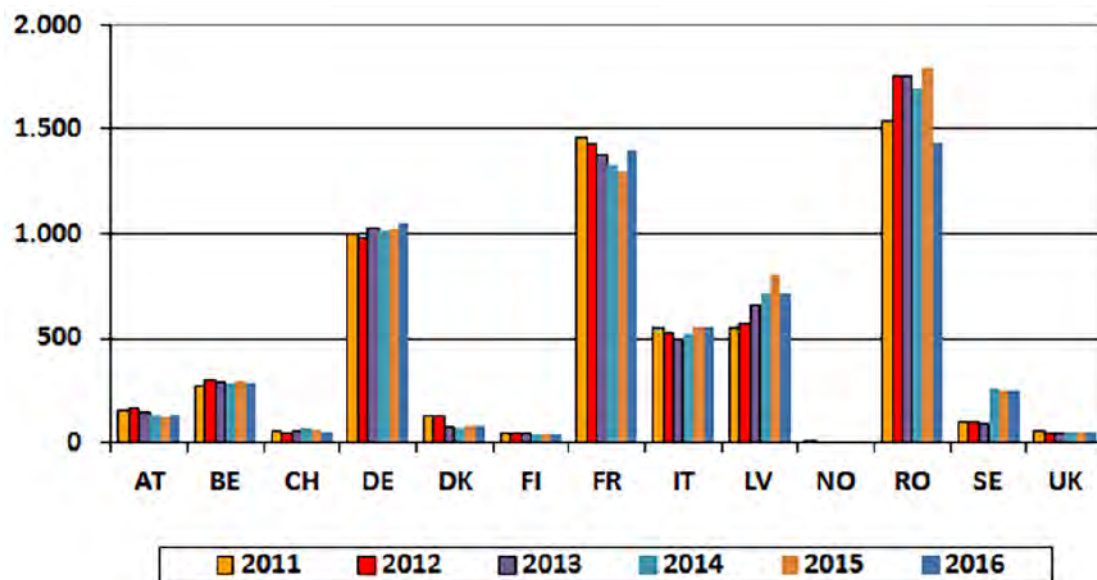


Figure 4.6: Sawn hardwood production volumes in the EOS member countries 2011-2016 (000 m³)



4.3.2 Overview of EOS Sawn Hardwood consumption

Table 4.4: Overview of the EOS sawn hardwood consumption 2011-2016 in 1.000 m³

	2011	2012	2013	2014	2015	2016*	15/14	16/15	Share 2015
AT	225	236	202	152	158	155	3,9%	-1,9%	2,6%
BE	470	480	445	435	440	445	1,1%	1,1%	7,4%
CH	75	70	78	85	80	80	-5,9%	0,0%	1,3%
DE	827	835	793	741	740	760	-0,1%	2,7%	12,4%
DK	225	225	225	225	176	181	-21,8%	2,8%	2,9%
FI	68	63	63	77	82	82	6,5%	0,0%	1,4%
FR	1.407	1.148	1.243	1.150	1.070	1.150	-7,0%	7,5%	17,9%
IT	1.216	1.033	1.007	998	997	1.005	-0,1%	0,8%	16,7%
LV	228	239	240	240	250	250	4,2%	0,0%	4,2%
NO	96	81	81	56	58	58	3,6%	0,0%	1,0%
RO	850	1.040	856	918	1.179	953	28,4%	-19,2%	19,7%
SE	141	138	120	278	270	270	-2,9%	0,0%	4,5%
UK	430	446	410	430	480	490	11,6%	2,1%	8,0%
EOS	6.258	6.034	5.763	5.785	5.980	5.879	3,4%	-1,7%	100,0%

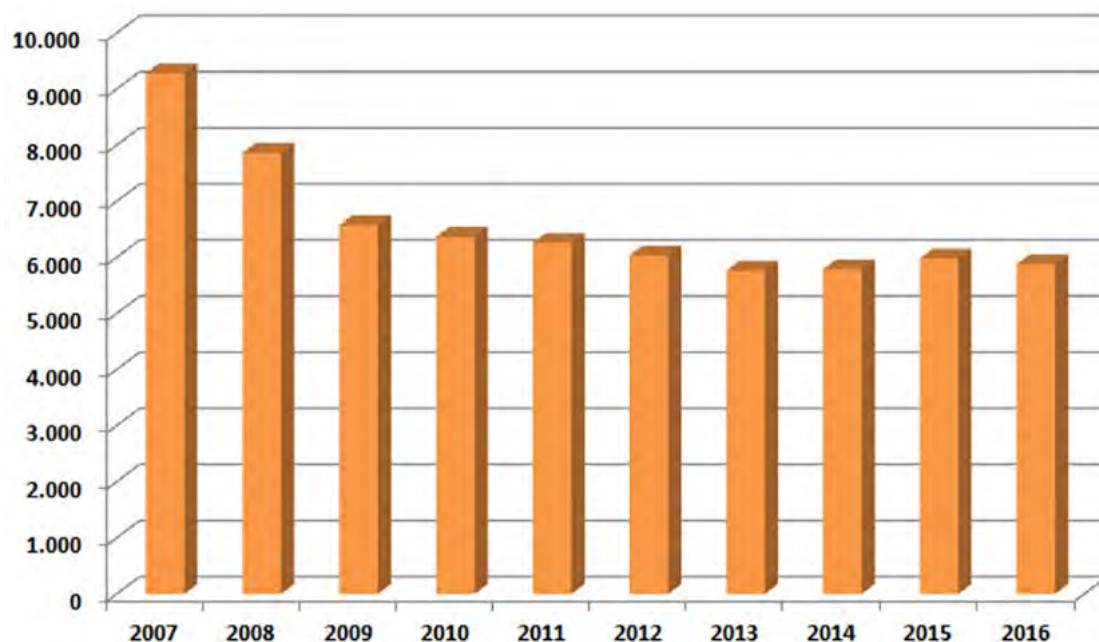
*Estimates

Having experienced some challenging years, the EOS countries finally reported in 2015 a 3.4% growth of consumption. The increase was driven mainly by Romania, which had a 28.4% growth and displaced France as the largest EOS consumer. Romania now consumes almost one fifth of the overall EOS consumption. France reported a 7% decline and now has a 17.9% share within the EOS countries

while, after some years of contraction, the decline in Italy and Germany seems to have bottomed out. They have, respectively, a 16.7% share (down from 17.4% in 2014), and 12.4% share (down from 12.8% in 2015).

At the end of this year, however, overall EOS consumption is projected to drop by almost 2%.

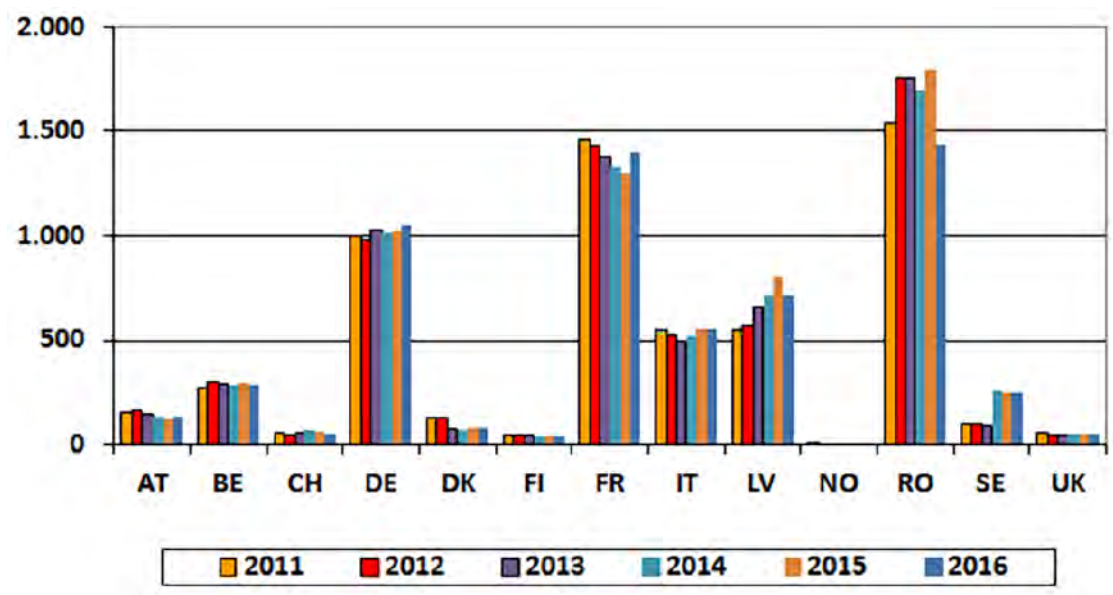
Figure 4.7: Sawn hardwood consumption volumes in the EOS member countries 2007-2016 (000 m³)





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Figure 4.8: Sawn hardwood consumption volumes in the EOS member countries 2011-2016 (000 m³)



4.4 Country Reports

AUSTRIA

Source: Fachverband der Holzindustrie Österreichs and European Commission



General economic information

	2013	2014	2015	2016
Population (million)	8.4	8.5	8.6	8.7
GDP (%)	0.3	0.4	0.9	1.5
Inflation rate (%)	2.1	1.5	0.8	1.9
Unemployment rate (%)	5.4	5.6	6.0	6.2
Construction industry				
Buildings permits (units)	45 900	47 900	49 400	49 000
Housing starts (units)	40 800	43 300	46 100	46 800
Housing completions (units)	40 800	42 600	45 100	46 900
Wage Development (%)				
	2.9	2.3	1.1	0.4
Average working time in sawmilling (h/week)	38.5	38.5	38.5	38.5

2016 data are estimates

Sawn Softwood (in 1,000 m³)

	2013	2014	2015	2016
Production	8 385	8 326	8 681	8 700
Imports	1 736	1 614	1 627	1 600
Exports	4 932	4 884	5 040	5 100
Consumption	5 189	5 056	5 268	5 200

2016 data are estimates

Sawn Hardwood (in 1,000 m³)

	2013	2014	2015	2016
Production	149	134	126	130
Imports	166	145	155	150
Exports	113	127	123	125
Consumption	202	152	158	155

2016 data are estimates

Availability of logs (in 1,000 m³)

	2013	2014	2015	2016
Softwood	2	1	3	1
Hardwood	4	3	3	3

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) – 2016 data are estimates

Market statement

Quote Mag. Herbert Jöbstl, Chairman of the Austrian Saw Industry:

“To prevail in international competition, the Austrian timber industry must have domestic timber available throughout the year. The timber industry wants to use all mobilisation activities and fallen timber processing even more strongly in future with forest management as a partner.”

Stable level

The timber markets were stable in 2015 and early 2016. Germany is currently an important “driver” for the European market; the situation in Japan has improved slightly, in particular due to supply problems from Eastern European states. The still-insecure political structures in the Levant states lead to difficult situations; the situation in China is hardly expected to improve in the near future, and improvements in Italy are also missing. At least, exports to Italy, our most important export market, remained stable – albeit on a low level – for the last five years after five years of continuous sales reduction (-50% from 2009 to 2013).

Wood supply has been ensured especially due to a large number of natural calamities since the summer months of 2015. If we were dependent on domestic round timber exclusively even in these years of “better” supply, the Austrian timber production would be down to 50% of the total capacity. In 2015, 5.5 M solid cubic metres (2014: 4.84 M scm) of sawlogs had to be imported from the adjacent countries to serve the timber markets.

In 2015, a total of 15.16 M solid cubic metres (scm) of sawlogs were cut. The timber production was at approx. 8.8M m³, corresponding to a growth of 4% as compared to 2014. It has almost returned to the level of 2012 and is precisely on the average of the recent weaker years. The Softwood has a timber share of 98%; in particular, the softwood market is dominated by spruce and fir, which combined together account for a share of almost 8 million m³.

Softwood logs – imports increased

In the overall year of 2015, approx. 5.1 M scm of softwood logs have been imported into Austria (2014: approx. 4.6 M scm). The deliveries from the largest import country, the Czech Republic, increased by 2.4% (approx. 1.9 M scm); those from Germany even increased by 81.7% to 1.6 M scm (2014: 0.9 M scm). Imports from Slovenia also increased by 6.2% to 846,586 scm due to the high amount of calamity wood.

The import share of softwood logs for the Czech Republic is at 37%, for Germany at 32%, for Slovenia at 16%, for Slovakia at 5%, for Switzerland at 3% and for Italy at 4%. These adjacent countries cover the imports almost entirely. The high import share also results from the natural catchment area of a sawmill, which is of up to 150 km.

Unfortunately, many removal options were blocked because of the weather at the end of the first quarter of 2016. Therefore, there were many bottlenecks on short notice. The availability of fresh timber is important to the sawmill industry, in order to be able to serve the more demanding timber customers. Domestic wood takes the highest priority. Continuous and projectable supply across the year with all ranges is important.

Good demand for cut timber

The slow but continuous upward trend of the economy in Austria continues so far. Accordingly, the sawmill industry is looking at the first half of 2016 with optimism. Almost the same production level as in the previous year is expected for the first half of 2016.

Domestic sawmill industry makes first place world-wide

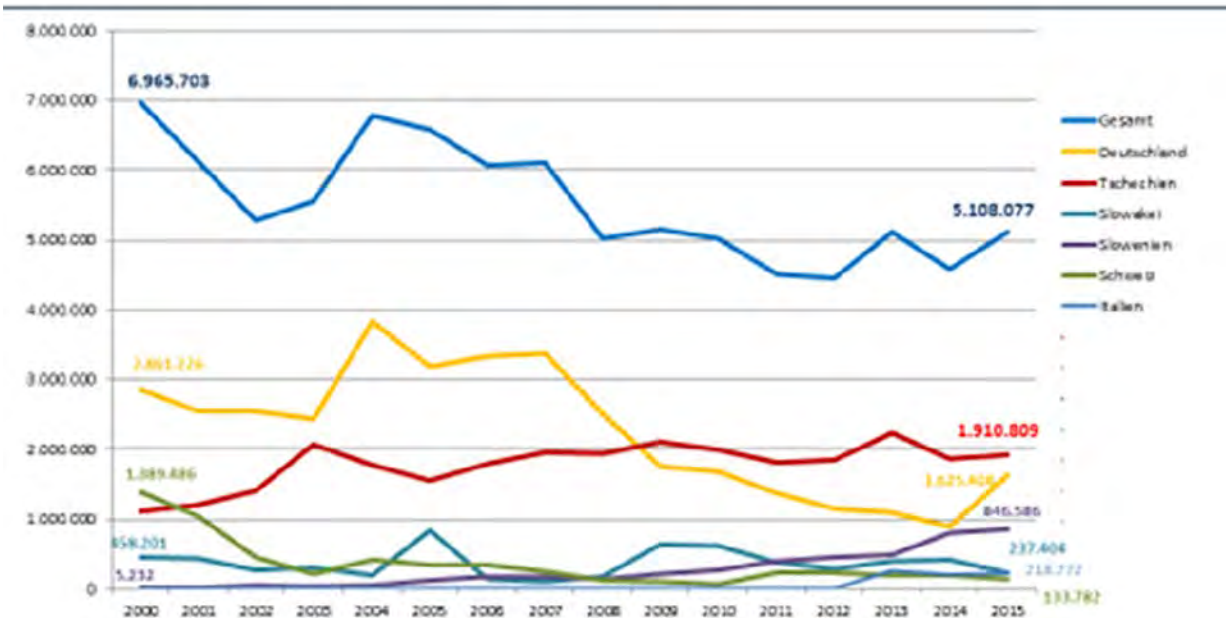
The Austrian sawmill industry is a large and very successful industry sector with more than 1,000 active enterprises which employ 10,000 employees. About 80% of the solid biomass wood that is processed in Austria goes through the sawmill industry. The export rate is just below 60% of the entire production. Both in production and export, Austria is among the top 7 worldwide by absolute figures. In relative terms, which means keeping into account the country's size, it is number one worldwide.

The Austrian sawmill industry is made up almost exclusively of by small and medium-sized businesses. It is a very important factor for the foreign trade balance of Austria. The eighth largest enterprises deliver approx. 50%, the 40 largest ones 90% of the total production.

Softwood timber

About 60% of the domestic timber production are for export, so the development of the global markets is of particular importance. The softwood timber export (NSH) was at approx. 5.04 M m³ in 2015, an increase by approx. 3% (2014: 4.88 M m³). The export value also increased of only 3% to approx. 1.03 Bn. Euro in the timber area.

Entwicklung Import NRH nach ausgesuchten Ländern, in fm 2000-2015



Grafik:
FV Holzindustrie, Bettina Perl
Quelle: Statistik Austria

Daten:
2000-2014: endgültig
2015: vorläufig



Fachverband
der Holzindustrie
Österreich

In spite of the weak economic development expectations, some export markets developed well in 2015 as well – the main market of Italy, however, continued to move slowly. After seven lean years, 2014/2015 showed the first slight plus of just below 1%. In absolute (preliminary) figures, this is as much as 2.4 M m³, corresponding to more than 50% of the total export. In 2015, a small reduction to 2.38 M m³ resulted in softwood timber export which could be compensated by the increasing prefabrication degree of complex wall and ceiling elements (plywood boards), however.

The increase of the export to Germany by approx. 8% to 740,780 m³ (2014: 684,431 m³) was enormous and is due to the strong purchasing power and demand for residential space. From single-family homes to multi-storey apartment buildings in the urban area, wood offers ideal solutions at the highest level in that area and has a high prefabrication degree. All in all, sales on the remaining European markets increased as well.

The export volume to the Levant remains stable, and observed an increase by approx. 6% to 890,207 m³ 2015 (2014: 841,033 m³) in 2015.

Hardwood timber

Production of the hardwood sawmills continued to drop to 126,000 m³ in 2015 after already experiencing a slight reduction in 2014 (134,000 m³). Exports of hardwood timber reduced by 3 % in 2015; more than 123,000 m³ crossed Austria's borders into other countries in total. This corresponds to a value in excess of 74 M Euro (2014: 70.7 M Euro). The demand for oak timber has increased exorbitantly in the last few years. Unfortunately, the round timber supply in this wood type is bad in Central Europe. The sawmill industry is, however, satisfied with the increasing demand of all major hardwood types in the first half of 2016. Railway sleepers are in demand due to their superior properties as compared to concrete sleepers, but negotiations with the monopolists in rail-bound traffic are very difficult. Shared research and development projects are boosting this area again.

The raw material supply remains the key

From the industry's point of view, it can be hoped that the good demand for wood from small forests can be mobilised. The state forest and the large forest operations deliver almost continually, but they also have potential for

increases. The sawmill industry remains a stable purchaser with high absorption capacity and has been ensuring secure income at world record level for the forestry operations for decades.

Shared timber sawmill initiative for high-quality timber products

The association MH® MassivHolz Austria is only one of the many initiatives in the scope of the SME action plan of the specialist association. The shared communication and action platform has created many simplified and pragmatic implementation steps for all timber sawmills in Austria.

Additional demand for technically dried and monitored high-quality timber for use in modern wood-construction is confirmed at several shared trade fair exhibitions and information events (also with German and Italian partners). Many further training measures for all sawmills in Austria have been prepared and processed with the experts and officials of the industry.

ÖNORM L 1021 and calibration in factory measurement newly regulated

Electronic factory measurement of sawlogs has become established as the standard in the timber industry. This has led to an increasing desire for information regarding the manner and type of the measurement system among the suppliers.

With the newly revised “ÖNORM L 1021 – Measurement of round timber” (2015) and the already-published adapted

calibration provisions (2014) for round timber measuring systems, it has been possible to create modern, technically well-founded and industry-comprehensively accepted regulations.

This system and is supported by experts as a precise measuring method with absolute repeat accuracy. Austria thus continues to hold a pioneering role in Europe in the implementation of state-of-the-art measuring technology for the round timber transfer practice.

The specialist association of the wood industry in Austria (Fachverband der Holzindustrie Österreichs) supports operations that want to ensure the “plant FIT programme” at their locations together with the cooperation platform Forst Holz Papier (FHP).

Training and further training measures are increasingly offered together with the Holztechnikum Kuchl (HTK). Since early 2012, the CE-marking obligation of timber has been implemented throughout Europe. Upon the initiative of the specialist association of the wood industry, the training measures have been increased in this respect in close cooperation with the HTK. Now, battens can also be CE-marked if the corresponding quality assurance is documented in the operation. By attending a training unit or using the very well prepared documents of the experts, more than 150 construction timber sawmills in Austria have easily met this Europe-wide statutory obligation. The market supervision will be increased throughout the area of construction.





BELGIUM



Source: Fédération Nationale des Scieries and European Commission

General economic information

	2013	2014	2015	2016
Population (million)	11.1	11.1	11.2	11.3
GDP (%)	0.0	1.3	1.3	1.3
Inflation rate (%)	1.2	0.5	0.6	1.4
Unemployment rate (%)	8.4	8.5	8.7	8.4
Construction industry				
Buildings permits (units)	48 600	54 896	52 500	53 500
Housing starts (units)	43 500	48 300	47 800	48 000
Housing completions (units)	42 300	46 200	46 500	47 200
Wage development (%)	1.5	1.2	0.0	0.8
Average working time in sawmilling (h/week)	38	38	38	38

2016 data are estimates

Sawn Softwood (in 1,000 m³)

	2013	2014	2015	2016
Production	1 460	1 520	1 400	1 350
Imports	1 300	1 330	1 400	1 450
Exports	880	920	870	860
Consumption	1 880	1 930	1 930	1 940

2016 data are estimates

Sawn Hardwood (in 1,000 m³)

	2013	2014	2015	2016
Production	285	285	290	285
Imports	400	380	370	370
Exports	240	230	220	210
Consumption	445	435	440	445

2016 data are estimates

Availability of logs (in 1,000 m³)

	2013	2014	2015	2016
Softwood	2	1-2	1	1
Hardwood	-	1	2	2
Oak	3	3	1	1
Beech	2	1	3	3

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) – 2016 data are estimates

Market statement

As far as softwoods are concerned, the request for softwood lumber continues to slightly decrease. The situation remains very difficult for sawmills because the sale prices are too low compared with the cost of raw material and processing (logs, labour costs, transportation, etc).

For hardwoods, the cost of purchase and processing of raw material cannot be reflected in sale prices. Nevertheless the demand is stable – there is even a slight increase – especially for sawn wood of high quality. Despite a mechanism of private sales ensuring a quantity of wood for the sawmills of the country, this remains very limited and the lack of availability of raw material is the major problem for the oak sawmills.



DENMARK



Source: Dansk Traeindustrier and European Commission

General economic information

	2013	2014	2015	2016
Population (million)	5.6	5.6	5.6	5.6
GDP (%)	-0.2	1.3	1.2	1.7
Inflation rate (%)	0.5	0.3	0.3	0.3
Unemployment rate (%)	7.0	6.6	6.5	6.4
Construction industry				
Buildings permits (units)	11 000	12 500	11 800	12 500
Housing starts (units)	9 500	11 000	9 000	10 000
Housing completions (units)	13 500	10 500	13 000	14 000
Wage Development (%)	2.0	1.7	2.0	2.2
Average working time in sawmilling (h/week)	37	37	37	37

2016 data are estimates

Sawn Softwood (in 1,000 m³)

	2013	2014	2015	2016
Production	295	290	310	320
Imports	1 034	1 285	1 400	1 500
Exports	89	105	110	120
Consumption	1 240	1 470	1 599	1 700

2016 data are estimates

Sawn Hardwood (in 1,000 m³)

	2013	2014	2015	2016
Production	69	73	76	81
Imports	200	200	200	200
Exports	100	100	100	100
Consumption	225	225	176	181

2016 data are estimates

Availability of logs (in 1,000 m³)

	2013	2014	2015	2016
Softwood	5	5	4	4
Hardwood	5	5	3	2

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2016 data are estimates

FINLAND

Source: Suomen Sahat ry, FAO and European Commission



General economic information

	2013	2014	2015	2016
Population (million)	5.2	5.4	5.4	5.4
GDP (%)	-1.1	-0.4	0.0	0.5
Inflation rate (%)	2.2	1.2	-0.1	1.0
Unemployment rate (%)	8.2	8.7	9.4	9.0
Construction industry				
Buildings permits (units)	27 200	27 000	27 000	27 500
Housing starts (units)	27 900	26 300	28 500	29 000
Housing completions (units)	30 600	28 500	25 000	26 000
Wage Development (%)	1.6	1.4	1.2	1.0
Average working time in sawmilling (h/week)	40	40	40	40

2016 data are estimates

Sawn Softwood (in 1,000 m³)

	2013	2014	2015	2016
Production	10 400	10 800	10 600	10 600
Imports	300	300	400	400
Exports	6 700	7 050	7 350	7 400
Consumption	3 700	3 750	3 950	3 900

2016 data are estimates

Sawn Hardwood (in 1,000 m³)

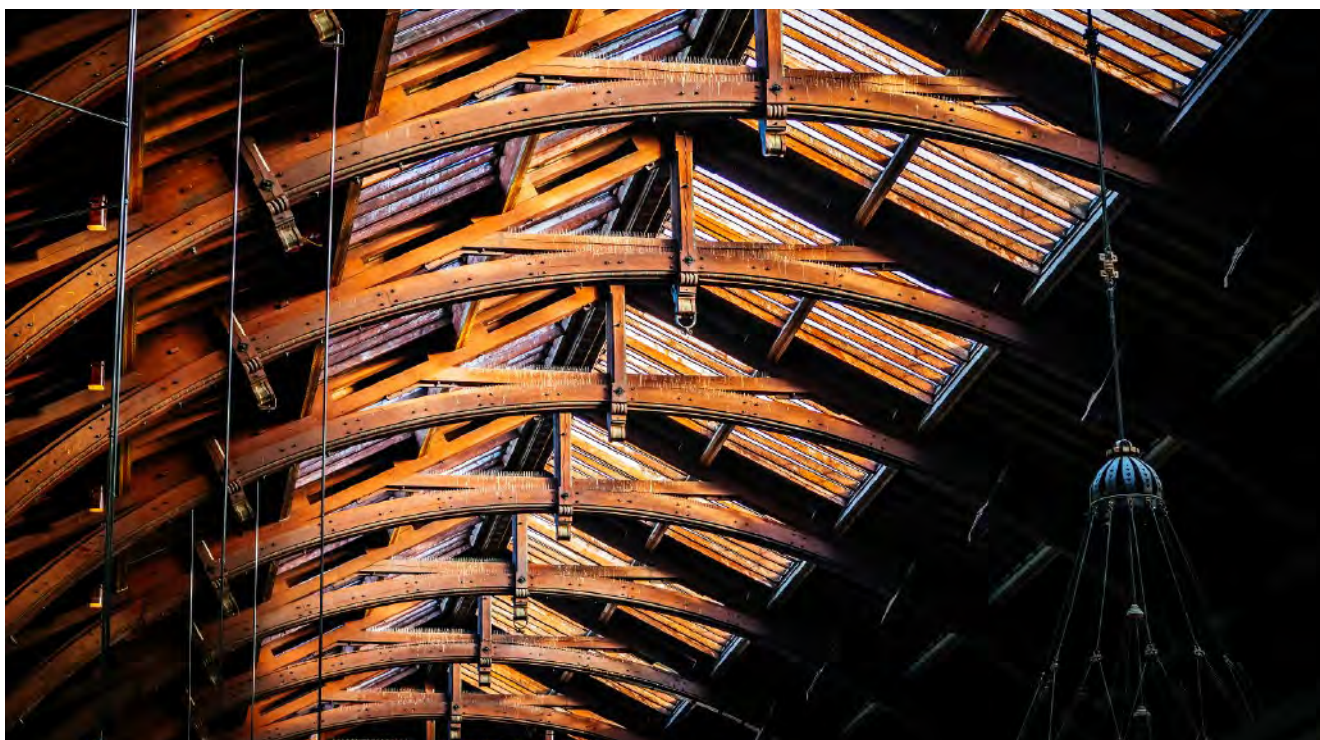
	2013	2014	2015	2016
Production	50	40	40	40
Imports	27	42	46	46
Exports	13	5	4	4
Consumption	63	77	82	82

2016 data are estimates

Availability of logs (in 1,000 m³)

	2013	2014	2015	2016
Softwood	2	3	3	3
Hardwood	-	-	-	-

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2016 data are estimates



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Market statement

In 2015, production of sawn softwood declined in Finland by 2% to 10.6 million m³. The stock levels remained exceptionally high throughout the year. 4% more softwood was exported than in 2014, totalling 7.35 million m³. Exports to Europe decreased by 1% to 2.9 million m³ while exports to other regions increased by 9% to 4.2 million m³, driven by China. The weakness in the domestic market continued in 2015. Demand in the domestic softwood market has declined by close to 50% to 3.1 million m³ from the top figures in 2004 (6 million m³). In 2015, the Finns paid a high toll for the increasing exports as the export prices dropped by 4%. The financial result of Finnish sawmill industry was close to zero in 2015.

The market situation of whitewood started to improve rapidly during the 4th quarter of 2015. Despite the challenges especially in North Africa, redwood export volumes have remained on a reasonable level and no further stock accumulation has occurred as mills have shifted productions from red to whitewood. The cold weather resulted in production reductions in January, but the mills have been cutting at full speed in February and March. Log availability has been satisfactory. All by-products (pulp chips, sawdust and bark) suffer from oversupply, but regional differences exist. Demand for energy wood has also been limited due to low energy prices and decrease in energy consumption. Pulpwood

market is in an oversupply situation but it is expected that it will balance when the new pulpmill starts its activity at Äänekoski in 2017.

In 2016, the demand of softwood is expected to remain brisk in Asia. The demand in North Africa and Middle East will remain shadowed by conflicts, low oil price and slowing economies. The European market development is positive but modest. The weak rouble has given the Russian mills a clear competitive advantage, which will challenge the Finnish mills especially in Asia. Simultaneously the recovery of the US economy will attract Canadian export volumes from China to the US, which will somewhat balance the Russian increasing supply. The Finnish production of softwood is expected to remain on the 2015 level, at 10.5 million m³.

The Finnish economy is slowly coming out of recession. Economic activity was flat in 2015, but is forecasted to strengthen in 2016. Export growth remains weak despite the weaker euro, as global demand for capital goods has weakened and exports to Russia have collapsed. The forest industry has, again, become the largest Finnish export industry. Domestic demand is being held back by rising unemployment, low income growth, weak confidence and ample spare capacity. However, the domestic construction market shows vague signs of recovery, which will have a minor positive impact on softwood demand.

FRANCE



Source: Fédération Nationale du Bois and European Commission

General economic information

	2013	2014	2015	2016
Population (million)	66	66.1	66.3	66.5
GDP (%)	0.7	0.2	1.1	1.3
Inflation rate (%)	1.0	0.6	0.0	0.0
Unemployment rate (%)	10.3	10.3	10.3	10.3
Construction industry				
Buildings permits (units)	415 000	377 000	379 000	390 000
Housing starts (units)	319 000	350 000	350 700	370 000
Housing completions (units)	320 000	315 000	320 000	325 000
Wage Development (%)	1.3	1.2	0.5	0.5
Average working time in sawmilling (h/week)	39	39	39	39

2016 data are estimates

Sawn Softwood (in 1,000 m³)

	2013	2014	2015	2016
Production	6 800	6 900	6 700	6 700
Imports	2 200	2 200	2 000	1 900
Exports	600	700	837	850
Consumption	8 400	8 400	7 863	7 750

2016 data are estimates

Sawn Hardwood (in 1,000 m³)

	2013	2014	2015	2016
Production	1 380	1 330	1 300	1 400
Imports	243	220	200	200
Exports	380	400	430	450
Consumption	1 243	1 150	1 070	1 150

2016 data are estimates

Availability of logs (in 1,000 m³)

	2013	2014	2015	2016
Softwood	2	2	3	3
Hardwood	3	1	1	1

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2016 data are estimates

Market statement

The year 2015 was characterized by a historically weak construction market. Only the renovation and elevation markets are not losing ground. The global economic situation remains uncertain and in such a context the market found its balance thanks to a drop of imports and an increase of exports, particularly in Asia and to Europe, where markets are more dynamic.

As far as softwood is concerned, it was a difficult year – logs prices were high, sawnwood volumes dropped, and prices decreased, including for related products. At the end of the year a fall of logs prices began but this could not make up for the sharp drop of sawnwood's prices. In the autumn there was a clash between sawyers and the public operator (ONF) about the delaying of payments. A solution that satisfied the sawyers was found.

As regards construction, there are reasons to think that the lowest point has been reached and that the market can start growing again in 2016.

As far as hardwood is concerned, the situation is completely different. After 15 years of crisis, the market is more dynamic in all categories and all uses. However, sawmills are finding it extremely difficult to find the necessary logs for their enterprises to function well. The logs export exports experienced a new increase in 2015 and the breaking

point has been reached. Exceptional measures have been adopted to prioritize the European transformation which had positive effects but is the supply is so low that the market will still need more time to find its balance again.

As far as wood energy markets are concerned, the situation is tense both for industrial wood and for heating wood. A mild winter hampered consumption and the concurrence of gas because of low prices did not help either. As regards industry, the industrials, having increased their stocks, set some delivery quotas, as they could not buy all the wood available on the market.

Original text

L'année 2015 en France est marquée par un marché de la construction à un niveau historiquement bas. Seul le marché de la rénovation et surélévation résiste. Les perspectives économiques globales sont incertaines. Dans un tel contexte, le marché s'est équilibré grâce à une nouvelle baisse des importations et une amélioration des exportations, en particulier en Asie et en Europe où les marchés sont plus dynamiques. En résineux toute l'année a été difficile avec des prix de grumes élevées, des volumes de sciages en baisse, des prix en baisse y compris pour les produits connexes. En fin d'année une baisse du prix des grumes a été amorcée mais loin de compenser la baisse du prix des sciages. L'automne a été marqué par un bras de fer entre scieurs et l'opérateur public (ONF) sur les délais de paiement qui s'est soldé favorablement pour les industriels. On peut penser qu'un point bas aurait été atteint en matière de construction et que le marché peut repartir courant 2016. En feuillus, la conjoncture est complètement différente. Après 15 ans de crise, le marché est à nouveau demandeur dans toutes les qualités et pour toutes les utilisations. Le marché est particulièrement dynamique. Les scieries ont cependant d'énormes difficultés à trouver les grumes nécessaires au bon fonctionnement de leurs entreprises. L'export de grumes a connu en 2015 une nouvelle progression et le point de rupture a été atteint. Des mesures exceptionnelles ont été adoptées en vue de donner priorité à la transformation européenne. Les effets sont positifs mais le manque d'approvisionnement est tel qu'un délai est nécessaire pour que le marché s'équilibre à nouveau. En bois énergie et d'industrie la situation est tendue. Hiver doux coté énergie freine la consommation, concurrence du gaz avec la baisse des prix. Coté industrie, ces derniers, après avoir reconstitué leurs stocks instaurent des quotas de livraison, ne pouvant acheter tout le bois disponible.



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GERMANY

Source: Deutsche Säge-und Holzindustrie (DeSH), European Commission and EUROCONSTRUCT



General economic information

	2013	2014	2015	2016
Population (million)	80.8	81.2	81.5	82.0
GDP (%)	0.3	1.6	1.7	1.8
Inflation rate (%)	1.6	0.9	0.3	0.3
Unemployment rate (%)	5.2	4.7	4.3	4.5
Construction industry				
Buildings permits (units)	237 300	255 000	264 000	300 000
Housing starts (units)	n.a.	n.a.	n.a.	n.a.
Housing completions (units)	188 400	215 000	230 000	255 000
Wage Development (%)	2.1	2.7	2.9	2.6
Average working time in sawmilling (h/week)	40	40	40	40

2016 data are estimates

Sawn Softwood (in 1,000 m³)

	2013	2014	2015	2016
Production	20 428	20 757	20 485	21 500
Imports	4 243	4 348	4 443	4 500
Exports	6 512	6 935	6 462	6 500
Consumption	18 159	18 170	18 465	19 500

2016 data are estimates

Sawn Hardwood (in 1,000 m³)

	2013	2014	2015	2016
Production	1 031	1 015	1 026	1 050
Imports	401	418	400	400
Exports	639	692	710	690
Consumption	793	741	740	760

2016 data are estimates

Availability of logs (in 1,000 m³)

	2013	2014	2015	2016
Softwood	1	1	2	2
Hardwood	3	3	3	3

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2016 data are estimates

Market statement

Due to an overall positive macroeconomic development in 2015, Germany's GDP grew by 1.7% as compared to 1.6% in 2014. The 2016 GDP growth is forecasted at 1.5%. The German sawmill industry failed to follow the trend. Though consumption of softwood product in the domestic market increased by 1.6%, in pure arithmetical terms, the domestic production volume dropped by -1.3% in comparison with the previous year due to declining exports and a rise in imports.

In contrast, the hardwood lumber market, though having a significantly lower volume, was clearly more positive. The domestic production of hardwood timber increased of 1.1%. However, a slight decline in imports and the unchanged export resulted in a marginally lower domestic consumption.

SAWN SOFTWOOD					
	Unit	2013	2014	2015	2016
PRODUCTION	1,000 m ³	20428,4	20756,9	20484,9	21500
IMPORTS	1,000 m ³	4242,6	4347,6	4442,7	4500
EXPORTS	1,000 m ³	6512,4	6834,5	6462,2	6500
CONSUMPTION	1,000 m ³	18158,6	18170	18465,4	19500
SAWN HARDWOOD					
	Unit	2013	2014	2015	2016
PRODUCTION	1,000 m ³	1030,7	1014,9	1025,7	1050
IMPORTS	1,000 m ³	401,3	417,5	400	400
EXPORTS	1,000 m ³	638,8	691,8	710	690
CONSUMPTION	1,000 m ³	793,2	740,6	740	760

Although the number of residential construction permits increased for the first time in several years, the sawmill industry could only partially benefit from this trend. With the overall number of 264,000 new residential construction

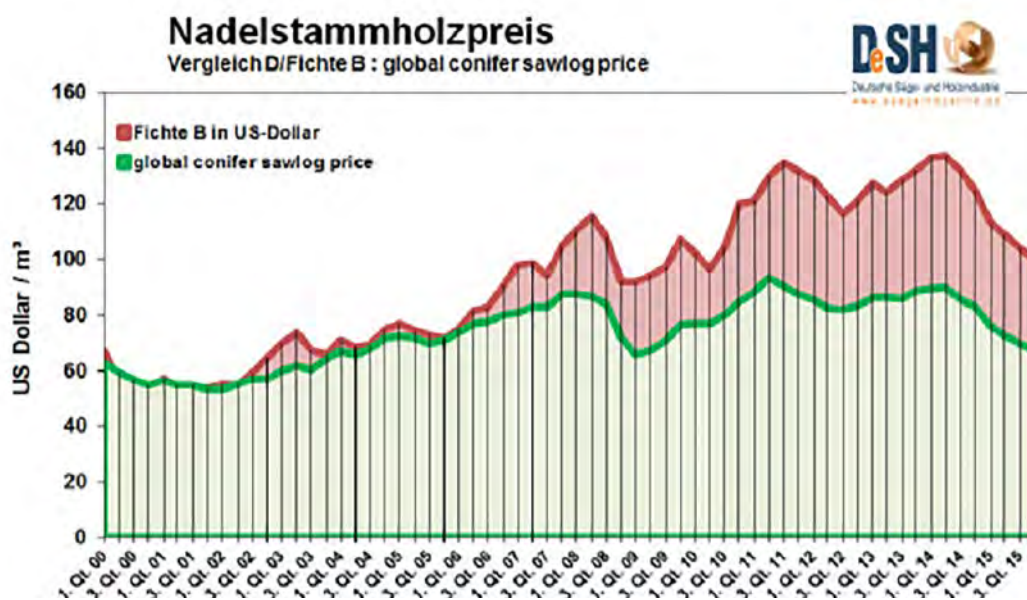
permits, 115,490 (+7.0%) were issued for homes in one- and two-family houses and 136,997 (+7.0%) for multiple dwelling units. The industry suffered from difficulties in the export market. Sawmills had to realize that the foreign trade balance for softwood timber dramatically decreased in 2015. The softwood timber export dropped by 470,000 m³ or -6.8% from over 6.9 to less than 6.5 million m³. At the same time, a rise in imports amounted to 100,000 m³ (+2.2 %). Therefore, the export balance dropped by roughly one quarter from 2.6 to 2.0 million m³. The declining exports had implications for export-oriented companies that urgently needed these volumes to improve their capacity utilization.

Lost market shares in important foreign markets

The softwood companies tie the drop in export volumes to declining competitiveness in the major markets. The economic weakness in Europe and in the Far East has markedly intensified the competition last year. German sawmills couldn't always cope with tougher competition, resulting in shrinking market shares in major markets.

Changes in market rates cause shifts in market shares

The dramatic currency fluctuations of the past year, particularly the weakened euro and the drastically devalued rouble that directly affected softwood timber exporting countries, led to severe changes in the flow of goods. Russia took advantage of the currency advantage to expand its market positions. It could significantly expand the export of softwood timber in 2015. In November 2015 alone, Russia's export was 16.9% higher than in the same month of the



Sources: Wood Resources Quarterly, Statist. Bundesamt, Devisen Kurse. Bundesbank

previous year. Russia exported 22.3 million m³ of softwood timber over the year of 2014 overall, including 9.1 million m³ to China, which was by far its most important market. 452,000 m³ were exported to Germany in 2014. In November 2015, Russia's softwood timber was traded at 192 USD/m³ in Germany, i.e. 64 USD lower than in the previous year.

Excessive log prices still remain the cause

German sawmills had to fight against high prices that appear excessive when compared to other countries. For instance, prices for Spruce B, Germany's leading log grade, still exceed the recently published Global Sawlog Price Index for the fourth quarter of 2015 by 49%, despite changes in the US Dollar exchange rate and special factors such as natural calamities. In the past, excellent positions as well as advanced technology and strong management processes helped German sawmills partially offset the disadvantage of high log prices. Since sawlogs became increasingly available at lower prices worldwide, Germany can no longer compensate for its locational disadvantage in terms of log prices. This resulted in shrinking market shares in many foreign countries.

The European Sawlog Price Index shows that softwood prices in Europe are higher by 35.8% than the global price index. Germany's prices being 49% higher, the country is even significantly worse off. Sawmills are in acute need of correction.

A fine balancing act between log prices and sawn timber revenues

German sawmills are exposed to tough competition when

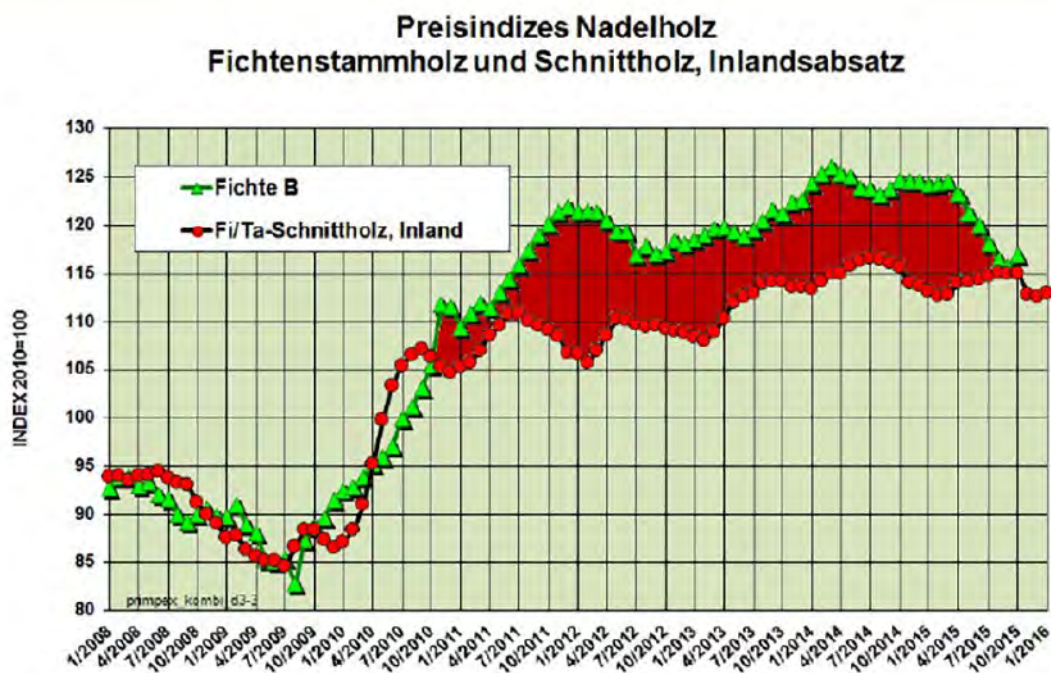
setting prices in foreign markets, through their integration in the European internal trade, but also in the domestic market due to the price development on the international timber market. This is juxtaposed by the development of domestic sawlog prices which had a negative impact on companies' earnings in the past years. Declining margins have forced many companies to quit the business. Sawlog prices dropped slightly in 2015 not least because of natural calamities, but were offset again by slight decline of sales revenues from sawn timber. The price gap between sawlog and sawn timber prices has changed only marginally.

Market for construction timber products becomes more challenging

Requirements for manufacturers of structural timber for the construction industry tightened significantly with the introduction of CE marking throughout Europe in 2012. The implementation of the standards poses a big challenge for the highly diversified German sawmills. However, they are committed to the challenge.

Domestic market and Europe open opportunities in 2016

In 2016, sawmill companies see their opportunities in the domestic market. The renovation market continues at full pace. Besides, there is a serious need to catch up with the construction of new homes. Along with the modernization backlog for the existing housing stock, high refugee numbers create a demand for additional homes. The advantages



Sources: De Statis; Erzeugerpreisindex, Einfuhrpreisindex

of modern timber construction offer a fast way to create new residential space with high standards of comfort and thermal insulation.

That is why timber manufacturers have high hopes for a speedy development in the construction sector. The number of building permits for single-family houses rose by +35.3% already in January. Strong growth was also recorded for blocks of flats (+28.0%) and duplex houses (+24.1%). To meet the housing needs that may also result from the current refugee crisis, in a timely manner, at least 494.000 new apartments must be built annually until 2020, as shown in research studies. New opportunities open up throughout Europe too, due to improving economic conditions and a boost in the construction sector. The EUROCONSTRUCT Construction Forecast Group expects an annual increase in the housing construction by an average of +12.3% until 2018.

The by-products market

The insolvency of the leading pellet manufacturer has so far shown no sizable shifts in the demand for sawmill by-products. Because of the mild winter and a lower demand for pellets, no supply shortages for pellets occurred in the market. A number of plants filed for insolvency were taken over by new owners and continued the production of pellets. However, due to the weak demand for pellets, the sawmill industry is confronted with widespread calls to lower prices for by-products. By-product prices took a plunge in the past years and didn't recover since then.

Hardwood market keeps steady

Hardwood companies can look back at a more satisfying market trend. The overall market keeps steady with slightly higher prices for sawn timber. However, they come at a cost of also slightly increased log prices, and don't span the entire product range. The overall positive market development in 2015 led to a slight increase in the hardwood timber output which amounted to just over one million m³ (+1.1%). The raw sawn timber output stayed at a steady level of 511,000 m³, while the production of planed hardwood timber grew by +3.4% and reached 514,000 m³.

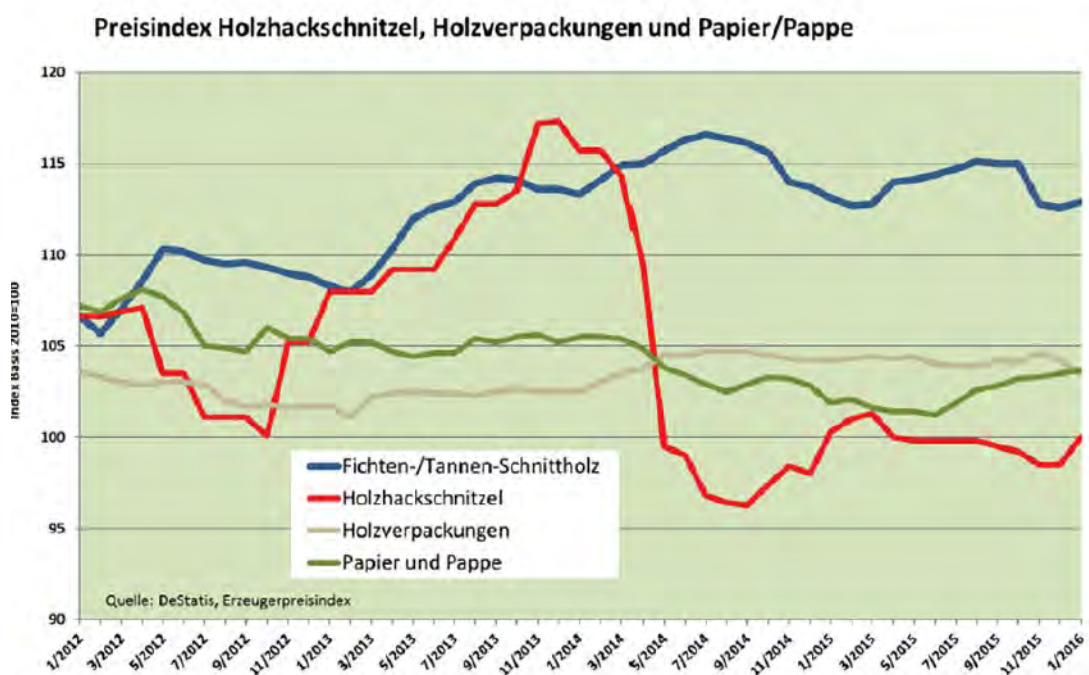
Oakwood timber imports slightly increased to 93,000 m³, while beechwood timber declined nearly by 20% and amounted to 29,000 m³. The beechwood export volume of 479,000 m³ remained largely intact, while oakwood timber exports shrank by -3.9% and reached 127,000 m³.

Domestic consumption of hardwood timber amounted to 740,000 m³ which is slightly lower than in the previous year and by far below the long-term level.

April 15th, 2016

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ITALY



Source: Assolegno, European Commission and EUROCONSTRUCT

General economic information

	2013	2014	2015	2016
Population (million)	59.6	60.7	60.3	60.5
GDP (%)	-1.7	-0.4	0.8	1.4
Inflation rate (%)	1.3	0.2	0.1	0.3
Unemployment rate (%)	12.1	12.7	11.9	11.4
Construction industry				
Buildings permits (units)	84 300	79 000	78 700	79 200
Housing starts (units)	85 100	79 400	79 100	79 600
Housing completions (units)	118 600	103 600	85 600	79 200
Wage Development (%)	1.5	0.6	0.4	0.4
Average working time in sawmilling (h/week)	40	40	40	40

2016 data are estimates

Sawn Softwood (in 1,000 m³)

	2013	2014	2015	2016
Production	860	910	920	950
Imports*	3 936	3 904	3 873	3 900
Exports	120	140	150	140
Consumption	4 676	4 674	4 643	4 710

2016 data are estimates

Sawn Hardwood (in 1,000 m³)

	2013	2014	2015	2016
Production	500	520	550	550
Imports	622	628	601	615
Exports	115	150	154	160
Consumption	1 007	998	997	1005

2016 data are estimates

Availability of logs (in 1,000 m³)

	2013	2014	2015	2016
Softwood	3	3	3	-
Hardwood	2	3	3	-

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) – 2016 data are estimates

LATVIA



Source: Association of Latvian Timber Producers and Traders and European Commission

General economic information

	2013	2014	2015	2016
Population (million)	2.0	2.0	2.0	2.0
GDP (%)	3.0	2.4	2.7	3.1
Inflation rate (%)	0.0	0.7	0.2	0.3
Unemployment rate (%) (15-64)	9.0	8.3	7.6	7.0
Construction industry				
Buildings permits (units)	2118	2194	1955	1900
Housing starts (units)	n.a.	n.a.	n.a.	n.a.
Housing completions (units)	n.a.	n.a.	n.a.	n.a.
Wage Development (%)	4.6	6.8	6.8	5.0
Average working time in sawmilling (h/week)	n.a.	n.a.	n.a.	n.a.

2016 data are estimates

Sawn Softwood (in 1,000 m³)

	2013	2014	2015	2016
Production	2 600	2 620	2 690	2580
Imports	252	439	570	600
Exports	2 069	2 258	2 440	2 320
Consumption	783	801	820	860

2016 data are estimates

Sawn Hardwood (in 1,000 m³)

	2013	2014	2015	2016
Production	659	717	810	720
Imports	8.5	21	30	30
Exports	428	498	590	500
Consumption	240	240	250	250

2016 data are estimates

Availability of logs (in 1,000 m³)

	2013	2014	2015	2016
Softwood	2	2	4	3
Hardwood	2	2	3	3

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2016 data are estimates

Market statement

General economic outlook

GDP growth in 2015 was 2.7%, forecast for year 2016 is 2.0%, but the figure could be reviewed as lower growth is possible. A very low inflation rate (0,2%) and an increase in production activities (+3,4%) were noticed in 2015. Foreign trade balance reduced from -10,2% to -8,7% from GBP. Standard&Poor's rating stays stable on A- level.

Policy measures that might affect the forest based sector

In year 2015/2016 Sustainable Biomass Partners (SBP) certification requirements came into force for industrial pellet suppliers. Additional requirements for wood origin (by forest types) are impacting wood pellet production activities in Latvia, which are expected to slightly lower, albeit temporarily, the availability of energy biomass.

Developments regarding wood availability, biomass energy and sawn softwood

The winter season 2015/2016 was characterized by normal harvesting activities, log yards in mills also were on normal levels. Since the beginning of the year 2016 log import possibilities reduced due to saw log export ban in Belarus. The by-products (chips, sawdust) market now is being negatively affected by warm weather & low heating season. As a result it is a third consecutive year with low consumption in Nordic & Scandinavian DH/CHP plants. Low demand for pellets noticeably reduced prices for wood biomass raw material.

Softwood sawnwood export from Latvia (main markets by world areas)

	2013	2014	2015
Europe	71%	72%	70%
MENA	16%	16%	17%
Asia	13%	12%	13%
North America	0%	0%	0%



NORWAY

Source: Norwegian Sawmill Industries Association, FAO and European Commission



General economic information

	2013	2014	2015	2016
Population (million)	5.1	5.1	5.2	5.3
GDP (%)	0.6	2.2	2.1	1.5
Inflation rate (%)	2.0	1.9	3.0	3.0
Unemployment rate (%)	3.5	3.5	4.3	4.5
Construction industry				
Buildings permits (units)	31 400	27 300	31 301	31 500
Housing starts (units)	30 500	27 000	30 927	31 500
Housing completions (units)	28 500	29 000	28 265	29 000
Wage Development (%)	3.3	3.2	2.8	2.6
Average working time in sawmilling (h/week)	37.5	37.5	37.5	37.5

2016 data are estimates

Sawn Softwood (in 1,000 m³)

	2013	2014	2015	2016
Production	2 200	2 400	2 444	2 500
Imports	960	970	979	980
Exports	515	512	560	580
Consumption	2 645	2 858	2 863	2 900

2016 data are estimates

Sawn Hardwood (in 1,000 m³)

	2013	2014	2015	2016
Production	-	-	-	-
Imports	82	58	60	60
Exports	1	2	2	2
Consumption	81	56	58	58

2016 data are estimates

Availability of logs (in 1,000 m³)

	2013	2014	2015	2016
Softwood	2	2	2	2
Hardwood	-	-	-	-

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2016 data are estimates

Market statement

General economic outlook and sector specific market information

Judged by traditional social and economic indicators, the overall situation in Norway is still satisfactory at the national level, even if unemployment is increasing due to the reduced activity in the oil industry. The conditions for the industrial sectors operating in an open international business climate are not favorable. The supply of engineers and technical personnel has improved in the short term. There is some concern related to development in the Norwegian economy as a result of the reduced activity in the oil industry. This situation has set the agenda politically, and focus on the necessary measures to promote a transition to bio economy is part of the public debate. The raw material situation is somewhat unstable because of increased exports of pulpwood. In 2015, exports of both pulpwood and saw logs continued to increase. This has sometimes created challenges for the timber industry, where unpredictability has been the biggest challenge. There are plans for the establishment of future production of biofuels based on forestry raw materials. There is considerable uncertainty regarding the plans. Parliament has passed an act to increase the revenue order for biofuel of 5 percent.

Policy measures that might affect the forest-based sector

The strategy process "SKOG22" was finalized in 2014. The recommendations in the report make a number of suggestions to set basic conditions. It is a good starting point for the development of the forest-based value chain. Through the strategy process, operators in the industry have developed a better understanding of the individual links in the value chain, and their possibilities and limitations. The strategy process has provided the foundation for several important national strategy processes in Norway – political industry strategies, bio economy strategies, and strategies to make Norway less dependent of oil and to help increase production and consumption based on renewable resources.

The construction industry in Norway has a very positive development, and the market outlook is good despite the fall in the oil industry. Urbanization and population growth create a need for increased housing construction in the coming years. The technical building regulations are being revised. Sustainability, renewability, and the need

for recycling are part of the debate in conjunction with improvements in the regulations.

Developments regarding wood availability, wood/biomass energy and sawn softwood

For the time being, the softwood log availability is not satisfactory because of the export of sawn softwood. Production of lumber is simultaneously increasing. The currency situation has contributed to a positive conclusion to 2015. Market developments in relation to housing starts have leveled off somewhat in 2015.

The Norwegian krone has weakened against the euro and other currencies. This has slowed the import of modules and prefabricated building elements. It has also strengthened the evolution force for the sawmilling industry and is cause for optimism. Competition in the construction industry is demanding. There are a number of innovation processes to develop new solutions and concepts that can improve the competitiveness of both the timber and building industry.



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ROMANIA



Source: Asociatia Forestierilor Din Romania (ASFOR) and European Commission

General economic information

	2013	2014	2015	2016
Population (million)	20.0	19.9	19.9	19.9
GDP (%)	3.5	3.0	3.6	4.2
Inflation rate (%)	3.2	1.4	2.1	2.9
Unemployment rate (%)	7.1	6.8	5.0	4.0
Construction industry				
Buildings permits (units)	n.a.	n.a.	n.a.	n.a.
Housing starts (units)	n.a.	n.a.	n.a.	n.a.
Housing completions (units)	n.a.	n.a.	n.a.	n.a.
Wage development (%)	1.0	1.0	1.0	1.0
Average working time in sawmilling (h/week)	40	40	40	40

2016 data are estimates

Sawn Softwood (in 1,000 m³)

	2013	2014	2015	2016
Production	3 762	3 500	4 317	3 454
Imports	16	16	90	90
Exports	2 607	2 600	1 744	1 369
Consumption	1 171	916	2 663	2 175

2016 data are estimates

Sawn Hardwood (in 1,000 m³)

	2013	2014	2015	2016
Production	1 756	1 700	1 795	1 437
Imports	68	68	38	40
Exports	968	850	654	524
Consumption	856	918	1 179	953

2016 data are estimates

Availability of logs (in 1,000 m³)

	2013	2014	2015	2016
Softwood	3	3	3	2
Hardwood	3	3	3	2

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2016 data are estimates

Market statement

Softwood Lumber

2015 registers a 23% production growth in softwood timber compared to the previous years.

In 2016, a production decrease of 20% is estimated, as compared to the 2015 season.

Softwood lumber imports have increased in 2015 in relation to the previous years, while the forecasting for 2016 remains constant.

The 30% decrease of softwood lumber exports in 2015 (compared to the previous years) was due to an internal price increase for raw materials, as well as because of the decreasing prices in Europe, Asia and Africa.

The main softwood markets were: Africa (Egypt, Saudi Arabia, Kuwait, Iraq, Qatar etc), Asia (China, Japan, Hong-Kong, etc.), Europe (Austria, Italy, Hungary, Germany, France, Greece, etc.), North America (USA and Canada).

As regards the softwood lumber exports in 2016, they will decrease as a result of increasing the starting price at the auctions for wooden raw material, a high reserve price imposed by the National Forest Administration (RNP).

Hardwood Lumber

We estimate a 20% production decrease for 2016, as compared to 2015, due to very high reserve prices imposed by the National Forest Administration (RNP) at auctions.

Imports levels register a decrease of about 35%.

The fact that prices for wood raw materials have grown, also leads to a 30% increase regarding development costs in 2016 (compared to 2015).

Logs availability is estimated at level 2 for 2016.

Sources:

Ministry of Economy – data delivered by the **National Institute of Statistics INS**

Ministry of Environment, Waters and Forests – **SUMAL**



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SWEDEN



Source: Swedish Forest Industries Federation, NEIR, FAO, EUROCONSTRUCT and European Commission

General economic information

	2013	2014	2015	2016
Population (million)	9.5	9.6	9.7	9.8
GDP (%)	1.2	2.3	3.6	3.2
Inflation rate (%)	-0.1	-0.2	0.0	0.8
Unemployment rate (%)	8.0	7.9	7.4	6.7
Construction industry				
Buildings permits (units)	35 800	44 900	52 900	50 000
Housing starts (units)	32 000	37 900	47 700	50 200
Housing completions (units)	26 000	35 700	41 700	51 000
Wage Development (%)	2.5	2.7	2.5	3.2
Average working time in sawmilling (h/week)	n.a.	n.a.	n.a.	n.a.

2016 data are estimates

Sawn Softwood (in 1,000 m³)

	2013	2014	2015	2016
Production	16 100	17 660	18 074	18 100
Imports	120	150	130	130
Exports	11 700	12 300	12 820	13 300
Consumption	4 600	5 000	5 200	5 300

2016 data are estimates

Sawn Hardwood (in 1,000 m³)

	2013	2014	2015	2016
Production	90	260	250	250
Imports	40	28	30	30
Exports	10	9	10	10
Consumption	120	278	270	270

2016 data are estimates

Availability of logs (in 1,000 m³)

	2013	2014	2015	2016
Softwood	2	4	3	3
Hardwood	-	-	-	-

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2016 data are estimates

Market statement

Softwood Markets

(Source: Swedish Forest Industries Federation)

2015

With only limited demand growth in Europe coupled with ample supply on overseas markets as China and USA there was a downward pressure on many markets for Swedish softwood last year. Currency fluctuations continued to play an important role. The trend with depreciating Krona against export market currencies levelled out and reversed against the end of the year.

Sawn softwood						
2016 are estimates						
	Unit	2012	2013	2014	2015	2016
Production	1.000 m ³	16100	16100	17660	18074	18100
Imports	1.000 m ³	100	120	150	130	130
Exports	1.000 m ³	11840	11700	12300	12820	13300
Consumption	1.000 m ³	4500	4600	5000	5200	5300

Shipments 2015

Last year Swedish softwood production rose by 2% while exports rose by 4% in volume.

In general, the European markets fared relatively well; exports to Europe were up 7%. The important Egypt redwood market was influenced by increased competition from Russia, which contributed to a decline in volume from Sweden. China continued to grow, but at a much more moderate pace than earlier years: China exports from Sweden grow by 10%.

Demand from the domestic Swedish market continued to improve. Housing starts climbed to its highest level since the early nineties (even though most of the increase in building activity has been on flats) and the repair and maintenance activity remained healthy.

Raw material supply

The supply of sawlogs during last year can be described as normal.

	Shipments 2015	Change (%)
Sweden	5030	4%
UK	2716	5%
Germany	1010	8%
Norway	964	2%
Denmark	857	5%
The Netherlands	861	11%
France	319	1%
Other Europe	1130	14%
Europe	7856	7%
Egypt	1327	-14%
Other Africa	1316	5%
Japan	676	5%
The Middle East	591	23%
China	527	10%
USA	252	84%
Other	282	-18%
Total exports	12828	5%
Total	17858	4%

Outlook 2016

This year has started with lower production than last year - redwood production has been especially low. But demand has been healthy with delivered volumes higher than production, which is very rare for the first quarter. Thus, the market balance has improved.

We believe that the production activity will increase again slightly from the lower level of first quarter and finally reach about the same level as 2015.

The general market demand for Swedish softwood in Europe could be described as stable to improving; according to Euroconstruct, residential construction activities are expected to increase 3.2 % this year which is more than last year and better than other parts of the European economy. The relatively healthy demand from construction is primarily driving demand for softwood, especially whitewood.

Domestic construction/ wood demand in Sweden are also expected to continue to improve. The growth is expected to be in line with or slightly above the average European demand growth.

The important MENA-markets imports about 17-18% of the Swedish softwood production, mainly redwood. The prospects for these markets are uncertain with big geopolitical problems in many countries as well as deteriorating oil price.



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At the time of writing, demand and exported volumes to China are increasing faster again. The trend is that sales of Nordic spruce (mainly for furniture and interior purposes) are increasing quite rapidly while North American lumber shipments (for the construction sector) are decreasing. Russian exports of redwood are also increasing and gain market shares. It is well known that the construction sector in China is having problems and show only limited, if any, growth. The furniture sector is expected to develop more, which is promising for exports of Nordic spruce.

The US-market is relatively small for Swedish softwood. But as construction and wood growth during coming years are believed to increase more than the domestic supply, prospects for increased export should be in place.

Swedish Forest Industries Federation
2016-04-15

SWITZERLAND

Source: Holzindustrie Schweiz and European Commission



General economic information

	2013	2014	2015	2016
Population (million)	8.1	8.2	8.3	8.4
GDP (%)	1.9	1.9	0.9	1.3
Inflation rate (%)	-0.2	0.0	-1.1	-0.4
Unemployment rate (%)	3.2	3.2	3.3	3.5
Construction industry				
Buildings permits (units)	60 400	50 700	49 700	48 700
Housing starts (units)	46 800	46 800	46 000	45 400
Housing completions (units)	46 300	45 000	44 400	43 800
Wage Development (%)	0.0	1.4	0.0	0.0
Average working time in sawmilling (h/week)	42.5	42.5	42.5	42.5

2016 data are estimates

Sawn Softwood (in 1,000 m³)

	2013	2014	2015	2016
Production	986	1 080	1 060	1 040
Imports	320	330	310	295
Exports	175	180	180	170
Consumption	1 131	1 230	1 190	1 165

2016 data are estimates

Sawn Hardwood (in 1,000 m³)

	2013	2014	2015	2016
Production	58	65	60	55
Imports	35	35	35	35
Exports	15	15	15	10
Consumption	78	85	80	80

2016 data are estimates

Availability of logs (in 1,000 m³)

	2013	2014	2015	2016
Softwood	2	3	4	3
Hardwood	5	3	3	3

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2016 data are estimates

Market statement

The strength of Swiss currency forces the wood industry to leave the country and to invest elsewhere. Because of that, the demand of timber for pallets and packaging is slowly decreasing.

The building sector is having a hard time in the mountainous

region because of a new law forbidding the possession of a second residential building/flat only for holiday purposes.

The tourist industry suffers from the very strong Swiss franc as well. But the loss of tourists from Euro-countries is almost entirely compensated by a growing number of tourists from China and India.



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UNITED KINGDOM

Source: ConFor, Forestry Commission, FAO, European Commission and EUROCONSTRUCT



General economic information

	2013	2014	2015	2016
Population (million)	63.9	64.3	64.7	65.0
GDP (%)	2.2	2.9	2.3	2.1
Inflation rate (%)	2.6	1.5	0.0	0.8
Unemployment rate (%)	7.6	6.1	5.2	5.0
Construction industry				
Buildings permits (units)	n.a.	n.a.	n.a.	n.a.
Housing starts (units)	143 700	161 700	172 000	183 000
Housing completions (units)	130 100	141 300	157 000	171 000
Wage Development (%)	1.4	0.4	2.6	2.8
Average working time in sawmilling (h/week)	n.a.	n.a.	n.a.	n.a.

2016 data are estimates

Sawn Softwood (in 1,000 m³)

	2013	2014	2015	2016
Production	3 536	3 716	3 550	3 600
Imports	5 101	5 352	5 900	6 050
Exports	130	140	160	160
Consumption	8 491	8 870	9 290	9 490

2016 data are estimates

Sawn Hardwood (in 1,000 m³)

	2013	2014	2015	2016
Production	46	47	50	50
Imports	380	400	450	460
Exports	20	20	20	20
Consumption	410	430	480	490

2016 data are estimates



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Market statement

The UK has experienced steady growth for some years now and this is forecast to continue. However, the speed of that future growth (previously estimated at above 2% a year for the foreseeable future) may be slightly weaker than previously thought. This caution is principally based on concerns over the slowing of growth globally. The UK has very high levels of government and personal debt, and the government will continue to borrow money until at least 2018/19. This means that public spending will continue to decline. In response, the government is taking measures to encourage investment by the private sector, including in new housing.

The sawmilling and panel-board sector endured a relatively difficult year in 2015, after five years of good performance. This was due mainly to a significant strengthening of Sterling which made imports much cheaper, especially carcassing. At the same time raw material prices remained high, putting real pressure on margins in the sawmills. Markets for timber have been steady, though winter storms and flooding are likely to increase demand for fencing and garden products.

Construction and renovation continues to increase as consumers feel more optimistic about the future and real incomes begin to rise again – wages have been rising while inflation remains very low. There remains a consensus across political parties that the UK needs to build many more homes, and the government has tried to make the process of securing approval to build easier, but construction firms are always slow to deliver increases, keeping house prices high as demand exceeds supply.

The UK has a very small hardwood sector, so the focus is on softwoods. Availability of material is increasing year-on-year and will continue to do so until the 2020s, but then it will peak and reduce into the 2030s. This is an issue of major concern to the industry. Most mills have or are investing in upgrading their equipment and some are increasing capacity. The biomass sector has put a rising 'floor' on the price of timber and this is set to continue.

Special focus: forestry and wood processing sector in Croatia and the countries of Southeast Europe by Croatian Wood Cluster



EOS expresses gratitude to the Croatian Wood Cluster for its kind contribution to this EOS Annual Report.

1. CROATIA

1.1. Timber Stock

Croatia has 2.5 million m³ of technical logs available - sawmill roundwood, and a total 5.4 million m³ of all wood assortments. Most of the industry (360 companies) has agreements with the major supplier state company Hrvatske šume d.o.o. (Croatian Forests Ltd. / CF), that has been managing around 78% of the national forestland and private forest owners in Croatia possess less than 22% of all forestland today (around 600.000 ha). **The main raw material is beech (36%)**, followed by oak, while soft wood accounts for only 12%. **Forest management is based on the 250-year-long tradition** of professional forest management arranged on the principles of sustainability.

Today, **48% of the Croatian territory is covered with forests** and forestland. The main characteristics:

- The Croatian forests are natural, which is rare in Europe nowadays;
- Total 2,1 million ha of the Croatian forestland holds the world famous FSC certificate;
- Forest management offers constant growth of wood reserves. Only 80% of annual growth gets cut down;
- Beech is dominant type of specie, with predominantly economical forests;
- The overall reserve of wood in Croatia amounts to

394 million m³ (Source: Croatian Wood Cluster, Wood Sector Overview, 2014).

Distribution of timber sales by variety is as follows: logs 51.3%, thin roundwood 0.9%, pulpwood 17.1% and fuel wood 30.7%. A large majority of wood products are sold under pre-set contract/retail arrangements - 90.5%, by public biddings for domestic markets - 4.9%, and by international public biddings (export) - 4.6%. (Source: www.unece.org)

Important wood processing and forestry areas in Croatia: **Vukovarsko-Srijemska County (VSC) is known for its large areas covered by forests.** The total forest area is 69,401 hectares, which means that 28% of the County is covered by forests. The total growing stock is about 19.1 million m³. Within the area of Forest Management in Vinkovci, annual production is over 400,000 m³ of forest and wood varieties (from technical to fuel wood). (Source: IDWOOD Analysis of Wood Processing Sector for Vukovarsko-Srijemska County, Croatian Wood Cluster, 2013)

Primorsko-Goranska County also has a significant forested area. Wood stock in PGC amounts to more than 30 million m³ of timber. In the Delnice branch of

Croatian Forests Ltd., permissible felling is more than 350,000 m³ of saw logs, with roughly the same proportion of hardwoods and conifers. The existing primary sawmill wood processing capacity ensures a smooth supply of quality materials for finalizing the product to a higher level of processing. The region's proximity to the Lika lakes, as well as its short distance from forest-rich areas such as Bosnia and Herzegovina, further guarantees raw material security. (Source: IDWOOD Analysis of Wood Processing Sector for Primorsko-Goranska County, Croatian Wood Cluster, 2013)

1.2. Sawmill Capacities

Most of sawmills have solid capacities, but at the moment, the availability of raw material represents the major problem. The cooperation between the wood processing industry and forestry in Croatia is one of the crucial relationships and is, at this time, optimal, but with the potential for significant improvements.

The situation and the level of production technology in primary processing are of concern as there are still outdated technological solutions that can't compete in the demanding market. The problem is aggravated by a lack of quality investment capital and by a lack of support for sawmills owners.

A shortage of raw materials, outdated technology, and poor economic conditions in the domestic and foreign markets are the main reasons for the deterioration in the wood processing sector, not only in Croatia but also in the whole South Eastern Europe (SEE) area.

The fact that raw wood material from SEE areas is of good quality, certified but poorly branded is often overlooked. In the future, the performance of wood processing companies and traders in third markets could be strengthened, raising the long-term competitiveness of sawmills in the region. (Source: IDWOOD Sawmill Report Prepared by Croatian Wood Cluster, 2013)

1.3. Wood Processing Industry

Wood processing and furniture production fall into the category of **the most promising industries in Croatia** – they achieve 3.6% of GDP, in the total export of Republic of Croatia contribute with 10.4% and **generate income of**

1.1 billion EUR of foreign exchange inflows. The sectoral exports achieve 65% of revenue, use 94% of domestic raw materials and ensure intensive employment in rural areas.

Regularly in recent years a double-digit growth in both exports and industrial production was achieved, which in 2015 reached 14.3%. Together with forestry, this sector has great development potential, since it contains all the elements of circular and green economy that is becoming a leading European policy.

In the forest-based industries 53,000 people are employed, and wood industry only employs a total of 35,000 workers, which also has a great social significance. The privatization and transition cycle of the sector are entirely completed, which makes it very competitive on the global market.

In some niche markets Croatian forest based industries take very important and recognizable positions, such as the **parquet production, which is ranked fourth in the world** in the solid flooring production. Most of the Croatian flooring is based on a recognizable domestic raw material, a **world famous Slavonian oak (Quercus robur)**, which is today one of the more popular wood species for flooring in Europe. Export of wood flooring from Croatia is around 110 million EUR and import the flooring about 28 million, which confirms the thesis of a healthy market basis for the further development of domestic parquet industry. In Croatia 42 companies produces flooring on industrial way.

Wood processing and forestry companies and associations are integrated into the European and world associations (CEI-Bois, AEBIOM), possess relevant market and developmental information and are active stakeholders in negotiating policies and regulations and in the global market processes.

1.4. Wood Energy

In the field of wood energy Croatia follows global and European trends. Over the years, there are a growing number of investors who have invested in biomass production, and especially in the construction of plants for pellet production. Also, the number of cogeneration

facilities is increasing. In 2014, **pellet production in Croatia reached 260,000 tons**, which marked a growth of 26%; as much as 95% of pellet production is exported, mainly to Italy.

Overall Croatian potential of wood biomass in the production of energy and heat is immense and it can significantly contribute to increase of utilization of renewable energy resources (RES) in Croatia, to rural development (since most of the projects will be

implemented in rural areas). Currently most of the wood biomass raw material ends up in exports. More than 40 trucks of biomass are every day exported from Slavonia region to Slovenia, Austria, Italy and Hungary.

Currently, there are 16 pellet producers in Croatia.

Most of the Croatian pellets producers are situated in the areas rich in wood: Primorsko-Goranska, Vukovarsko-Srijemska and Licka County (Source: Croatian Wood Cluster, 2014).

2. SLOVENIA

2.1. Timber Stock

Forests cover about 60% - 1.2 million ha of Slovenia's total area. Slovenia is a mountainous country – more than one third of the area lies over 600 metres above sea level (two thirds of which are forest). Because of these mountainous regions, forest density is naturally high. On top of this, forest density has increased by more than 20% in 100 years. Slovenian forests commonly contain a mix of beech, beech and fir, and beech and oak sites. Slovenian forest growing stocks are comprised as follows: Coniferous trees - 54%, deciduous trees - 46% (Source: Institute for Forest Certification in Slovenia).

Slovenian forests used in wood production amounts to 3.22 million m³ or 272 m³ per hectare. In Slovenian forests there is an annual increment of 7.57 million m³ of wood or 6.48 m³ per hectare. Slovenia consumes almost 3 million m³ of timber and fuelwood annually – more than 1.35 m³ per inhabitant. Slovenia exports mainly timber and fuelwood and imports pulpwood.

The forestry sector in Slovenia employs around 2200 employees in 550 different organizations and financially represents 0.3% of Slovenia's gross national product. According to the latest data, 74% of forests in Slovenia are private property, 24% are owned by the state, and 2% by municipalities. Private forest estates are small, with an average area of only 3 ha and even these are often divided into several separate plots. (Source: Pefc.org)

In total, the highest share amongst timber varieties was

for sawlogs and veneer logs (48%) followed by wood fuel (35%) and pulpwood (15%). The smallest share (around 2%) was for other industrial roundwood. The yield from farmed forests and timber varieties differs between conifer and deciduous species; in the case of coniferous species, the highest percentage was reported for sawlogs and veneer logs (84%) followed by pulpwood (14%). However, in the case of deciduous species, pulpwood had the greatest percentage (52%) followed by sawlogs and veneer logs (around 44%). In 2012, a total of 1.32 million m³ of roundwood was exported and only 460,384 m³ was imported, which means that exports were almost threetimes higher than imports. In the case of sawlogs and veneer logs, the difference between exports and imports was even higher (525,848 m³ exported and 4,303 m³ imported). In the case of pulpwood, the exports slightly exceeded the imports. (Source: IDWOOD Report, 2013)

2.2. Wood Processing Industry

Slovenia's reputation as the third country in Europe after Finland and Sweden with almost 60% of its territory under forests explains why woodworking industry has always been important. Cabinet, furniture, millwork and custom woodworking manufacturers tap the local skills heritage. The industry employs some 11,000 people in over 1,000 companies – bedrock of skills and technical expertise for investors to exploit.

There is a full product range of both mechanical and chemical processing. The mechanical branch comprises milling, manufacturing of plywood and particle board,

and fabrication of furniture and timber components for the construction industry. Pulp and paper, cardboard, and packaging materials are products of the chemical branch and there are companies producing surface coatings. (Source: Investslovenia.org)

2.3. Wood Energy

Wood and wood residues are predominantly used for production of energy (more than 90%). According to currently available data, there are **more than 40 district heating systems run on wood biomass in Slovenia**, with a total installed interval power of 85kW to max. 152MW. According to SORS data and SFI estimates, the consumption of wood for energy purposes in recent years was estimated at less than 2 million tons. **The largest consumer of wood for energy purposes remains the district heating system in Ljubljana** with the installed power of 152MW, however this system depends on co-incineration of coal and wood. Their total yearly energy production amounted to 60GWh of heat and 31GWe of

electricity, and their total yearly consumption of wood in chips for 2013 amounted to 67,000 tons.

Slovenia is a markedly net importer of pellets, which stems from an increasing number of households using pellets for heat production, and also from a low pellets production in Slovenia despite predictable market opportunities both at home and on export markets (Italy).

Most of Slovenian pellets manufacturers are relatively small undertakings (yearly production capacities under 10,000 tons), therefore they do not have a well-organized pellets supply and are active predominantly on the local market.

Pellets export is increasing and amounted to 70,000 tons (+63%) in recent years. Traditionally, the key export market is Italy (over 90% of quantities). The import originates in Bosnia and Herzegovina, and Croatia. (Source: Unece.org, Slovenia, 2014)

3. BOSNIA AND HERZEGOVINA

3.1. Timber Stock

According to official data, **forests and forest land occupy more than half of the mainland territory of Bosnia and Herzegovina** as the most important component of the environmental community continuously provide multiple social, environmental and economic benefits. Public forests cover 43.8% of the entire area of the country. Private forests cover a further 281,965 ha in RS (11.5 per cent of the RS area) and 227,000 ha in FBiH (8.7 per cent of the FBiH area). Thus, in total, all types and categories of forests cover 2.75 million ha.

Of all the natural resources of Bosnia and Herzegovina, its timber is best known. 54% of the country is covered in forests that can serve both the furniture and the construction industry. Beech, oak, ash, pine and fir, as well as more specialized woods such as walnut, apple and cherry, are exported as raw material, half fabricated and finished products. **Bosnian beech is particularly famous worldwide**, due to its high quality. Forestry

products (mostly lumber) were mostly exported to: Italy, Slovenia, Serbia, Croatia, Austria, Germany and Egypt.

Economic indicators importance of forestry and wood industry in Bosnia and Herzegovina shows **that these sectors contribute significantly to value creation in the national economy.** The share of forestry, logging and related service activities in gross domestic product of Bosnia and Herzegovina varies between 0.86 to 1.37% for 2000-2014. When it comes to exports of wood products to foreign markets forestry and wood processing generate significant surpluses in trade and represent the most important export- oriented sector of the economy of Bosnia and Herzegovina. It is estimated that in the **forestry sector in managing forest resources mobilized more than 10 thousand employees.**

3.2. Wood Processing Industry

The wood processing industry in BiH is today mainly characterised by a number of private small and medium sized companies, mainly engaged in primary

wood processing and joinery production, with poor specialization, a lack of specialized equipment and machinery, a lack of specialized work force, and poor technology and market research and development activities. In spite of all of these problems, the sector is export-oriented and the only one with a positive trade balance. (Source: IDWOOD Sectorial Analysis for Bosnia and Herzegovina).

The domestic wood processing industry can be declared as **one of the most important and competitive of the production sectors of the BiH economy**. Moreover, in recent years the WP industry saw 10.3% annually growth in terms of overall production volume that was almost double when compared to the dynamics of the whole of manufacturing at 5.6% annually. With such a high and continued annual rise in its proportion of exports in terms of total production and sales the wood processing industry represents a substantial competitive advantage for further BiH economic development. In addition, the structure of production, revenues and exports is becoming more favourable from year to year, with a higher proportion of production from segments with higher added value (Furniture and Seats, Wood Products and Prefabricated Houses) (Source: FAO.org)

3.2. Wood Energy

Forests are the principal natural resource of Bosnia and Herzegovina, being one of the richest countries in Europe by the forest coverage and its diversity in relation to the total area of the country. Having in mind that 15 - 25% of the area is cultivated, fertile and with lots of pastures, Bosnia and Herzegovina has extraordinary favourable conditions to use biomass. (Source: Vlatko Doleček, Isak Karabegović, Renewable energy sources in Bosnia and Herzegovina: situation and perspectives Contemporary Materials (Renewable Energy Sources), IV-2 (2013).

The availability of unused wood biomass in Bosnia and Herzegovina is still very high. It is estimated that approximately **1,000,000 tons of wood biomass in BiH remains unused**. The most important obstacle for the use of this waste is a high cost of its elimination and collection from forests. (Source: USAID-Sida FIRMA Project Overview, 2014).

In Bosnia and Herzegovina the rural population is highly dependent on wood (particularly in the form of firewood). The remains of biomass from agricultural production have a significant energy potential, which is largely confined to areas of Northern and Northeastern Bosnia. In Eastern Bosnia, the share of firewood in heating households reaches up to 60%, and there is also the interest of pellet producers for greater use of this resource. (Source: USAID-Sida FIRMA Project Overview, 2014).

According to Eurostat, B&H exported 67,815 tons of pellets to the EU in 2012 and 170,389 tons in 2013 making an increase of 151%. Therefore, during 2013 BiH surpassed Ukraine and Belarus and became the second largest non-EU European exporter of pellets after Russia. Currently there are **eight plants for the production of wood pellets** with capacities ranging up to 40,000 tons annually. Beside these plants, there are a certain number of smaller producers with an annual production capacity of 1,000 to 2,000 tons. Therefore, **total annual production is estimated at about 200,000 tons of pellets**. The production capacity in B&H consists of up to ten larger size plants for the production of wood pellets with capacities ranging from 10,000 to 40,000 tons annually and an additional capacity of up to 20 smaller producers with production at 1,000 to 10,000 tons per annum (Source: USAID-Sida FIRMA Project Overview, 2014).

4. SERBIA

4.1 Timber Stock

Serbia is considered to be a medium-forested country. The forest reserves of the country are estimated to be worth about 235 million cubic metres while woods

and forests actually cover approximately up to 30% of the Serbian territory which is equal to about two million hectares. The most important areas are the plains in the autonomous province of Vojvodina and the mountain

regions in Central Serbia whose climate conditions are very favourable to the growth of poplar and the oak and to hardwood and beech. 47% of the Serbian forests are state-owned and controlled by the two major state companies of “Srbijasume”, respectively managing 85%, and “Vojvodinasume” 7.5% of the public forest reserves in the country. Private forests make up for the remaining 53% of the country’s forest area which is predominantly split into many small-size land lots (0.5 hectares in average). Large private forestry holdings are just a few but hold a considerable potential for further growth and development. These companies are well-known suppliers of high quality hardwood and a predominant solid wood used in the local furniture production. Activities carried in private forests are subject to the supervision of Srbijasume and Vojvodinasume. (Source: Serbia Investment and Export Promotion Agency)

The annual volume of timber felled for commercial purposes in Serbia is approximately 3 million m³, out of which approximately 2 million are produced in state owned forests by state enterprises and 827,000 m³ is felled in privately owned forests. Almost two thirds (70%) of all felled wood is used as firewood while the remaining 30% are mainly saw and veneer logs. **Beech wood is most often supplied to the Serbian wood market**, with an annual supply of 1.4 million m³. Among softwood species, poplar is the highest in demand, especially in northern Serbia where this species is abundant. Conifers represent a relatively small share of the total amount supplied and cut. There is a steady demand for pine and spruce especially for use in construction and building industry. Existing plantations account for 6% of total production of forest assortment in Serbia. The main species is poplar, which makes up almost 60% of total production, while the rest comes from coniferous species. The wood market in Serbia is dominated by roundwood which is most frequently used in forest-based industries. (Source: Serbia Investment and Export Promotion Agency)

4.2. Wood Processing Industry

The wood processing and furniture industry comprises **2,182 companies employing 22,965 workers**. More than 90% of enterprises are privately owned and mainly located in the central areas of Serbia. The majority of these companies deal in timber (1,504), while the rest

are engaged in furniture production (678). The sector’s share in Serbia’s GDP is 1.4%, while the wood processing industry’s contribution to total export amounts to 5.7%, with an ongoing positive growth trend over the last few years. Due to the Free Trade Agreement with Russia, competitive prices of Serbian products have boosted furniture export – this year, furniture export to Russia has been increased by 50% if compared to 2013.

Besides agriculture and food industry, **timber and furniture industry is the second most important sector in the country**, and had a trade surplus of over 152 million EUR in 2014. When it comes to the export structure, one half of exported products belong to the furniture industry and the other half comprises sawn timber and other wood products. Oak is mainly used in this production of wooden doors though fir and common spruce are also used in a significant quantity. Wooden doors and windows production has further increased thanks to the consistent growth of construction business over the last few years. (Source: Serbia Investment and Export Promotion Agency, 2015).

4.3. Wood Energy

Wood pellet production and market in Serbia started to develop in 2007 and 2008 and so far there are about 50 pellet producers. Due to an increase of demand for wood pellet in EU, Western Balkans and domestic market upsized their production capacities, causing the wood pellet production to grow from below 100,000 tons in 2012 to over 300,000 tons in 2015. A major portion of wood pellet produced in Serbia **is still being exported (60%)**; nevertheless the domestic market is growing but so far hasn’t followed growth in production. Wood pellet producers seem confident in their product quality, **while only few producers are EN plus certified**.

Italy is the main destination for wood pellet from Serbia in 2014 and it is expected that around 95,000 tons or 46% of total wood pellet export will be exported there. Italy is followed by Slovenia with around 30,000 tons and Greece with similar quantities and 15% share and the rest goes to Kosovo, Macedonia, Germany, Austria and Montenegro, while below 1% is expected to be exported to Switzerland and other countries namely Bulgaria and Turkey. (Source: DKTi (GIZ) Programme “Development of

sustainable bioenergy market in Serbia” Report on Wood Pellet Production and Market Structure in Serbia)

There is no operational biomass CHPs in Serbia so far but there are several interested investors. Long

term biomass supply contact is still an issue. KfW, EBRD credit lines and UNDP grants are available. For now there are limited opportunities for biomass based CHP development.

WHAT IS CLUSTER?

Cluster is a Group of Connected Companies

The type of activities determines the connecting of companies in the Cluster because most of them are involved in the activities in the field of forestry, wood processing, furniture production and similar activities. Cluster is focused on applying of innovations and strengthening the impacts of different types of education but also other functions that are interesting to cluster members.

Purpose of Croatian Wood Cluster

The reason for establishing of the Cluster arises of the need of Croatian companies that are registered for the activities in C16 and C31 (National classification of economic activities) to gather in structured, organized and integrated way. The goal is to improve the sustainable competitiveness of wood processing sector, especially regarding the encouraging and promoting inter-sectoral and trans-sectoral cooperation.

Mission of Croatian Wood Cluster

Creating of long term sustainable business model for strengthening competitiveness of wood processing sector by encouraging the activities in the field of research, development of technology, applying and commercialisation of innovation and encouraging of investments.

Vision of Croatian Wood Cluster

To build a strong and sustainable cluster which will gather and credibly represent wood processing sector on all levels, including participation of leading companies, members of research and development sector and representatives of public sector.

Common Cluster Values

Cooperation, innovation, integrity, ethical activities, responsibility, excellence, teamwork - those are some of the key values of Cluster. The process of building of trust has its dynamic because the activities, quality, credible work and building of common values create the confidence of members as well as of broad business and social community. Cluster is trying to identify these values by bringing them into communication and to inform about it all interested sides.

EVENTS ORGANIZED BY CROATIAN WOOD CLUSTER

Regional Conference of Private Forest Owners (Zagreb, Bjelovar)

International professional meeting, for private forest owners, state-owned forest corporations, companies (forestry, wood processing, energy sector), suppliers of technologies for forestry and forest biomass processing, planners and licensed engineers, members of professional chambers (forestry), local self-government representatives, government institutions, college and high-school students and professors, union members, etc.

Objectives are: Emphasizing and raising the issues of the exploitation of private forests in Croatia and in the countries of the Region, promoting a more active involvement of private forest owners in Croatia and making recommendations for the new forest legislation and subordinate regulations. / www.privatne-sume.com

Wood-Technology Conference (Opatija)

Wood-Technology conference represents the central event of the Croatian woodworking industry and forestry. Wood-Technology conference, starting from 2004, has the main objective to gather the representatives of the manufacturing, retail, academic and institutional sector in the field of forestry, wood processing and furniture industry. The Conference is also recognized for its interactive and innovative activities, which give the participants an opportunity for active contribution, in plenary lectures, panel-discussions or specialized workshops. Therefore, the Conference is an opportunity for every participant to contribute in creating the sector policies. / www.drvena-konferencija.hr

Adriatic Wood Days (Dubrovnik)

Adriatic Wood Days (AWD) comprises six thematically related and yet programmatically separate international conferences in the field of forestry, wood processing, energy from wood, furniture production and creative industries. AWD was for the first time held in October 2015 and through several days gathered more than 400 leading experts from business, academia, politics and the media from SEE countries and EU, which analyzed situation in these sectors and sought optimal solutions for improvement opportunities.

It strives to become the biggest and most important conferences of forest-based industries in SE Europe, but in the EU as well. / www.adriatic-wd-com

Congress of the Sawmill Industry (Slavonski Brod)

The Congress of the Sawmill Industry is a specialized event for professionals in the sawmill industry and forestry, timber traders, suppliers of technology and representatives of state administration, local government and trade unions from Croatia, neighbouring countries and the EU.

Specific goals are: Analysis of market opportunities for sawmills in the countries of Southeast Europe; introduction of the European and world trends in commercial aspects of primary wood processing; overview of the technical and technological aspects of the machinery used in the sawmill industry; exchange of experience and making contacts with colleagues from EU and Southeast Europe; strengthening of relations with representatives from the forestry and institutions in order to create a good business environment. / www.kongres-pilanara.com

International Wood Energy Conference for Biomass and Renewable Energy Sources (Zagreb)

The Conference, starting from 2008, gathers companies engaged in forestry, wood processing and energetics, technology suppliers for biomass processing, members of professional chambers (forestry, wood technology, architecture, and energy), local government and state institutions, bankers, financiers and lawyers, energy and development agencies, academic community and the media.

The main objectives include: Presentation of the latest market trends in the biomass use in the EU and third markets, overview of the RES use in the region, with the proposal of concrete measures for achieving the European energy goals, informing on the latest technologies, available funding for energy efficiency projects and learning on the best practice examples about the use of renewable energy and recycling. / www.wood-energy.info

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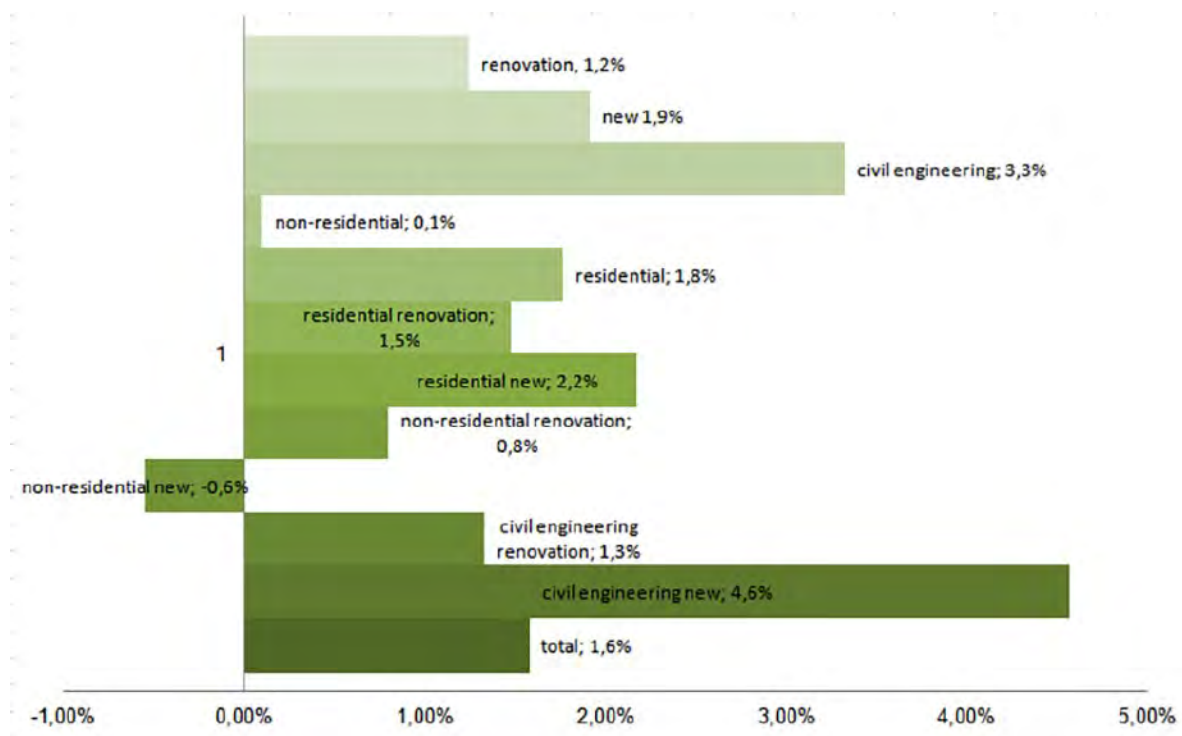
5. The Construction Industry in Europe

EOS expresses gratitude to Ms Marion Le Roy, EPF Economic Adviser, for her kind contribution to this EOS Annual Report.

After several years of contraction, in 2015 the European construction activity measured by the construction output registered an increase for the second year in a row of 1.6% in comparison with 2014. The improvement in construction output was again relatively higher in Central Europe (+6%) than in Western Europe (+1.3%), although it concerns smaller volumes, and Central Europe experienced a deeper decrease of activity than Western Europe in the previous years.

In Central Europe, all countries registered an increase. Slovakia registered the biggest increase of 10.3% while it was the only country of the region where the construction output fell slightly in 2014 (-0.4%). In Western Europe, building activity increased significantly in Ireland for the second consecutive year (+10.6%), Netherlands (+6.0%), Sweden (+5.5%) and to a lesser extent in the United Kingdom (+3.7%), Portugal (+3.0%), Spain (+2.5%), Norway (+2.4%) and Denmark (+1.3%). The largest drop was again observed in France (-1.3%). The other countries of the region registered a rather stable situation with a variation of their construction output of no more than 0.5%.

Figure 5.1: Growth rates of the different segments of the European construction market, 2015



Source: Euroconstruct

The upturn in activity is observed for all segments in 2015 except new “non-residential” registering a slight decrease of -0.6% at the European level, because of a deterioration of the sub-segment in Western Europe.

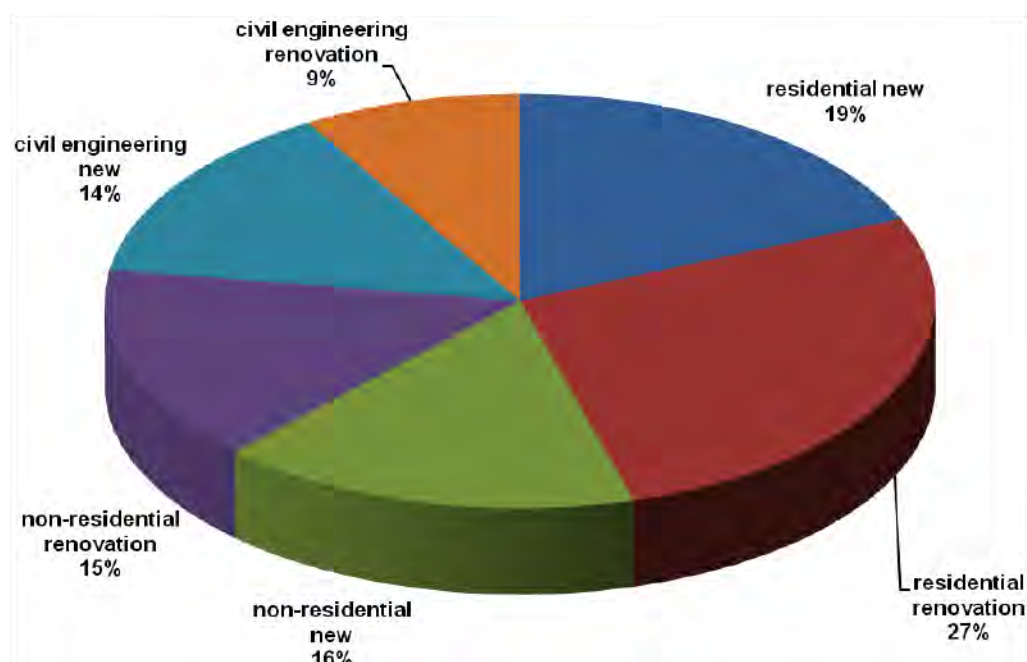
The better performance of the “renovation” sub-segment observed in 2014 was not replicated in 2015, and the “new” sub-segments registered the largest increases. The “new civil engineering” segment showed the largest progression with +4.6% in comparison with 2014, followed by “new residential” at +2.2%. The “renovation” sub-segment still registered a progression in all sub-sectors with +1.5% in

residential, +1.3% in civil and +0.8 in non-residential.

Relative performances are higher in Central Europe for all segments and both for the “new” and “renovation” sub-segments, and more especially for the civil engineering segment.

With 46%, residential construction keeps a stable share and remains the building sector’s main branch. Non-residential buildings rank second, accounting for a slightly decreasing share of 31%, while civil engineering projects account for the remaining 23%.

Figure 5.2: Relative share of the different segments in the overall construction market in Europe, 2015



Source: Euroconstruct



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Table 5.1: Total residential construction volume in Europe in million EUR and annual increases, 2014-2018

Total volume x million EUR		% change			
(current prices)	2014	2015*	2016**	2017**	2018**
Austria	15.429	-0,2	1,0	1,4	1,2
Belgium	18.450	2,8	-3,1	1,5	3,1
Denmark	13.094	1,0	2,8	2,4	2,4
Finland	12.202	-0,3	1,9	2,6	2,9
France	98.165	-0,9	6,4	3,8	3,3
Germany	160.849	2,0	2,3	1,4	0,5
Ireland	5.123	17,6	14,6	10,5	19,7
Italy	80.764	-1,6	0,9	0,7	1,0
Netherlands	22.427	11,0	6,7	7,3	4,9
Norway	15.599	2,0	2,4	1,8	0,6
Portugal	5.997	4,8	7,3	7,0	5,7
Spain	31.920	3,2	7,0	4,6	3,6
Sweden	12.081	14,9	2,7	-0,7	1,8
Switzerland	26.254	0,0	0,8	-2,5	-3,8
UK	79.202	2,2	2,7	2,3	-1,5
Total Western Europe	597.556	3,9	3,8	2,9	3,0
Czech Republic	3.152	3,3	4,2	2,8	3,0
Hungary	1.500	5,8	8,1	6,8	8,0
Poland	10.738	5,2	4,0	5,6	4,8
Slovak Republic	1.045	-3,1	0,7	1,6	0,7
Total Central Europe	16.435	2,8	4,3	4,2	4,1
Total Europe	613.991	3,7	3,9	3,2	3,3

* estimate

** forecast

Source: Euroconstruct

As expected, the total residential construction volume in Europe continued its upturn in 2015 rising by 3.7% in comparison with 2014. Volumes rose slightly less in Central Europe than in Western Europe, but this trend is expected to reverse in the forecast period (2016-2018). The outlook is quite positive with residential building activity projected to gain momentum by +3.9% in 2016, +3.2% in 2017 and +3.3% in 2018 with Central Europe registering the brightest increases from 2016. At national level, as forecast,

the Netherlands upturned and progressed significantly. It is worth noting the slowdown of activity expected for Germany, Norway, Sweden, Switzerland and the United Kingdom while residential activity in Finland, France, Italy and Slovakia is forecast to upturn and progress, even at a moderate pace. Ireland records the best expectations with increasing rates higher than 10% during the entire forecast period and up to +19.7% in 2018.

Table 5.2: Finished one and two-family dwellings forecasts for the Western and Central European countries x 1,000 dwellings, 2014-2018

	2014	2015*	2016**	2017**	2018**
Austria	16,5	16,8	16,9	17,1	17,2
Belgium	20,8	20,4	16,9	17,4	18,2
Denmark	6,4	6,2	6,8	7,5	8,5
Finland	8,0	6,5	6,0	5,8	6,0
France	179,6	159,5	156,3	166,7	171,7
Germany	106,8	105,0	110,0	110,0	105,0
Ireland	7,0	8,6	13,0	15,0	18,5
Italy	31,4	29,9	30,2	31,1	32,0
Netherlands	29,0	32,0	36,0	37,0	41,0
Norway	10,3	10,9	11,2	11,4	11,5
Portugal	6,2	4,5	4,3	4,8	5,0
Spain	12,5	12,0	14,0	18,5	22,0
Sweden	10,0	11,8	12,7	12,9	13,4
Switzerland	8,3	7,8	7,6	7,2	6,8
UK	99,7	100,7	109,7	117,6	119,5
Western Europe	552,5	532,6	551,6	580,0	596,3
Czech Republic	14,8	14,8	14,5	15,3	15,6
Hungary	4,9	5,0	5,0	5,0	5,0
Poland	76,6	78,9	80,7	81,5	82,0
Slovak Republic	10,0	9,8	9,9	10,2	10,3
Central Europe	106,3	108,5	110,1	112,0	112,9
Total Europe	658,8	641,1	661,7	692,0	709,2

* estimate

** forecast

Source: Euroconstruct

The number of completions of new one and two-family houses is expected to have shrunk further in 2015 before restarting to grow in 2016 and subsequent years. It is interesting to note that completions are expected to slow

down in France in 2016 before increasing again in 2017 and 2018 while they are projected to grow further in Germany until 2017 and in the United Kingdom during the whole forecast period (2016-2018).

Table 5.3: Finished flats forecast for the Western and Central European countries x 1,000 dwellings, 2014-2018

	2014	2015*	2016**	2017**	2018**
Austria	26,3	28,3	30,0	30,7	31,2
Belgium	26,3	27,5	23,2	23,9	25,1
Denmark	7,2	7,0	7,4	7,7	8,0
Finland	20,0	18,5	20,0	20,7	20,5
France	232,4	214,9	218,0	218,5	219,0
Germany	109,3	125,0	145,0	160,0	170,0
Ireland	1,8	1,4	1,5	2,5	4,5
Italy	72,2	55,8	49,1	48,1	47,6
Netherlands	16,0	18,0	24,0	33,0	34,0
Norway	17,8	17,6	18,5	18,8	19,0
Portugal	4,1	2,9	2,8	3,0	3,2
Spain	34,3	31,0	36,0	51,5	53,0
Sweden	25,7	29,9	38,3	40,3	36,8
Switzerland	40,2	40,9	41,8	41,1	39,7
UK	40,6	56,4	61,4	65,5	66,5
Western Europe	674,2	675,1	717,0	765,3	778,1
Czech Republic	9,2	9,2	10,2	10,3	11,2
Hungary	3,5	4,5	5,0	6,0	7,0
Poland	66,8	71,4	74,5	76,8	81,0
Slovak Republic	4,9	5,3	5,5	5,6	5,6
Central Europe	84,4	90,4	95,2	98,7	104,8
Total Europe	758,6	765,5	812,2	864,0	882,9

* estimate

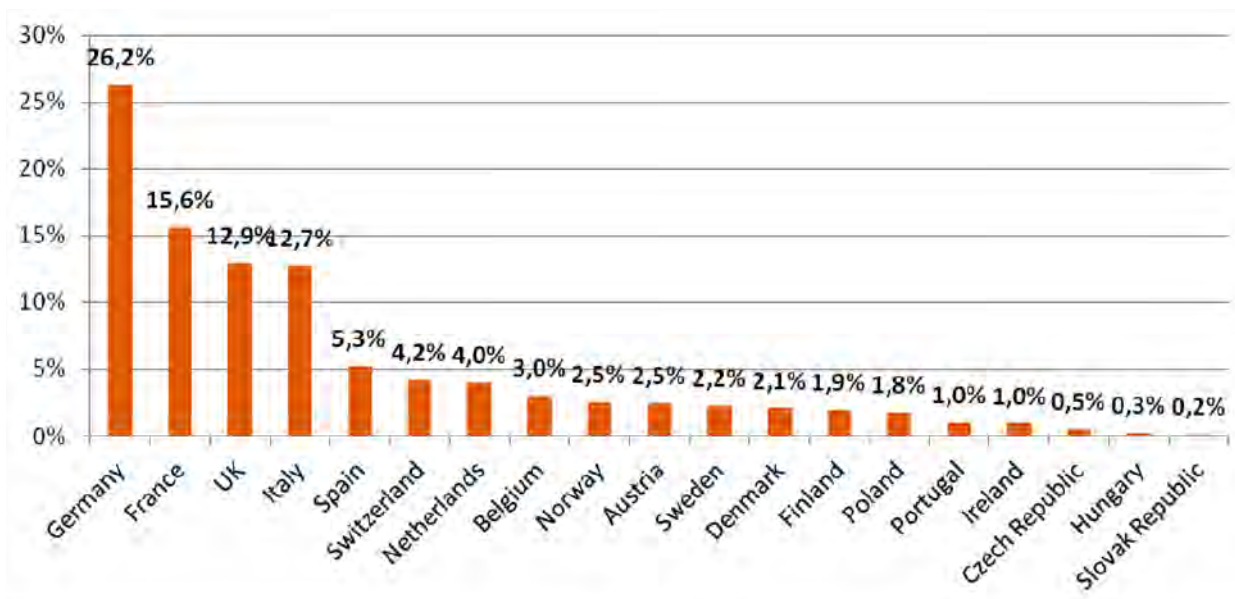
** forecast

Source: Euroconstruct

Contrary to last year's forecast, the number of finished flats bottomed up in 2015, which is one year earlier than previously forecast, thanks to the stabilisation of the number of finished flats in Western Europe and a better improvement than expected in Eastern Europe. The total number of finished flats in Europe is projected to register an increase

throughout the forecast period. Among the main trends projected, one can observe the significant growth expected for the completion of flats in Germany and Spain from 2016. Completions of flats are forecast to decline sharply in Italy and Portugal, though to increase significantly in Ireland, the Netherlands, the United Kingdom and Hungary.

Figure 5.3: Relative share of the Western and Central European countries in the overall residential construction market, 2015



Source: Euroconstruct

New residential construction rose by 2% in Western Europe during the year 2015 compared to 0.1% in 2014. Among Western European countries, Italy (-9.3%) and Finland (-6.3%) reported again the largest declines in new residential buildings while Ireland (+30.1), Sweden (+24.6%) and the Netherlands (+16%) reported the largest increases. On the other hand, Central European countries registered a stronger increase of 5.5% in new residential constructions. The most significant progression is reported for the second year in a row after a sharp decline in 2013 by Hungary (+13.1%).

Concerning renovation in residential buildings, an improvement of 1.5% for Europe as a whole as well as for Western Europe in 2015 was seen. Activity in this sub-segment rose by 2.3% in Central Europe.

While the new non-residential construction sub-segment registered an increase of 0.4% in 2014 in Western Europe

(compared to -5.6% in 2013), it decreased again in 2015 by 0.8%. On the contrary the situation continued to improve slightly in this sub-segment in Central Europe with an increase of 1.7%. The largest increases were observed for Denmark (+4.7%), Ireland (+4.4%), Poland (4.1%) and Slovakia (+3.7%) while new non-residential construction output fell by 4% in Spain, 3.8% in Czech Republic, 3.6% in Finland, 3.3% in Belgium, 3% in Germany and 2.7% in France.

Concerning renovation in non-residential construction, it progressed by 0.8% for Europe as a whole, and by 0.5% and 6.4% in Western and Central Europe respectively.

Finally, new civil engineering registered an increase of 3.9% in Western Europe and improved by 12% in Central Europe. Renovation in civil engineering rose by 0.7% and 8.4% in Western and Central Europe respectively.

Country Analysis of the Construction Market in Europe

Austria

After two years of decline, the building activity upturned in Austria in 2015 with a general output growth rate of +0.2%. The new residential sub-segment registered a slight decrease of 0.5% and the renovation a slight increase of 0.6%. The non-residential sector is expected to have recovered in

2015, both for new and renovation sub-segments with an increase of respectively 1% and 0.6%. New civil engineering stagnated in 2015 with the sub-segment registering a growth of 0.2% on the back of investments in the transport sector, whereas the renovation subsector decreased by 0.8%. Total housing construction is expected to grow slightly above 1%

from 2016 onwards on the back of an announced stimulus package for housing, the 'Wohnbauoffensive', aimed at fulfilling the future housing needs especially in urban areas. Non-residential construction is expected to recover after 2015 and reach 2.2% growth in 2018 thanks to further investments in industrial buildings. After a slight growth of 0.6% in 2016, civil engineering is expected to stagnate over the forecast period (2016-2018) with investment mainly taking place in highway and rail infrastructure. Total construction in Austria is expected to reach a growth rate slightly above 1% to 2018 mainly thanks to improvement in building construction.

Belgium

The total construction output somewhat stagnated in 2015 in Belgium, recording a slight increase of 0.3%, confirming the slow recovery scenario. The increase has been significant for both the new and renovation residential sub-segments with output rising by 2.2% and 3.3% respectively. The new residential sub-segment is marked by disturbances that appeared at the turn of the years 2013-2014 due to a change in the regulations on energy performance in Flanders. This change resulted in a phenomenon of anticipation leading to a 60% increase in the number of housing units authorised in the first four months of 2014 compared with the same period in 2013. Unexpectedly, the volume of new residential buildings increased by 40% between the second half of 2014 and the first half of 2015. Against a background of falling unemployment, progression in disposable income and remaining low mortgage rates, activity can expect a recovery from 2017 after a net decline in 2016. The anticipation of VAT changes for some renovation works from 1 January 2016 has created an anticipatory effect which helped support the development of renovation in 2015. On the contrary, new non-residential activity contracted again further by 3.3% in 2015 due to the low level of building permits issued since mid-2013. A rebound in terms of production is expected from 2016 supported by a school construction programme started in 2015, however this effect will likely disappear in 2017. As regards civil engineering, the unexpected dynamism in 2014 created an unfavourable base effect for 2015 with new civil engineering decreasing by 4.4% and civil renovation increasing slightly by 0.8%. In view of forthcoming local elections, and fiscal consolidation measures affecting rail investments, civil engineering is expected to recover only from 2018. Rising evolution in construction in Belgium is expected to reconnect with the economic environment after 2017.

Czech Republic

In 2015, the construction output in the Czech Republic grew by 7.4%. Overall the real estate market started to revive. Rising confidence in the stability of the Czech economy together with very low mortgage interest rates are the main positive factors for residential development progress, and the new residential sub-segment recorded an increase of 4.1% in 2015 thanks to high demand for new dwellings. Residential renovation grew by 1.7% in 2015 influenced by a government program to support energy savings, reconstructions and the use of renewable energy sources. Concerning the non-residential segment, an important growth of 16.7% was recorded in renovation thanks to investment transactions realised in the segment of industrial and storage areas and offices. On the contrary new constructions of non-residential buildings significantly dropped (-3.8% in 2015). A slow revival of the new non-residential market is expected in 2016-2018. The civil engineering segment experienced a big boom with growth rates of 13.1% and 19.7% in new and renovation respectively, because of 2015 being the last year to draw European funds through certain programmes. The growth rate will significantly fall to 2.2% in 2016. The growth of total construction output is expected to slow down to 3.3% in 2016, 3.4% in 2017 and 4.3% in 2018.

Denmark

The Danish construction output continued to grow by 1.3% in 2015. After three years of consecutive decline, starting from an already very low level, 2015 new residential construction is estimated to have grown by 7%. This growth rate could remain to 2018 depending on the real residence tax levels. Renovation in residential buildings stagnated in 2015 as the broad support scheme for renovation reintroduced after the elections in 2015 came too late to have much effect in 2015. New non-residential grew 4.7% in 2015 mainly due to a large investment programme in new hospitals which should maintain the activity in the sub-segment to 2018. Non-residential renovation recorded a rather low growth rate of +1% in 2015. Activity in civil engineering stagnated in 2015. New civil engineering is forecast to grow after 2016 and renovation to grow quite moderately to 2018. Growth of total construction is forecast to rise to 2.8% in 2018. The present level of new construction is quite low compared to the overall economic activity and building activity if forecast to rise somewhat faster than GDP in 2016-2018 but still at a fairly low level compared to previous peaks. There are some uncertainties related to real estate prices which are now rising but still precarious, the main risk being a substantial

rise in interest rates due to European or global trends at a time of weak demand trends.

Finland

After three consecutive years of decline, the Finnish building activity shrank further by 0.3% in 2015. New building construction contracted: new residential construction by 6.3% and new non-residential by 3.6%. The biggest decrease registered in the new residential sub-segment reflects again the negative growth of private consumption, the non-increasing real purchasing power of households and the unemployment growth. Renovation increased by 4% in the residential sub-segment and by 1% in the non-residential sub-segment boosted by government stimulus measures and the need for renovation. New civil engineering increased slightly by 0.7% and civil renovation by 1.4%, with growth coming primarily from 'other transport', water works and energy works. A growth of 3.2% in the total construction output is expected for 2016 thanks to non-residential projects and a slightly upward trend in housing starts. The growth is forecast to continue in 2017-2018, at 0.6% and 0.9% respectively and at quite reasonable rates considering the economic situation.

France

The French total construction output decreased by 1.3% in 2015, a much smaller drop than the -4.2% in 2014, supporting the upturn expected in 2016. All sub-segments declined, except the renovation in residential and non-residential which registered a slight growth of 1% and 0.5% respectively thanks to an improvement of zero-interest loans and the extension of tax exemption programmes. The most significant drop was again observed in the new residential sub-segment (-3.1%). The main drivers behind this contraction of housing construction activity were housing prices that remain too high, and a historically elevated level of stocks hindering the restart of new housing activity. In non-residential, the high level of stock degraded the 2015 output of new construction which decreased by 2.7%. Civil engineering decreased for both new (-2.7) and renovation (-3%) reflecting the unfavourable electoral context. Overall the output of the French construction sector is expected to have registered in 2015 its last year of decline before a pickup of 3.9% in 2016 mainly driven by the rebound of the building sector and then solid growth in 2017 and 2018 (+2.8% and +2.6%) thanks to the gradual recovery of civil works and continued growth in housing.

Germany

The German construction output stagnated in 2015 and rose only by 0.4%. The new residential sub-segment progressed by 5.5%, stimulated by the growing demand for new multifamily buildings. The main drivers were low interest rates, the favourable income and employment situation as well as investors searching for safe and stable forms of investment. Residential renovation increased slightly by 0.5% reflecting the high rate of buildings already renovated. The non-residential sector registered a decrease in both new and renovation segments of 3% and 1% respectively, reflecting the weakening of commercial demand and cautiousness of companies to invest in building in the context of weak economic development in key foreign markets. Civil engineering registered a decrease of 0.5% in new and 2% in renovation, reflecting problems in the energy sector preventing an increase in the already extensive construction in this sector, less investment of the public sector due to refugees and municipalities taking a breath after years of strong activity. The strong upturn expected in 2016 driven by private consumption will boost the construction market which is expected to grow by 2%. Growth will slow down again after 2016 (1.1% in 2017 and 0.3% in 2018) due to the fact that many of the currently positive effects (influx of refugees, weak euro and extreme low oil prices) will lose their impact.

Hungary

The Hungarian construction output grew by a modest 3.1% in 2015, significantly less than in 2014 (+8.4%) and in 2013 (+6.1%) illustrating the end of acceleration and increase over the last two years. Both building and civil engineering started to slow down. The housing market flourished with new residential increasing significantly by 13.1% illustrating the value and business opportunity associated with home ownership and a growing number of building permits. Residential renovation also increased by 2% in 2015 after an important drop of 8% in 2014. The non-residential market decreased by 2% due to developments completed in the last years and no visibility on new EU funds. In the field of construction, the most significant player in Hungary is the EU by financing public building and infrastructural developments. With the next EU budget containing less civil engineering, the growth significantly decelerated in the sub-segment in 2015. The modest rise in 2015 is forecast to be followed by a fragile 2016 with 0.4% growth because of no construction tenders yet in 2014-2020 and lower contracts than in 2015. An upturn is expected after 2016

with a modest 3.1% growth in 2017 then a rebound to 7.2% in 2018 illustrating efforts of public investments from the governments with the elections in 2018 and major progress in housing.

Ireland

The recovery in the Irish construction sector continues to gain strength with the total construction output increasing by 10.6% in 2015. In 2015 new residential construction grew significantly by 30.1% whereas renovation grew by 8.3%. The housing market continues to be characterised by one in which there remains significant pent-up demand, rents continue to rise strongly, and serious lack of supply, particularly in urban areas. The key issue is still the industry's capacity to meet the increasing demand in the medium term as activity is projected to continue to grow during the forecast period (2016-2018). Concerning the non-residential segment, the economic recovery has generated increased optimism about the prospects for the commercial sector, covering offices, retail and tourism, as well as the industrial sector. Regarding civil engineering the government announced a new Capital Investment Plan in September 2015 which intends to increase the annual level of expenditure on capital infrastructure over the next six years. In line with the expectations of an economic recovery in private consumption and strong performance in investment, the volume of building and construction investment is expected to increase by 8.1% in 2016 and estimates for 2018 expect a further 12.2% volume increase in building and construction investment.

Italy

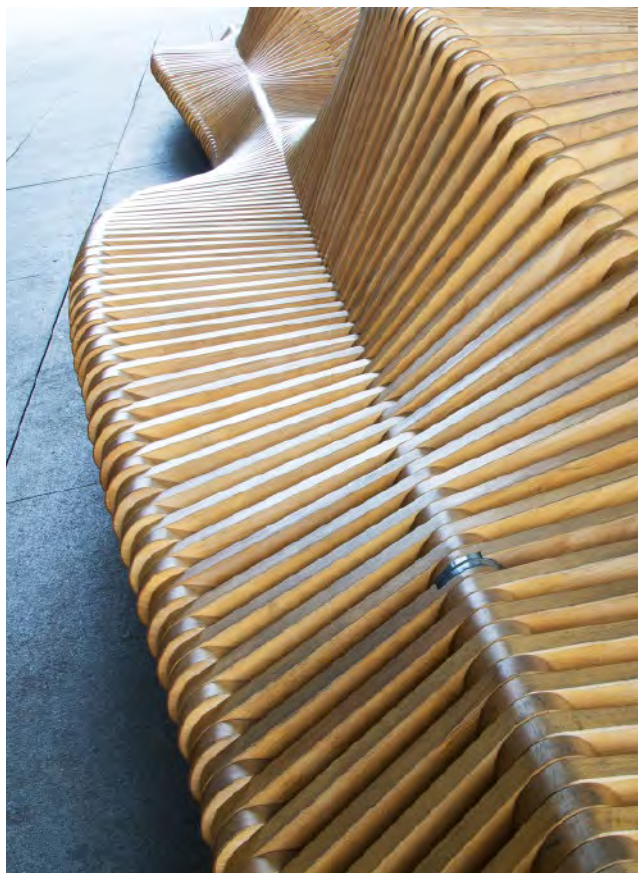
While the Italian construction output has bottomed out in 2014 it registered a moderate recovery with a 0.5% increase in 2015. Once again, the largest decline (-9.3%) was observed for the new residential sub-segment still being hit hard by the general economic crisis. Renovation in non-residential production (commercial, agriculture and the public sub-sector) improved in 2015 registering an increase of 0.7% and can be from now on considered a driving force of the market. Building renovation remains a key sector within the market, even though it decelerated in 2015 growing at a modest rate of 0.3% in residential and of 2.6% in non-residential renovation. It is expected to moderately consolidate its growth in the next three-year period mainly thanks to a better dynamic in non-residential building renovation, reflecting incentives especially for energy-efficiency projects. Since 2015 civil



engineering has been and will remain the best performer in both new and renovation, increasing by 3.4% in 2015 and by more than 4% in the period 2016-2018. The sector will benefit from the actions envisaged by the “Sblocca Italia” and the cancellation of the internal stability pact, as envisaged by the Stability Law for 2016. The recovery of the construction sector is expected to strengthen in 2016, reaching a 2% growth rate in 2017-2018, driven by infrastructures, requalification, energy technology and some niches of the new non-residential sector.

Netherlands

In 2015 the construction sector in the Netherlands grew very strongly by 6%, partially due to the taxation incentives for housing renovation and maintenance. The new residential sub-segment registered the biggest increase at 16%, confirming the revival of the housing market. Renovation in residential buildings increased by 8%, supported by the extension of the low VAT rate for housing renovation. However, once this measure expires in 2016, the renovation and maintenance output is expected to decline again. Non-residential construction improved strongly in 2015 (+2% in new and +4.5% in renovation) but due to high vacancy rates for some types of buildings, the continuing



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effect of budget consolidation measures and the negative effects of the transformation of the health care system this growth is forecast to remain very modest. Civil engineering expanded in 2015, helped by the increasing need for work to accompanying new residential construction, more favourable circumstances in the field of private investments, the construction of a number of large infrastructure projects and an increase in investment in water projects. The recovery is expected to continue at 4% in 2016 and 4.5% in 2017 and still substantially at 3% in 2018. It will however be very uneven between the sectors with new residential construction expanding very strongly, partly because of expected granting asylum to more people, while non-residential construction and civil engineering growing only modestly.

Norway

The Norwegian construction sector as a whole rose by 2.4% last year compared to +1.2% in 2014. All segments of the building sector grew in 2015 except new non-residential which declined by 1.3% because of slower economic growth and higher unemployment affecting the demand for buildings from the private sector. The new residential sub-segment increased by 1.2% thanks to lower interest rates

and still high population growth, compensating the effects of weak economic growth and increasing unemployment. While bottlenecks on the supply side have been acting as the limiting factor for residential construction in the recent years, prospects for less narrow bottlenecks should lead to higher housing starts in 2016 before being impacted by the economic situation again in 2017 and 2018. Renovation and maintenance in the residential and non-residential sectors increased by 3% and by 4% respectively thanks to drivers such as low interest rates and also because of high levels of repair after natural disasters still registered in 2015 but that should lower to 2018. In line with impressive rates recorded for the last 10 years, growth continued being strong in civil engineering in 2015 with a rate of about 6% for new investments and maintenance as a total. It is expected to reach its peak in 2016 before then slowing down. Projections show a further increase of the construction output of 3.9% in 2016, followed by a moderate growth rate of 2% in 2017 and practically no growth for 2018.

Poland

The Polish building sector rose by 5.6% in 2015 with all sub-segments growing as a result of significant growth of corporate investment expenditure and public investments related to the finishing of the use of funds from the EU financial perspective 2007-2013. The new residential sub-segment increased by 6.2% thanks to new owners of large bank deposits in the situation of very low interest rates looking for more profitable investments. With an improving economic outlook until 2017, a housing investment boom is expected. Non-residential construction recorded an increase of 3.9% in 2015 thanks to enterprise investment, and positive developments in the labour market offsetting a falling population due to a negative balance of migration. Significant increases are expected to continue to 2018. Renovation in residential and non-residential sub-segments recorded an increase of about 3%, a growth rate which is expected to maintain to 2018. Even with growth rates of 10% and 4.4% in respectively new and renovation civil engineering sub-segments, the expected high growth has not occurred in 2015. Acceleration of growth is expected from 2016. Total construction output growth is expected to get stronger with growth rates of 7.4% in 2016, 8.3% in 2017 and 7.7% in 2018. Nevertheless major uncertainties remain regarding the EU funds absorption and utilisation rate, the economic impact of the huge influx of refugees from Arab countries, and the potential for exacerbation of subdued current conflict in Ukraine.

Portugal

After a long period of decreases in investment in construction, the Portuguese building sector finally increased by 3% in 2015, performing better than previously foreseen. The housing sector performed relatively well, both in new construction and in the renovation segment with a respective increase of 4.5% and 5%. Drivers of this positive trend were a recovery in the household disposable income thanks to improving economic conditions and weakening restrictions on credits. The non-residential sector also registered a positive evolution of +1% in new and +5% in renovation thanks to an increase in purchase volumes of non-residential buildings where demand from foreigners supports a positive development in the volume of rehabilitation works. Industrial buildings observed the strongest decrease during the first half of 2015 with the share in the total falling to 25%. Civil engineering improved by 1.5% for new and 2% for renovation as a result of the first effects of the entry into force of the new Structural Funds Program – Portugal 2020 and the completion of works financed under the previous Structural Funds Program (QREN 2007-2013). Positive evolutions of the construction sector in Portugal are forecast to 2018 in line with the increase foreseen for total investments.

Slovakia

After years of decline, the Slovak construction market grew significantly by 10.3% in 2015 mainly thanks to high growth in the civil engineering segment with +39.5% in new construction and +17.1% in renovation works, mainly in transport infrastructure. Construction of new residential buildings decreased by 3.9% in 2015 and renovation in residential by 1.8% reflecting non-increasing households' income, unemployment, difficulty for transfer of mortgages to cheaper banks, local tax developments, rising prices and also growth of the informal economy. The situation of the residential segment is expected to improve to 2018 thanks to State support for housing and subsidies for thermal insulation. The construction of new non-residential buildings increased by 3.7% in 2015 mainly thanks to the construction of new multifunctional complexes in Bratislava and also the intensification of absorption of EU funds by the government for the construction of kindergartens and schools. However, renovation in non-residential decreased by 3.6%. The forecast for the overall construction output is negative for 2016 as civil engineering is expected to register a decrease. A moderate growth rate of 1.1% is forecast for 2017 and 2018.

Spain

The construction output in Spain registered an upturn in 2015 with 2.5% growth. All sub-segments enjoyed an increase except new non-residential which decreased by 4% mostly due to financing difficulties and overproduction in the previous years, but also to overlapping problems such as investment priorities in capital goods, the unclear nature of the demand and the large volume of non-residential inventories. Renovation in non-residential building has therefore gained ground and increased by 3%. The first signs of improvement of the non-residential sector are expected after 2016 and are predicted to consolidate slowly in 2017-2018. With the end of the recessionary cycle, the residential segment finally reached its turning point in 2015 thanks to general economic improvement, job creation, greater access to credit and acceleration of the rate of sales against a backdrop of stable prices. As a consequence new housing increased by 3.3%, and after having been put off for a long period of time, renovation in the residential sector increased by 3%. With the continuation of the same factors the residential sector is expected to grow by 10% for housing and by 3% for renovation in 2016. The years 2017 and 2018 are expected to see an increase of 5% and 4% respectively in the new sub-segment, with a steady increase of housing starts, and by 4% and by 3% in the renovation sub-segment. The civil engineering segment performed very positively in 2015 because of the elections. Growth is expected to slow down in 2016 with 1.6%, before accelerating again in 2017-2018 with a growth rate of 2.7% - 3.3%. With the confidence that economic growth will continue under the wing of the extraordinary measures of the European Central Bank, greater access to credit and the absence of inflation, the forecast improves for 2016 (+4.4%) and grows faster than the economy in 2017 (+4%) and 2018 (+3.3%) with the construction sector slowly returning to normal.

Sweden

In 2015, the Swedish construction sector rose by 5.3% after a significant progression in 2014 (+6.5%). The most significant increase was experienced in new residential buildings (24.6%) mainly thanks to new multi-family houses and, more modestly, to 1+2 family houses driven by an improved private consumption, growing house prices and lower interest rates. The renovation of residential buildings also increased by 8.4%, as the do-it-yourself market improved thanks to simpler rules for the extensions of family houses. The market for new non-residential buildings has remained relatively stable due to growing employment, rising rents,

dropping vacancies and a few very large projects. Civil engineering dropped slightly by 1.9% as a result of reduced energy investments and delayed road projects. However, renovation increased by 5%. Nevertheless, shortage of capacity will constitute a major limiting factor for further growth; building permits have already increased more than building starts. New repayment requirements on home mortgages will also have a cooling effect during the forecast period of 2016-2018 and growth rates are expected to decline to +2.8% in 2016, down to -0.3% in 2017 before a rebound of +2.2% in 2018.

Switzerland

In 2015, the Swiss construction sector was again quite stable. As a whole the sector slightly declined by 0.1%, reflecting a decline in business confidence and a slow-down in housing construction (-0.6%) after the dynamic construction activities of 2009-2014. The development of immigration flows will be crucial for future residential construction. The largest evolutions were observed for new non-residential buildings (+2.3%) and for non-residential renovation (+2.4%) with big projects such as the “Circle” at the airport of Zurich or investments of pharmaceutical and biotech companies providing positive impetus. More moderate growth is foreseen in the coming years due to receding immigration

flows. Both new and renovation of civil engineering sub-segments experienced a decrease of -5.6% and -2.8% respectively, reflecting a muted business sentiment and order books which are not filled yet. Nevertheless the railway infrastructure fund provides confidence for positive growth rates in the next few years. Increasing vacancy rates, uncertainties regarding the implementation of the mass immigration initiative, a strong Swiss currency as well as a declining business sentiment in the construction sector are weakening the dynamics of the Swiss construction market and are leading to the forecast of weak growth rates of 0.9% in 2016, 0.1% in 2017 and a decrease of -1.3% in 2018.

United Kingdom

Following an upturn in 2014, the British building sector is strengthening in 2015 registering an increase of 3.7% mainly on the back of good performances in the new non-residential and infrastructure sectors. The largest growth was recorded in the new civil engineering sub-segment (+25%). Even though this high figure is mostly due to a discontinuity in the historical data, the real like-for-like growth being estimated at around half that level still represents strong real growth and expansion is expected to continue. Increase in civil engineering renovation was more modest at +4%. Although not as strong as expected after a growth of over 25% in 2014, the new residential construction output grew by 3.2% in 2015. The deceleration was mainly due to the decline in the public housing output as a result of the impact of the extension of Right to Buy to registered social landlords and the rental growth constraints announced in the British Summer Budget. While public housing is not expected to grow in the next three years, indicators suggest that growth in the private housing market could be accelerating. Renovation of residential buildings has somewhat stalled in 2015 registering a growth of just 1%, but is expected to grow in the private housing sector thanks to programmes to finance the improvement of energy efficiency and the promotion of renewable energy. The new non-residential segment increased by a weak 0.7% with commercial building in particular much less buoyant. Much stronger growth is expected from 2016, largely driven by the private sector. Renovation of non-residential buildings decreased by 5.1% mostly due to a sharp decline in the public sector as a result of pressures on public finances. Modest growth is expected until 2018. Growth of the construction sector is expected to stay strong in 2016 but a slow-down is predicted for 2018 with a weak housing sector and a hiatus in major civil engineering projects.



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6. EOS Advocacy Actions

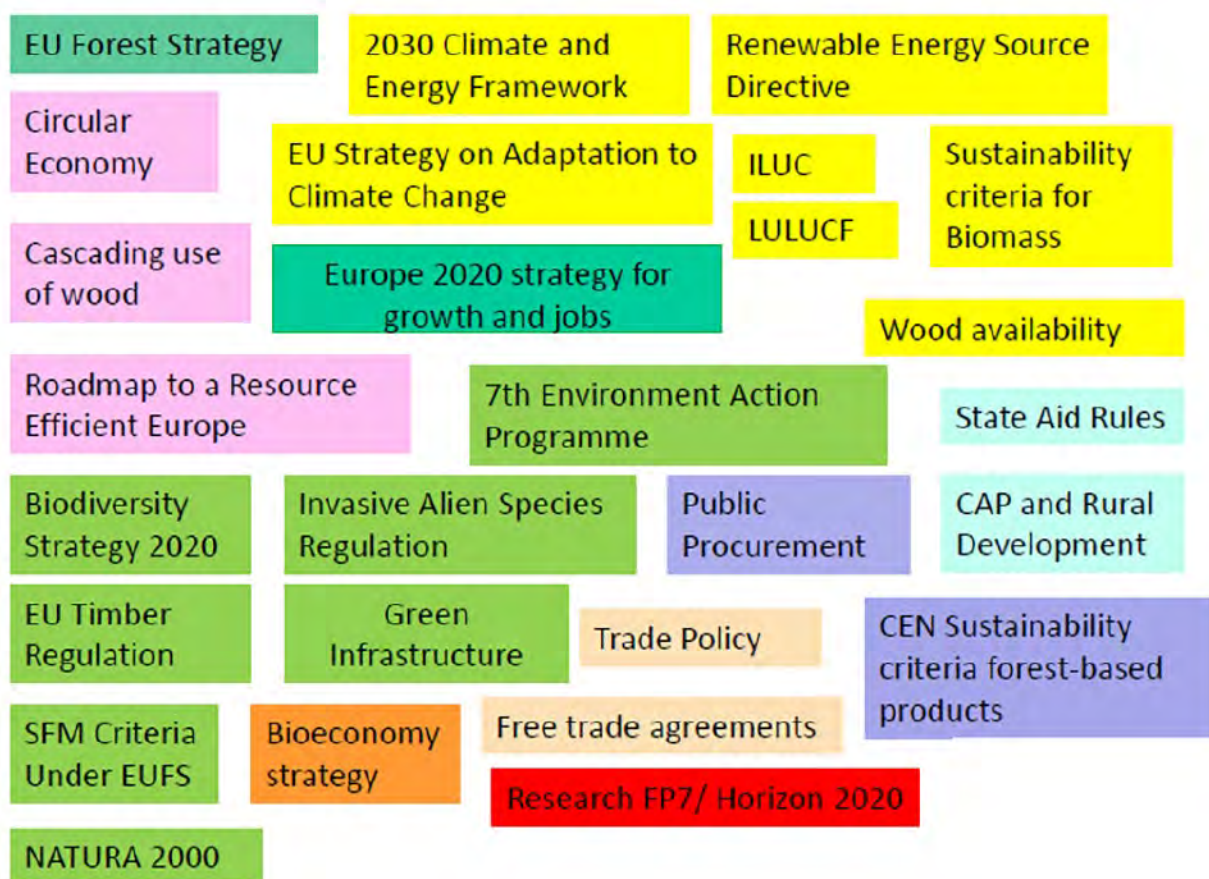
Did you know it?... Roughly 80% of the national legislation is a transposition of the European law or it is based on it.

The European decision making involves three main Institutions: the European Parliament, the Council of the European Union and the European Commission. In principle the European Commission makes new proposals, but it is the Council together with the Parliament that adopts them. Before any proposal, the European Commission conducts

an impact assessment and might consult stakeholders for their views and seek additional opinions.

EOS carefully follows the development of the European legislations in order to assure its Members of an accurate analysis of the opportunities and threats that the sector might face. In particular, EOS aims at facilitating the understanding of all interconnections between the EU policies regulating the forest based industry sector.

Figure 6.1: EU Forest based Industry Policy: a complex scattered puzzle



6.1 The Club du Bois

6.1.1 Historical background and objective of the Club du Bois

On the initiative of the Honorary EPF Chairman, Mr Döry, and following the very successful exhibition in the European Parliament in Brussels in February 2006, EPF managed to set up an information and discussion forum with Members of the European Parliament (MEPs) entitled “Club du Bois”. This initiative has been extended to the participation of EOS and CEI-Bois which are now partner of the Club du Bois.

The Club du Bois is intended to constitute a group of dedicated MEPs who are interested in and willing to support

the proposals of the woodworking industries. Since 2013, EOS is an active partner in organizing the Club du Bois meetings.

Since the beginning of 2015, Mrs Maria Noichl is the new Chairwoman of the Club du Bois. Mrs Maria Noichl is a Member of the European Parliament representing the Bavarian regions of Oberbayern and Schwaben. She is a member of the Agriculture and Rural Development Committee as well as the Committee on Women's Rights and Gender Equality.

6.1.2 Club du Bois meeting: 19-20 April 2016

The European Panel Federation (EPF), the European Organisation of the Sawmill Industry (EOS) and the European Confederation of Woodworking Industries (CEI-Bois), supported by the European Federation of the Parquet Industry (FEP), organised the 3rd Club du Bois meeting under the chairmanship of Mrs Maria Noichl, MEP, on 20 April 2016. The event was anticipated by the Club du Bois Dinner at the ‘Maison du Luxembourg’ the evening before.

On the occasion of this Club du Bois meeting, a dedicated website has been created in order to enhance the visibility of this activity and several MEPs were invited to sign up as “dedicated core Members”, namely:

- Paul Brannen – United Kingdom, Group of the Progressive Alliance of Socialists and Democrats in the European Parliament;
- David Borelli – Italy, Europe of Freedom and Direct Democracy Group



- José Inácio Faria – Portugal, Group of the Alliance of Liberals and Democrats for Europe
- Paul Rübiger – Austria, Group of the European People's Party (Christian Democrats)

During the breakfast meeting, the following topics were discussed:

- Emission Trading Scheme - Experiences from the Wood-Based Panel Industry – Mr Carlos Tavares Ferreira, Sustainability Manager, Sonae Indústria, Portugal;
- Wood Mobilisation - Project SIMWOOD – Mr Andreas Kleinschmit von Lengefeld, Director Innovation & Research, FCBA Technical Institute, France;
- Sustainable and responsible wood-based industry – Mrs Karoliina Niemi, Manager, EU Forest Issues Finnish Forest Industries Federation

EOS expresses his gratitude to Mr Andreas Kleinschmit von Lengefeld who had kindly accepted the invitation of EOS to take part as speaker in the Club du Bois meeting.

Emission Trading Scheme - Experiences from the Wood-Based Panel Industry

Mr Tavares Ferreira recalled that the European Commission presented in July 2015 a legislative proposal to revise the EU emissions trading system for the period after 2020 in order to deliver on the EU's target to reduce greenhouse gas emissions by at least 40% domestically by 2030 in line with the 2030 climate and energy policy framework and as part of its contribution to the new global climate deal.

To achieve the at least 40% EU target, the sectors covered by the ETS have to reduce their emissions by 43% compared to 2005. To this end, the overall number of emission allowances will decline at an annual rate of 2.2% from 2021 onwards, compared to 1.74% currently.



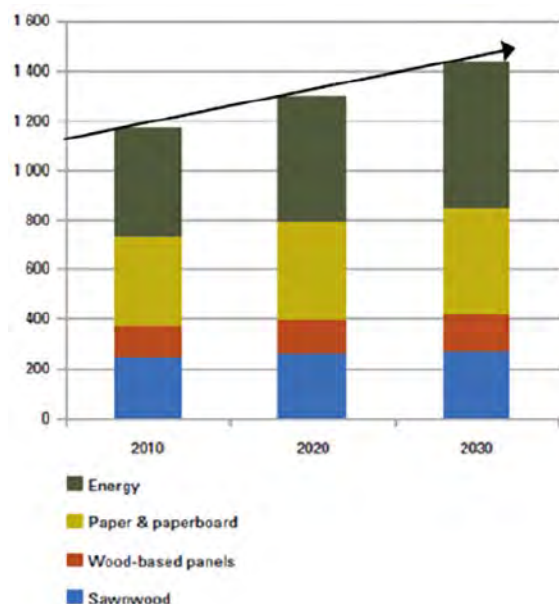
In this framework the European Commission has established a list of industries that are at risk of carbon leakage – the relocation of production to countries with less ambitious climate policies. The most efficient installations can receive up to 100% of the required allowances for free. The second carbon leakage list, for the period 2015-19, was adopted in October 2014 and the sawmill and the wood-based panel sectors were both excluded from the new list. During the Club du Bois meeting Mr Tavares Ferreira provided information on the reasons why the wood-based panel sectors should be included in the new carbon leakage list (*post 2020 carbon leakage list*).

Wood Mobilisation - Project SIMWOOD

Mr Andreas Kleinschmit von Lengefeld introduced the SIMWOOD project explaining that 28 organisations from 11 countries (Belgium, Finland, France, Germany, Ireland, Netherlands, Portugal, Slovenia, Spain, Sweden and United Kingdom) began a joint European project in order to set up sustainable and innovative solutions for wood mobilization.

He explained that the total forest area in the Region is 348,233 ha, which represents 9% of the area of the Region and 53% of total forest cover in the country. In particular this four-year project seeks to provide solutions on how to mobilise forest owners, promote collaborative forest management and ensure sustainable forest functions in order to mobilise the present unlocked wood resources in Europe.

Figure 6.2 Growing demand for wood



Mr Kleinschmit von Lengefeld explained that the SIMWOOD project works in 17 regions across Europe, selected for their high relevance to Europe's wood mobilisation challenge. In each the SIMWOOD model regions, a detailed analysis of the present situation and the barriers and challenges for wood mobilisation which currently exist, have been made. In each region, SIMWOOD has a Regional Learning Laboratory (RLL) as an integral part of the research process. This is linked to existing initiatives in the region, and is collaborative: teaming up with regional stakeholders to obtain fresh findings on the region's specific status quo, chances and proposed solutions.

Later on, Mr Kleinschmit von Lengefeld presented the growing demand for wood. In particular he highlighted the following points:

- Based on the increase in GDP, total consumption for wood products is projected to increase from 739 million m³ roundwood equivalent (RWE) in 2010 to 853 million m³;
- in 2030 'solid' uses will grow steadily,
- new chemical uses will emerge
- Over the last decades, wood fuel consumption has shown a growth rate of about 1.5% per year.

He continued explain that the growing forest stock on the area available for wood supply continues to increase from 29.0 billion m³ in 2010 (174 m³/ha) to 33.3 billion m³ in 2030 (195 m³/ha). This is especially the case in North and Central Europe, while build-up in South-East Europe is modest.

Sustainable and responsible wood-based industry

Mrs Karoliina Niemi started her presentation by telling about global megatrends, such as digitalisation, population growth, urbanisation, and competition over natural resources that guide consumption choices and influence the use of resources. Every day, about 100 000 people in the

world need a new home, and housing will be focussed in cities. At this moment construction uses half of the world's resources and produces 40% of all waste. How can we change direction and make all this in a more climate friendly way and in such a manner that human beings and nature feel good? This can be achieved by using the renewable raw material wood. Wood answers conscious consumers' needs related to good living. Research shows that it is a material that enhances health and comfort.

A successful wood-based bio-economy starts from a forest. In her presentation Mrs Niemi emphasised that in the EU forest area forest resources have been increasing. At present, 60 to 70% of the annual growth is used. Also in the future it is of crucial importance to maintain our forest land base as forest and to ensure maintenance of forest resources.

Mrs Niemi highlighted the three pillars of sustainability in forest management: economic, ecological and social. Global, pan-European, EU and national regulatory and strategic tools form a framework to ensure wood procurement from sustainable sources. These are supplemented by third-party audited voluntary instruments. By using this tool box in a right way we can ensure joint production of wood and other forest ecosystem services at the same time and over generations.

Mrs Niemi ended her speech by emphasising that wood from sustainable sources can be used in a variety of ways. The wood-based industry is already a benchmark model of resource efficiency, a key player in bio-economy and a perfect fit for the circular economy. The continuous development of value added products will further contribute to shared value creation and substitution of non-renewable materials and energy. Consumers, i.e. all of us, play an important role by choosing products made from renewable instead of non-renewable materials.

6.1.3 Club du Bois meeting: 20-21 October 2015

On 21st October 2015, EPF, EOS and CEI-Bois organised the 2nd Club du Bois meeting under the chairmanship of MEP Mrs Maria Noichl.

The event was held in the facilities of the European Parliament in Brussels. On that occasion three presentations from experts were given, namely

1. Wood in planning and public procurement linked to the bio-economy in practice;
2. Wooden buildings in terms of architecture and reduction of CO₂;
3. Recycled wood in the Circular Economy;

The two presentations on the opportunities related to using wood in construction were given by speakers invited by EOS. Once more time EOS expresses his gratitude to Mr Hopkins and Mr Rubner for having accepted to take part in the Club du Bois meeting.

Mrs Noichl opened the meeting and expressed her pleasure to be hosting the 2nd meeting of the Club du Bois under her chairmanship. In particular she underlined her interest for an active and stimulating meeting. She then gave the floor to the experts of the woodworking industries to illustrate the challenges and opportunities that lie ahead.

The Bio-economy in practice: Public procurement and planning policies to develop a low-carbon, bio-based economy, by Mr David Hopkins, Timber Trade Federation, Executive Director, Wood for Good

Mr Hopkins started his presentation by explaining that the bio-economy comprises the part of the economy that is using renewable biological resources to produce food, materials, energy, etc. It is thus an essential alternative to the dangers of fossil-based economy, providing major opportunities for innovation, jobs, growth.

The EC's Bio-economy Strategy should focus on 3 aspects:

- Developing new technologies & processes;
- Developing new markets & competitiveness;
- Pushing policy makers to work more closely together.

Regarding the construction sector, Mr Hopkins stressed that in order to tackle climate change, the use of wood should be increased:

- A 10% increase in timber frame housing in the EU = 25% of total reductions prescribed by Kyoto;
- Up to 31% of total global emissions could be avoided by switching to timber construction (Yale University 2013);

In his presentation, Mr Hopkins demonstrated that amongst others the towns of Vaxjo in Sweden and Hackney in the UK have clearly chosen wood as a construction material.

He highlighted the concentration and diversity of timber buildings in Hackney saying that they should be considered a great success and a showcase for the world.

To choose wood for construction is to make the best environmentally friendly choice. Mr Hopkins emphasized that:



- Timber and wood products must be part of the EU bio economy strategy;
- Measures for promoting building with wood should be included in the European bio-economy plans - there is no building we cannot make from timber;
- Rather than a Renewable Energy Strategy, a Renewable Material Strategy should be launched by the EU Institutions
- Resource efficiency starts from recyclability: recyclable product should always be the first option in Green Public Procurement.

What wood can do? Examples of the most significant wood buildings in terms of architecture and reduction of CO₂ - Mr Stefan Rubner, Winner of the world environmental prize Solar Decathlon 2014

With Rhome for DenCity, the energy-efficient house, Mr Rubner won the Solar Decathlon 2014 and as such Italy became world champion in Sustainable Architecture. The winning card was the mix of technologies and practices that have led geo-coded specific consumption and energy production at optimum levels. Mr Rubner emphasised that increasing the use of wood in buildings would significantly reduce the climate change impact. Building with wood not only stores CO₂, but also significantly reduces the construction time. Mr Rubner began with a reminder that 42% of the EU is covered with forest. 60% of these are privately owned. Significantly, only 2/3 of the current annual growth of forests is harvested, meaning that we are neglecting 1/3 of the valuable resource. During his presentation, Mr Rubner showcased some extra-ordinary buildings throughout Europe in terms of architecture and reduction of CO₂.

**Recycled Wood in the Circular Economy -
Mr Stefano Saviola, Gruppo Mauro Saviola,
the leading transformer of wood waste in the world**

In his presentation, Mr Saviola stressed the advantages of recycling wood for the particle board sector. Over the past 50 years, the European panel industry has always represented worldwide excellence in terms of production, quality, technical standards and respect of environmental issues. Its ability to evolve and remain competitive is the best guarantee of continuity for the downstream furniture sector. However, he explained that this is very hard in Italy, a country that is structurally and chronically deficient in wood. "This is the Italian anomaly: a country in great shortage of wood resources is also the World's 3rd largest furniture manufacturer!" That is why 80% of furniture in

Italy is made of particleboards produced with only waste. The national capacity for recycling wood from urban and industrial collection is ca. 4 million T/year, whereas actual consumption is estimated at ca. 3 million T/year.

Mr Patrizio Antonicoli, Secretary-General CEI-Bois concluded the meeting and he stressed that "the woodworking industry needs to be responsible, reacting instantly to the challenges it is faced with: it fully understands the strong signals coming from the markets, the EU institutions and the public opinion; and it acknowledges both its uncommon assets and limits. The woodworking industries continuously emphasise that wood should be the material for buildings and cities in a low carbon society and from a climate mitigation perspective the enhanced use of wood should be fully supported by EU decision makers."

6.2 Cumulative Cost Assessment of Forest-Based Industries

In June 2014 the European Commission, and specifically DG GROW (since 1st December 2014 DG Enterprises and Industry and DG Internal market merged together in the so-called DG GROW) launched a call for tender in order to grant a study on the cumulative cost assessment of the EU legislation and policies affecting the EU F-BI value chains.

The Cumulative Cost Assessment of Forest-based Industries (CCA F-BI) study aims at providing reliable data for future policy-making, including the so-called smart regulation. The overall aim of the study is to identify the cumulative costs, both direct and indirect, of the most financially burdensome EU legislation and policies that forest-based industry companies active in the EU28 have to comply with. These costs are further compared to the costs borne by companies under corresponding legislation in the EU competitor countries.

As stated by the EU Commission the results of the study would contribute to a wider analysis of impacts, including costs, benefits, and coherence, of policies and legislation as well as to the implementation of the regulatory fitness and performance programme (REFIT) (COM(2013) 685).

Specifically, the study objectives are:

- Quantification of the cumulative direct and indirect costs of relevant legislation and policies for each of the selected F-BI sub-sectors in the EU and the key non-EU competitor

countries;

- Demonstration of the evolution of costs of the relevant legislation and policies over time;
- Comparison of costs and provision of conclusions on the cost impact of EU legislation and policies on respective F-BI sub-sectors and consequently EU F-BI competitiveness vis-à-vis the non-EU competitors

All pieces of legislation incurring high costs to forest-based industries are included in the study. The relevant regulations and policies grouped under eight legislation packages comprising the policy areas of competition, environment, forest-related policies, labour, employment and workers' safety, products, transport, trade and commodity.

The CCA covers two specific time periods:

- Impact to date of the existing legal framework (end of 2014), where cost-related indicators should cover a 10-year period from 2005 till 2014 (quantitative assessment);
- Likely future impacts of the existing legal framework (end of 2014), where cost-related indicators should cover the period 2014-2030 for energy and climate policies and 2014-2020 for other policies (qualitative assessment).

EOS invited Technopolis Group to its General Assembly held in Amsterdam on 4 November 2015 in order to receive more detailed information on the study.

Ms Elina Griniece, from Technopolis Group, recalled EOS members about the objective of the CCA Study. In particular, she explained that this study aims at analyzing the cumulative cost impacts of the most relevant EU legislation and policies, which specifically affect the EU forest-based industries, and in this case the sawmill industries.

She clarified that in the context of the CCA, the term “value chain” is introduced as a tool indicating a series of consecutive manufacturing steps, which links up raw materials to final products through the various F-BI sub-sectors. In particular, woodworking, furniture, pulp & pulp-based products, printing are described as a value chain.

Table 6.2.1: Woodworking value chain

Procurement & Transport	Primary processing	Secondary processing			Tertiary processing				Marketing, distribution, Sales
	16.1 Sawnwood	16.21 Wood-based Panels	Veneer sheets	Plywood	Construc tion products	Windows & Doors (part of 16.23)			
				LVL		16.23 other builders' carpentry and joinery (part of 16.23)	Scaffolding		
			Particle and fiber boards	OSB			Formwork		
				MDF			Frames		
				Hardboard			Beams, Trusses		
				Particleboards			Outdoor products		
			Solid wood boards	Glulam			Prefabricated wooden Buildings (part of 16.23)		
				CLT					
				Other					
			Foam & Insulation Boards			16.22 Parquet Floors			
	16.24 Wooden Containers, Packaging								
	xx.xx Bioenergy Products	Wooden pellets							
		Briquettes							

Ms Griniece explains that the study in total comprises 8 EU legislative packages, 6 of which have been prioritised as relevant for the wood-working sector:

1. Climate and Energy Policy (EU ETS, Renewable Energy Directive, Biomass Action Plan, etc.);
2. Environmental Policy (Industrial Emissions Directive, BREFs, IPPC Directive, Waste Framework Directive);
3. Forest-related Policy (EU Timber Regulation, FLEGT Regulation, etc.);
4. Labour, Employment and Workers Safety Policy (Health and safety at work, Indicative occupational exposure limit values, etc.);
5. Product Policy (ECHA Regulation, REACH Directive, EU Ecolabel, CPR, etc.);
6. Transport and Logistics Policy (Sulphur content of marine fuels, Road safety directive, etc.);

7. Trade and Commodity Market Policy.

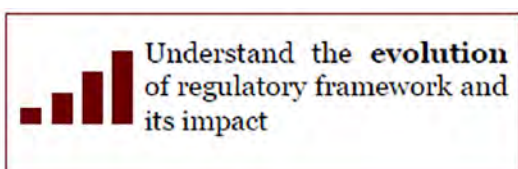
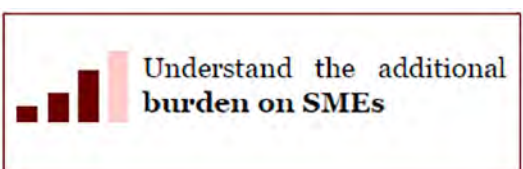
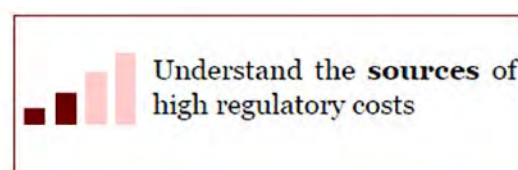
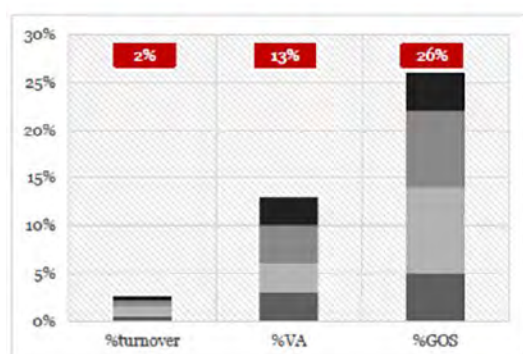
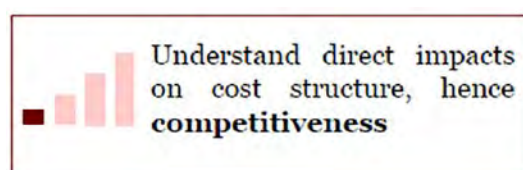
She explained that this study adopts a **cumulative approach**, by providing a quantitative assessment of all direct costs (monetary obligations, capital expenditure, operating expenses and administrative burden) incurred by F-BI companies in the EU in relation to their most relevant EU legislation.

The typology of cost used in this study includes the following types of direct costs.

- Monetary obligations are regulatory charges such as fees, levies, or taxes on certain stakeholders. The identification and computation of such costs are rather straightforward, as regulatory charge amounts are usually known and their extent is clearly communicated to a company. Examples include national environmental taxes and charges, and net costs for CO₂ emission allowances for industries covered by the EU's Emissions Trading Scheme (ETS).

- Administrative burden is defined as the cost of fulfilling the information obligations to public authorities or other third parties as required by legislation. It is important to note that administrative burden is different from administrative cost, as administrative burdens only represent part of administrative cost and do not integrate business-as-usual costs that would nonetheless occur in the absence of legislation. Administrative burden can be incurred internally (e.g. staff time) or externally by retaining help and advice such as verification, which may or may not be mandatory. The types of administrative burden identified in previous studies on cumulative costs include cost of personnel, laboratory testing (internal or subcontracted), consultants, and necessary training. A methodological challenge in the assessment of administrative burden relates to the difficulty of identifying the origin of the burden — whether burdens can be solely attributed to the minimum requirements of EU legislation or to going beyond minimum requirements (“gold-plating”) at national level. This was taken into account by asking companies surveyed to report the portion of administrative burden attributable solely to implementation of the European legislation. However, there is no obvious way to ensure that there is no overlap in administrative burden estimates.
- Substantive Compliance Costs: Substantive Compliance Costs are provisions made to comply with regulations, which can be further broken down according to the following categories: capital costs (CAPEX) and

Table 6.2.2: CCA data collection: overview of the data collection results as it will be presented



operating and maintenance costs (OPEX). Capital costs include any acquisition or upgrading of physical assets, (land, building or equipment), usually “fixed costs”, but also investment costs from investments necessary to meet legal obligations. Investment costs can be one-off costs (new equipment needed and related training) or recurrent costs (periodical training or tests). Operating and Maintenance Costs include additional expenses for personnel (wages), energy inputs, materials, consumables associated with legal acts, and are usually “variable costs”. Indirect compliance costs are related to the fact that other stakeholders in the value chain have to comply with other legislation. Such costs are passed on by upstream companies or passed back to producers by downstream users. A number of undue effects of legislation, like transaction costs, reduced competition and adjudication or litigation costs, generate indirect costs that are relevant for the competitiveness of the industry but are very difficult to quantify and very variable across sub-sectors.

During the EOS General Assembly Technopolis invited the EOS members to take part in the data collection. Ms Grinieć stressed that any information provided by companies would be handled carefully and would remain completely confidential. Indeed, all data are managed exclusively by Technopolis and they will be aggregated in the final report in order to ensure that no individual company might be identified.

She presented the following table in order to show how data will be aggregated.

On 28 April 2016, EOS took part in a meeting organized by DG GROW in order to present the preliminary results of the presentation on the Cumulative Cost Assessment of Forest-based Industries (CCA F-BI).

From a preliminary discussion, the EOS Secretariat had the impression that the panel of companies chosen and selected for responding to the questionnaire was not well representative of the sawmill sector. Indeed **considering the sawn wood product group, a more pronounced divergence between the figures of the panel of companies and Eurostat figures was noticed, indicating that the sample is characterised by a larger productivity in comparison with the product group as a whole at EU28 level. The EOS secretariat expressed its concern that a larger risk of underestimating the**

cost figures for this sector based on the interview data only might occur.

Moreover concerning the forest related policies, and in particular the application of the Timber Trade Regulation, EOS highlighted that sawmills companies had difficulties in estimating the impact in terms of costs. Nevertheless EOS recognised that, as stated in the *Report from the commission to the European parliament and the Council Regulation EU/995/2010 of the European Parliament and of the Council of 20 October 2010 laying down the obligations of operators who place timber and timber products on the market* “large companies seem to have been able to adapt better and quicker to the new requirements than SMEs. SMEs may seem to be in a disadvantaged position due to their low economies of scale as the costs of the DDS (due diligence system) need to be covered by a lower turnover”.

Sawmills in Europe have had substantially higher wood raw-material costs than sawmills in other parts of the world over the past ten years. The European Sawlog Price Index (ESPI), a volume-weighted price index comprising average softwood sawlog prices in nine of the largest log-consuming countries in Europe, tracked the global sawlog price trend fairly closely from 1995 to 2005. After the Global Financial Crisis in 2008, sawlog prices grew faster in Europe than in the rest of the world. In Euro terms, the ESPI Price Index experienced some dramatic swings from 2005 to 2010 which were mainly driven by substantial fluctuations in lumber production on the continent.

Background information on the regulatory fitness and performance programme (refit)

REFIT is the European Commission’s Regulatory Fitness and Performance programme, for this reason actions are taken to make EU law simpler and to reduce regulatory costs, thus contributing to a clear, stable and predictable regulatory framework supporting growth and jobs.

As stated by the European Commission, “Better regulation is not about favouring certain policies or objectives over others. It is about being clear on the objectives, whatever they are. It is about ensuring that the policy solution is the best and least burdensome way to reach those objectives and it is about being honest about how well solutions are working.”

By a Decision of 19 May 2015, the Commission has set up the REFIT Platform to conduct an ongoing dialogue with

Member States and stakeholders on improving EU legislation in the context of the Regulatory Fitness and Performance Programme. The REFIT Platform consists of two standing groups, one for Member State experts (“government group”) and one for representatives of business, social partners and civil society (“stakeholder group”).

As part of the REFIT programme, almost 200 actions were decided from October 2013; this included the **fitness checks, for the “Protection of birds and habitats (Natura 2000)”**. In particular the European Commission carried out an open public consultation on the Birds and Habitats Directives between April and July 2015.

6.3 The Paris Agreement

On Friday 22 April 2016 (*during the International Mother Earth Day*), more than 155 countries expressed interest in signing the Paris Agreement on Climate Change at the headquarters of the United Nations (UN) in New York. Following the Friday event at the UN headquarters, the period for signatures will remain open for one year, so that all parties can sign to validate the Paris Agreement and to ratify it. In addition, representatives of countries will make their national statements and deliver the instruments of ratification, or specific action plans to combat climate change. The Paris agreement was approved by the 196 Parties to the United Nations Framework Convention of the Climate Change (UNFCCC) in COP21 in Paris on 12 December 2015 aimed at limiting the temperature rise overall below 2 degrees Celsius and at driving efforts to limit the temperature increase even further to 1.5 degrees Celsius above pre-industrial levels. Additionally, the agreement aims to strengthen the ability to



deal with the impacts of climate change. The agreement will enter into force after 55 countries that account for at least 55% of global emissions have deposited their instruments of ratification. These numbers have been chosen to ensure the participation of the largest emitters – in particular China, the US, and the EU – but at the same time not setting the bar so high as to delay entry into force.

6.3.1 Paris Agreement on Climate Change

Strictly speaking, according to the Paris agreement, Parties are not legally bound at the international level to achieve their targets. Rather party is legally bound to pursue domestic mitigation measures, with the aim of achieving the objectives of their contributions.

However all parties have a legally binding obligation to prepare, communicate and maintain a nationally determined mitigation contribution. Indeed, before and during the Paris conference, countries submitted comprehensive national climate action plans. These are not yet enough to keep global warming below 2°C, but the agreement traces the way to achieving this target.

The Agreement includes an explicit call to the so called “developed and developing countries” to conserve and enhance forests and other biological carbon reservoirs. The Agreement also emphasizes the need to protect vulnerable ecosystems, and the need to ensure food security, but fails to formulate an explicit vision for land-based mitigation and adaptation. The explicit referencing of forests in the new agreement was intensely debated.



Article 5 of the agreement states “(1) Parties should take action to conserve and enhance, as appropriate, sinks and reservoirs

of greenhouse gases as referred to in Article 4, paragraph 1(d), of the Convention, including forests. (2) Parties are encouraged to take action to implement and support, including through results based payments, the existing framework as set out in related guidance and decisions already agreed under the Convention for: policy approaches and positive incentives for activities relating to reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries; and alternative policy approaches, such as joint mitigation and adaptation approaches for the integral and sustainable management of forests, while reaffirming the importance of incentivizing, as appropriate, non-carbon benefits associated with such approaches”

Article 5.1 refers to that part of the framework convention itself that recognizes “common but differentiated” responsibilities between rich and poor countries, and also

the need to promote the sustainable management of natural carbon sinks, including “biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems.”

The expression “results-based payments,” mentioned in Article 5.2, refers to the financial contribution, to be paid from one country to another based on the amount of extra carbon the receiving country keeps locked in forests as a result of actions that countries take to slow deforestation. These payments may be “market-based”, which means the country paying for them then gets to reduce its own emissions by the additional amount of carbon locked in trees, or they may be “non-market” based, in which case the country receiving the payment also gets credit for the emission-reduction achieved.

Activities that relate to reducing emissions from deforestation and forest degradation” is clearly referred to the REDD mechanism, but without mentioning this acronym.

6.3.2 EU Climate Action @ COP 21 - #united4climate

The EU has been at the forefront of international efforts towards a global climate deal. Following limited participation in the Kyoto Protocol and the lack of agreement in Copenhagen in 2009, the EU has been building a broad coalition of developed and developing countries in favour of high ambition that shaped the successful outcome of the Paris conference.

The EU was the first major economy to submit its intended contribution to the new agreement in March 2015. It is already taking steps to implement its target to reduce emissions by at least 40% by 2030.

In particular, according to the EU Commission, global greenhouse gas emissions should “*peak by 2020 at the latest, be reduced by at least 50% by 2050 compared to 1990 and be near zero or below by 2100*”.

Moreover it is considered essential that all countries agree on a robust system to track governments’ performance and hold them accountable for delivering on their targets. Without this, it will not be possible to track collective progress towards the long-term goal.

On 4 March 2015, the EU commission published the Communication “The Paris Protocol – A blueprint for tackling global climate change beyond 2020” where it stated the importance of promoting ambitious global climate action in the framework of diplomatic relations and dialogue with partner countries and the intention to conclude in the shortest delay the liberalisation of trade in environmental goods and services.

One year after, on 4 March 2016, the Commissioner Miguel Arias Cañete in his intervention during the public session of the Environment Council underlined that “the EU needs to continue to show global leadership and for this reason a significant transformation of the European economy will be required, particularly in the energy sector, transport, buildings, agriculture.

In his speech, the Commissioner recalled that the «*Commission is currently preparing proposals for the non-ETS sectors, including on effort sharing and land use, land use change and forestry, as well as a new governance mechanism to streamline planning and reporting requirements for the post-2020 period. This will also cover energy policy, with the revision of the energy efficiency and renewable energy directives as well as our work on the electricity market design scheduled for autumn 2016*».

The Commissioner welcomed the call by many Member States for the EU to maintain its international leadership through high ambition and continued climate diplomacy

efforts, and looked forward to their support in putting in place ambitious legislation in the coming year to ensure EU emissions are reduced in line with the Paris Agreement.

6.3.3 The European sawmill industry message during the COP21

In the framework of the COP21, Think Forest, the European Forest Institute's high-level discussion forum, chaired by the former Swedish Prime Minister Göran Persson, organised on 1 December 2015, in Paris, an event entitled "Climate policy targets: How can European forests contribute?". EOS was invited to take part in this event and to contribute with its vision on this issue.

The ThinkForest seminar "Climate policy targets: how can European forests contribute" brought together policymakers, scientists and stakeholders at the COP21

Climate Generations area in Paris on 1 December. Discussions focused on three major issues:

- expanding the mitigation potential of forests;
- the bioeconomy and the possibilities it offers for substitution of fossil-fuel based products;
- economic incentives.

This is the message that EOS put forward during the Think Forest event. Copies of the EOS position paper were distributed during the meeting. The Swedish Prime Minister Göran Persson received a copy of the EOS message.

The governments of more than 190 nations are gathering in Paris to discuss a possible new global agreement on climate change, aimed at reducing global greenhouse gas emissions and thus avoiding the threat of dangerous climate change: the COP 21, the United Nations Climate Change Conference (UNFCCC) in Paris, represents a crucial event in committing our Countries to decoupling the economic growth from GHG emissions.

The transformation of economic growth towards a lower dependency on fossil fuels and related greenhouse gas (GHG) emissions is essential for a successful global climate strategy. The outcome of COP 21 is likely to significantly impact business and economy. Nevertheless, this challenge posed to the Society and our Governments should be seen as an opportunity rather than a threat.

Forests and the related products are the main drivers for a bio-based economy, creating growth and sustainability at the same time. The European Organisation of the Sawmill Industry fully believes that **by boosting the consumption and use of harvested wood products, Member States can achieve a low-carbon and bio-based society. Combining environmental sustainability and economic growth is possible if policies will be set in order to make an efficient and increased use of natural and renewable resources, such as wood.**

Indeed wood products can play an important role in fighting climate change and contributing to a drastic reduction of CO₂ in the atmosphere. It is scientifically proven that wood products can mitigate climate change. Scientific data show that wood from sustainable managed forests when used as building product provides a negative carbon footprint and a long term carbon storage.

The use of wood products can represent a greener alternative to fossil-fuel intensive materials. **Substituting a cubic metre of wood for other construction materials results in the average of 0.75 to 1 tonne of CO₂ savings.** Indeed, compared to other materials, wood requires less energy to extract, transport, construct and maintain over time. Moreover, **wood represents an excellent insulation material.** Wood's cellular structure contains air pockets that limits its ability to conduct heat, which make it a better insulation material. This helps to minimize the energy for heating and cooling.

Increased use of wood boosts the economic value of forests; this ensures the maintenance and expansion of woodlands. Moreover, sustainably managed forests sequester carbon more efficiently than forests left to grow unmanaged. The carbon in the harvested trees

continues to be stored throughout the life of the resulting wood product. In Europe, only 60 % of annual forest growth is actually harvested. **Europe is the only region of the world with a positive net change in forest area during the last 20 years.** The growing stock in Europe has increased faster than the area, which means that the average standing volume of wood per hectare has grown. In this period forest area in Europe has increased by 17 million hectares (almost half of the area of Italy). Over the last 20 years, total growing stock of forests in Europe has increased by 8.6 billion cubic meters. Between 2005 and 2010 the average annual absorption of carbon in forest biomass reached 870 million tons in the European region.

The main opportunities to capitalise on these CO₂ savings include using a greater proportion of wood products (e.g. increasing the use of wood in the construction, in furniture and in packaging industries, exchanging coal for biomass bioenergy), using wood products with a longer useful life, and increasing recycling.

Despite the enormous environment benefits that can be obtained from an increased use of wood, EU level actions have been negligible in this field. Outside Europe, several important countries such as USA, Canada and China, have made “building with wood” part of their climate change policy. Now, **it is high time that the European Union, who is one of the leaders in promoting a sustainable and environment friendly society, takes the same pathway.**

The European Decision n°529/2013 on “accounting rules on greenhouse gas emissions and removals resulting from activities relating to land use, land-use change and forestry and on information concerning actions relating to those activities” invites Member States to increase the use of wood products and set measures to substitute greenhouse gas intensive materials and energy feedstocks with biomass (respectively whereas n°13 and 10 of the European Decision n°529/2013).

Moreover at the beginning of 2014, the European Economic and Social Committee stressed in the own-initiative opinion on the “Contribution of the woodworking sector to the carbon balance” that “Europe can drastically reduce CO₂ emissions by increasing the

carbon sink created by its forests (by optimising their management) and by enhancing the use of sustainably produced wood products”.

In addition, the European Economic and Social Committee demanded that the EU Institutions to create a favorable legislative environment for boosting the use and consumption of harvested wood products.

For these reasons, the Organisation of the Sawmill Industry invites Members States, the European Institutions and all policy makers to share the following considerations:

As very first step, it is necessary to **raise awareness of the role of wood products for mitigating climate change.**

In Europe, forests act as a carbon sink. Measures to improve emission reductions tend to focus on sequestration in the forest without taking into account the positive contribution of active forest management and the use of wood products to substitute more carbon intensive products. The carbon stored in wood products needs to be given equal footing with the CO₂ captured by forests. Despite of the Decision that the European Commission will take on how to address GHG emissions from agriculture and LULUCF in the context of the 2030 framework, **it is essential that Member States set up measures for enhancing use of wood both in residential and non-residential constructions thus contributing in creating green societies.**

Urban areas are currently estimated to be responsible for 71–76 % of energy-related CO₂ emissions. In 2014, 54% of the world's population was living in cities, and this figure is expected to rise to 66 by 2050. (Source “The 2014 revision of the World Urbanization Prospects by UN DESA's Population Division”). Clearly solutions for a more sustainable construction have an important role in reducing CO₂ emissions. For this reason and considering that the Energy Performance of Buildings Directive requires all new buildings to be nearly zero-energy by the end of 2020 and all new public buildings to be nearly zero-energy by 2018, **elements such as “material substitution for reducing GHG emissions,**

particularly CO₂” and “embodied energy in buildings materials” should be an integrated part of the national “zero emission buildings” plans.

When technically feasible, **natural and renewable materials should always be preferred in construction** and be an essential part of the GPP. Indeed, the use of natural, renewable and recyclable materials will

represent an important tool for developing a competitive and circular economy.

Finally, Governments are invited to consider the introduction of comprehensive measures for favoring the use **of highly recyclable, non pollutant, and CO₂ emission free materials** in order to create an effective bio-based and environmental friendly economy.

The seminar also saw the launch of the EFI science-policy study on the “European forest sector and climate policy targets”. According to the study, forests and their related products reduce emissions, enhance sinks, store carbon and provide a continuous stream of ecosystem

services, including wood products, energy and biodiversity conservation. EU forests and the forest sector currently produce an overall climate mitigation impact that amounts to about 13% of the total EU emissions.

6.4 Wood Availability: the discussion at European Level

According to the European legislation, biomass is considered carbon neutral, based on the assumption that the carbon released when solid biomass is burned will be re-absorbed during tree growth.

Current EU policies provide incentives to use biomass for power generation. Biomass is a renewable energy source which can be used to produce electricity, heat and transport fuels : it accounts for roughly 2/3 of the renewable energy consumed in the European Union.

Opportunities and challenges related to biomass have to do with greenhouse gas emissions (biomass can contribute to reducing carbon emissions, but emissions may not be fully accounted for); resource availability (biomass can contribute to energy security, but its sources are finite); environment

and human health (increased use of biomass for energy can have adverse effects on air quality, soil properties and biodiversity).

At European level, there has been several debates about the availability of biomass as a resource. In particular, in 2010, a Study commissioned by the European Commission on « Real potential for changes in growth and use of EU forests » estimated that although demand for wood for material and energy use could probably be met by 2020, supply would be insufficient to meet demand by 2030. The study suggests that 58% of the theoretical potential of European forests could be exploited; the main constraints identified were environmental considerations related to soil productivity and uncertainties linked to attitudes of private forest owners, who control 60% of EU forests.

6.4.1 Resource efficiency impacts of future EU bioenergy demand (ReceBio) – An analysis commissioned by DG Environment of the European Commission

On 30 November 2015 EOS attended the workshop on the main findings of the ReceBio analysis.

The ReceBio Study aims at understanding “the resource efficiency implications of different future trajectories for

EU use of bioenergy for electricity and heat, including indirect impacts. To this end, analysis has been undertaken to understand the consequences of fulfilling different levels of bioenergy demand up to 2050 and the impacts

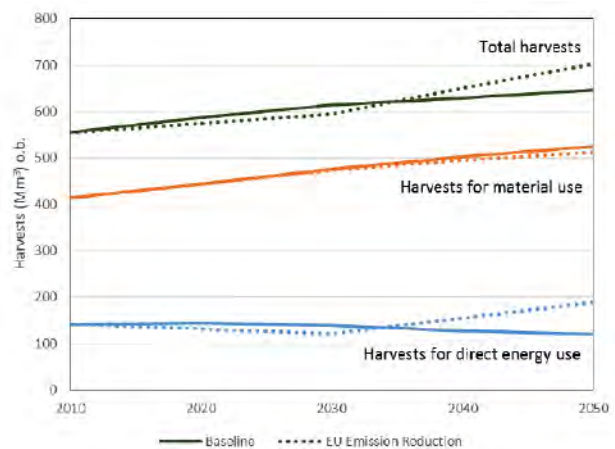
on: the utilisation of different biomass feedstocks; land use; land management; GHG emission and biodiversity consequences. The starting point for the study is the EU 2020 climate and energy targets and the proposed EU 2030 package. In this context the scenarios, and the basis for determining the level of bioenergy demand to be assessed up to 2050, are specified building on the 'EU Reference Scenario' as described in the 2014 EU Impact Assessment". The study has used the *Global Biosphere Management Model*, GLOBIOM, to assess the potential impacts of policy scenarios that each addresses issues of key importance as to the future bioenergy demand.

The Recebio Study was presented to the EOS Members during the first EOS Working Group Biomass held in Brussels on 22.01.16. In particular EOS Members were informed about the key points of the study presented during an ad hoc workshop organized last November:

- "The baseline scenario shows a clear increase in the use of wood up to 2050, for both material and energy purposes in the EU. **The increased demand for wood biomass is seen to lead to an intensification in the use of forests in the EU28**".
- "The baseline scenario projects a clear increase in the use of wood for both material and energy from the 2010 levels. Material use of wood is increasing over time. The overall consumption of wood for energy is estimated to expand from 306 million m³ in 2010 to 419 million m³ in 2050. This includes black liquor and other industrial by-products used for energy, as well as firewood, forest residues, recycled wood, imported wood pellets and SRC produced for energy. In terms of the comparative uses of wood, the proportion of total wood consumption going to energy use increases between 2010 (36%) and 2050 (38%). The consumption level for material use of wood also grows over the same period (from 535 to 686 million m³).
- "In the baseline scenario, the total forest harvest level in EU increases clearly, from 556 million m³ in 2010 to 616 million m³ in 2030 and 648 million m³ in 2050. In particular harvests for material production, especially sawlogs, show a steadily increasing trend, and this expanding trend appears to drive overall harvest level. Harvests for energy stay on a more stable level until 2030. After 2030, harvest levels for energy actually decrease (from 158 to 143 million m³).
- "EU Emission Reduction scenario up to 2050. In this scenario, the development of biomass use follows a trend to a large extent similar to that of the baseline scenario

until 2030. Thereafter, the results show a considerable increase in the use of imported pellets (52 Mm³ in 2050, double to that in the Baseline), and, additionally, a large quantities of roundwood (of pulpwood quality and dimensions) directly being used for bioenergy production (78 million m³ in 2050)".

This graph presents the changing patterns of harvest and the associated drivers, comparing the results from the Baseline and EU Emission Reduction Scenarios.



Harvests for direct energy use"= harvests of forest residues, fuelwood, and pulpwood that are used for energy as such, or after chipping and/or pelletization. "Harvests for material use" = the harvested amount of wood used for material production in the forest industries and production of other wood products (part of this volume will eventually become industrial residue and be used as energy as well).

During the stakeholder meeting held on 30 November 2015, the following "take home messages" were presented:

- Harvesting for material use will reduce in the EU Emission Reduction Scenario compared to the baseline scenario, whereas from 2030 onwards a sharp increase of harvests for direct energy use is predicted;
- The mobilisation of recycled wood is a credible solution for reducing imports of pellets and reduce pressure on land use;
- If short rotation coppice would not deliver the expected contribution for energy, this would lead to a substantial increase roundwood use and pellet imports as well as an increase of by products for energy;
- A reduction of imported pellets would cause a large increase in the utilisation of roundwood and short rotation coppice for energy and to a lesser extent of industrial byproducts for energy;

- Bioenergy demand is expected to potentially lead to large changes in the composition of bioenergy feedstocks.

The final study is expected to be released before the 2016 summer break.

6.4.2 Cascading use of wood

According to the recent Study “The Optimised Cascading Use of Wood”, the cascading use is the efficient utilisation of resources by using residues and recycled materials to extend total biomass availability within a given system.

This study is undertaken under the Horizon 2020 Programme2, Societal Challenge 5 “Climate Action, Environment, Resource Efficiency and Raw Materials” - work programme 2014-2015, and its scope is the definition “of the cascading use of wood including assessing its environmental and socio-economic impacts, analyzing barriers to cascade and possible measures adapted to local conditions to overcome them in the European Union”. It is carried out by a consortium consisting of: BTG Biomass Technology Group (overall coordinator), INFRO (scientific coordination), IEEP (quality control), nova Institute (definitions, and specific input on bio-based products) and INTECUS (case studies and specific inputs on the waste sector).

The results of the study will serve as a basis to develop good practice guidance on the cascading use of wood to the policy-makers and value chain stakeholders for the wider application of the cascading use of wood.

EOS took part in the several meetings organised by the European Commission and the Consortium leading the elaboration of the Study in order to highlight the concerns of the sawmill sector in relation to the application of the principle.

During the final meeting held in Brussels on 20 April 2016, the preliminary conclusions of the Study were presented. In occasion of this meeting EOS stressed that as presented the Study is unintentionally leading to the conclusion that wood recycled products should be preferred to solid wood products.

Key points presented during the above mentioned meeting

(The following information do not represent the point of view of the European Organization of the Sawmill Industry)

Cascading use of wood takes place when:

- wood is processed into a product and this product is used at least once more either for material or energy purposes;
 - In a single stage cascade - the wood is processed into a product and this product is used once more for energy purposes.
 - In a multi-stage cascade - the wood is processed into a product and this product is used at least once more in material form before disposal or recovery for energy purposes.
- Direct energy use of primary biomass is not a cascade as there has been no material use prior to energy recovery.

The utilisation of residues (*materials arising unavoidably from a production process that may have value*), **and co-products** (*Co-products are those that are required in the production of another product and have value end uses*):

- is increasing the efficiency of the production process (input/output-relation).
- **is not increasing the level of cascading unless they are processed into a specific product for material application.**

The cascading use of wood is expected to:

- * increase the availability of wood as raw materials
- minimise the pressure on environment
- **prioritise higher added-value products,**

- contribute to a better carbon balance and create more jobs.

The increased demand for renewable energy biomass and on-going transition to a more bio-based economy, with increased bio-material and bio-chemical uses, **could put pressure on limited wood resources**. *(Apparently the Consortium consider credible the assumption made in the Indufor Study “Study on the Wood Raw Material Supply and Demand for the EU Wood-processing Industries” stating that **by 2016 the EU will face a shortfall from EU sources of 63 Mm³ of RWE per annum** in trying to meet the EU renewable energy targets, as shown by the NREAPs (National Renewable Energy Plans). Thus, if significantly more EU wood can’t be mobilised, imports must fill the gap).* For this reason “a more resource efficient use of woody biomass along the value chain will be needed in order to contribute towards delivering these demands without necessarily increasing the pressure placed on natural resources. **The cascading use concept is one of the tools that can help to improve the resource efficient use of wood** and complement other measures aimed at sustainable wood mobilisation”.

Barriers to the provision of primary wood :

- Sustainable supply of wood from forests is limited

by net annual increment and further sustainability constraints;

- Cascading depends strongly on the material wood of softwood, a higher proportion of hardwood forests would decrease the potential of cascading;
- Wood mobilisation from private forests is rather difficult and expensive because of the large number of owners;
- Logistical challenges need to be met to utilise wood outside forests like landscape care wood at reasonable prices.

The Study identified several solutions for enhancing the cascading use of wood, in particular the following proposals were underlined :

- Development of end of waste criteria for wood ;
- Extended producer responsibility schemes ;
- Restrictions on wood that can receive energy support ;
- Improved harmonisation in policy;
- Separate collection of waste wood;
- Improved sorting of collected waste wood;
- Improved classification of wood resources;
- Restrictions on landfilling of wood waste;
- Design for cascading.

At this writing, the final version of the Study was not released.

The EU COMMISSION POSITION: Several times, the European Commission has stressed that no legislative measures (*e.g. an European Directive or Regulation*) will be elaborated on the cascading principle, **nevertheless Member States will be invited to take into consideration the application of the cascading principle when developing the renewable energy policies.**

The **ILUC Directive (EU) 2015/1513** that amends Directives 98/70/EC (fuel quality) and 2009/28/EC (renewable energy) states that **the “waste hierarchy” and “cascading use” are criteria that the Member States need to take into account in their reporting to the European Commission on the use of waste and residue raw materials for biofuels and bioliquids (Article 22 of the Directive).**

Moreover the **EU Communication “Closing the loop** – An EU action plan for the circular economy COM(2015)

614” states: “In a circular economy, **a cascading use of renewable resources, with several reuse and recycling cycles, should be encouraged where appropriate.** Biobased materials, such as for example wood, can be used in multiple ways, and reuse and recycling can take place several times. This goes together with the application of the waste hierarchy and, more generally, options that result in the best overall environmental outcome. National measures such as extended producer responsibility schemes for furniture or wood packaging, or separate collection of wood can have a positive impact. **The Commission will promote efficient use of bio-based resources through a series of measures including guidance and dissemination of best practices on the cascading use of biomass** and support for innovation in the bioeconomy”.

The EUROPEAN PARLIAMENT’s position. The Parliament called, in its resolution of 9 July 2015 on the circular economy,

for the implementation of « a cascading use of resources », notably in the use of biomass. It also asked the Commission, in its resolution of 5 February 2014 on the 2030 climate and energy policies framework, to propose sustainability criteria for solid and gaseous biomass, taking into account lifecycle greenhouse gas emissions in order to limit the inefficient use of biomass resources. However, in its resolution of 28 April 2015 on a new EU forest strategy, **Parliament also recognised the value of wood for energy purposes and opposed legally binding rules for prioritising the uses of wood**, as this would restrict the development of new and innovative uses of biomass.

STAKEHOLDERS' views. Environmental NGOs such as **BirdLife, European Environmental Bureau, and Transport & Environment** advocate reassessing the assumption of biomass carbon neutrality, introducing new carbon accounting methods and improving reporting and transparency under the EU ETS. They also support ambitious environmental safeguards, with a view to ensuring that

biomass use for energy is only incentivised when it delivers GHG emissions reductions, and call for a cap on the maximum contribution of biomass to EU renewable energy targets. **FERN**, the green NGO focusing on forests, advocates EU-wide binding sustainability criteria, measures based on the cascading use principle, and phasing out biomass use in large power plants. With regard to carbon emissions accounting, biomass sector association **AEBIOM** highlights that emissions from biomass are offset by the growing amount of forest in the EU, while substituting biomass for coal reduces overall CO₂ emissions. Regarding the cascading use of biomass, the Confederation of European Forest Owners, European farmers and agri-cooperatives (**Copa-Cogeca**) and the **European Landowners' Organisation** believe it would disrupt the market, as illustrated by Sweden's experience, and would prove impossible to implement on the ground. Instead, they advocate measures securing forest productivity and wood mobilisation. AEBIOM and **Eurelectric** call for EU-wide binding sustainability criteria for biomass based on reliable science and focusing on major environmental concerns.



EOS POSITION ON THE APPLICATION OF THE CASCADING USE OF WOOD

In the current European discussions, the “cascading use” principle is gaining attention and is presented as a tool for ensuring the sustainable and resource-efficient use of wood.

On the basis of this assumption, the European sawmills industries would like to invite the European and National Policy makers to take into considerations the following aspects:

- **Wood resources coming from sustainable managed forests are already efficiently used by the entire European woodworking industries.**
 - In Europe, only 60 % of annual forest growth is actually harvested: the growing stock in Europe has increased faster than the area, which means that the average standing volume of wood per hectare has grown. Over the last 20 years, total growing stock of forests in Europe has increased by 8.6 billion cubic

meters and the forest area by 17 million hectares.

- **Sawmills operate according to the resource efficiency principle and they maximise the added value of their whole set of products**, obtained from wood resources without creating any waste.
- **The cascading principle cannot be applied neither to round-wood nor to the sawmill producers.** Indeed in the sawmill industries all by-products are destined to a specific secondary wood user (wood based producer and/or-bioenergy producer) according to the specific market demand.
 - More and more sawmills are wood-bio refineries, using the same forestall resources to produce bio-materials (sawn woods), heat and electricity through CHP for their own energetic autonomy and bio-fuel as wood pellets (*requiring virgin wood, according to ISO 17225-2 for the 11 Mt EU residential heating market, to ensure customer safety and air quality*).

Other by-products are sold to different markets, privileging customers compromised in long term contracts, supporting the sector stability:

- Bark is mostly used as a biofuel, inside or out of the sawmill, but has also minor markets in gardening and to produce high value extractives.
- Larger pieces of wood are chipped into wood chips and are used for pulp, OSB panel, wood pellet and composites.
- Sawdust is used for particleboard and wood pellets production with minor markets in wood composites and animal litters.
- **A legally binding application of cascading use of wood principle will be detrimental for the forestry industry and might constitute an infringement of the European market rules leading to a distortion.**
- **All of the wood products play an important role in**

climate change mitigation. For this reason Member States should introduce measures in order to boost the consumption of harvested wood products.

Increasing the proportion of wood in construction will also raise the quantity of wood available for energy production.

- The growing tree converts atmospheric carbon dioxide into wood and bark but also into leaves and roots which usually will stay in the forest and enrich the soil in organic matter. Life cycle analysis of any wood product (material or biofuel) produced in the EU is generally excellent, compared to non-renewable resources. European forest management is sustainable, with carbon neutral forestry practices and a balanced set of wood products with long, medium and short life times. The sawmill sector is a key link of the chain to ensure this balance between uses.

6.5 The European Hardwoods Innovation Alliance (EHIA)

During the EOS Board meeting held in Brussels on 4 March 2016, Mr Gus Verhaeghe, Secretary General of InnovaWood, officially invited the European Organization of the Sawmill Industry to be part, as partner, in the project entitled “European Hardwoods Innovation Alliance (EHIA)”.

InnovaWood is an umbrella organisation that integrates four European networks in the Forest, Wood-based and Furniture industries; with more than 50 members from 26 countries InnovaWood is considered as a leading networks of excellence in Forest-Wood based sector. Their members are active in the areas of Research, Education & Training and Technology Transfer. The overall aim of InnovaWood is to bring business benefit to the forestry, wood and furniture chain by providing a forum for our member organisations to contribute more effectively to the development of the forests wood chain.

The objective of the “European Hardwoods Innovation Alliance” is the creation of “a focused, thematic innovation, research and training network that will strongly enhance the excellent knowledge and will emphasise the value added use of hardwoods within Europe”.

At this stage, **no economic contribution is expected**; by joining this project EOS simply collaborates in providing

“knowledge, input and expertise on the use, opportunities and need related to hardwood species”. Indeed the EHIA secretariat (under the umbrella of InnovaWood) will be composed of the three coordinators plus **four industry representatives** for securing relevance for the industry and for advising in the development of the project.

After having consulted its Members, the European Organization of the Sawmill Industry confirmed the interest in being partner of the project.



6.6 Enhancing the use of wood products

6.6.1 Study on climate benefits of material substitution by forest biomass and harvested wood products: perspective 2030

The main objective of the study “on climate benefits of material substitution by forest biomass and harvested wood products: perspective 2030” (commissioned by the DG CLIMA of the European Commission) is to « provide reliable data and analysis on the overall climate change mitigation potential associated with the use of forest biomass in the EU to substitute products composed of other raw materials and the potential increase of the carbon stock in harvested wood products and forests ».

For this purpose, the project will carry out a model-based assessment and scenario analysis of relevant policies and measures that might have an impact on the total demand of wood, the sourcing of wood and the resulting wood flows within and outside the EU.

The consortium is led by the Thünen Institute of Wood Research and includes the International Institute for Applied System Analysis (IIASA) in Laxenburg, FCBA in Paris and Werner Environment and Development in Zürich. Christopher Prins (former chief of the Timber Section of United Nations Economic Commission for Europe) and the Öko-Institute contribute on the basis of subcontracts.

Moreover a comprehensive analysis of these scenarios and their impacts on following elements is under elaboration:

- Changes in forest carbon pools inside and outside EU ;
- Changes in the harvested wood products (HWP) carbon pool ;

- Effects of material substitution by using more/less wood ;
- Effects of substitution of fossil fuels due to an increased/diminished use of forest biomass, residual wood from industry and post-consumer wood.

On 28 October 2015, EOS attended the meeting organised by DG Clima in order to present the preliminary results of the Study that was supposed to be finalized by the end of the year. For undisclosed reasons, the Study is still not available and not published.

In particular, the draft conclusion of the ClimWood2030 Study related to construction were focused on the following aspects:

- Construction market developments continue to be favorable and there is a successful wood promotion, moreover;
- Construction standards should not unnecessary hinder the use of WPs;
- Voluntary standards, notably green buildings, should not discriminate materials without objective justifications;
- Innovation policy should lead to wooden construction products to meet standards at competitive price level;
- Because the demonstrated material substitution effects, the use of wood products should be encouraged, public funds might be combined with private funds to promote the use of wood as part of the climate change mitigation.

6.6.2 Recommendations for an increased uptake of bio-based products in public procurement programs

On 12 April 2016, the Public Procurement Working Group of the European Commission's Expert Group for Bio-based Products published 15 recommendations for **an increased uptake of bio-based products in public procurement programs**.

The 15 recommendations include promotional campaigns targeting specific materials, regions and sectors, the roll-out

of standards and labels, benchmarking and goal setting, but also manifesto definition, targeted outreach and general communication, technical support to procurers, as well as intervention on legislation if and where possible. In particular, the Expert Group identified multiple areas for action to help grow such a large and diverse sector and acknowledged that it will take time and effort to make a significant impact compared to fossil-based products.

Each of the 15 recommendations is driven by the overarching principle of transitioning to an ever more sustainable and circular economy.

The resulting recommendations are listed below.

1. Product and Materials Campaigns. Campaigns to encourage adoption of 'bio-based' in procurement criteria for public procurers should be developed around specific product and materials classes which demonstrate the clear sustainability, economic, social and performance benefits and characteristics of using bio-based.

- Industry stakeholders can greatly support this effort. The case for each product or product category will be founded on the precondition of sustainable sourcing of the biomass and LCA improvement over alternatives as well as on price, performance and other criteria.

2. Regional/National Campaigns. Campaigns to encourage adoption of bio-based in procurement criteria and sharing of knowledge for public and innovative procurers should be targeted at regions which share certain interests in bio-based value chains and benefits.

- This will allow all promoters of the bio-based sector to focus local and/or regional resources on concrete public procurement scenarios with known dynamics and outcomes – which is in line with the Circular Economy Action Plan, published in 2015. For instance:
- Regions with an already declared ambition in this space can be 'champion' bio-based regions. A 2015 Commission study reports 45 regions that declare special bioeconomy interests, including Wallonie (Belgium), Castilla y León (Spain), Haute-Normandie (France), Puglia (Italy) and Mazowieckie (Poland) and many more.
- Regions with evolving bioeconomy value chains centred on, for example, forestry, sugar beet, corn or hemp. Leading sugar beet regions which also combine strong industrial biotechnology footprints are Wallonie (Belgium), Nordrhein-Westfalen (Germany), Rheinland-Pfalz (Germany), Groningen (Netherlands), Noord-Brabant (Netherlands) and Champagne-Ardenne (France).

3. Sector Campaigns. Campaigns to encourage adoption of bio-based in procurement criteria for public and innovative procurers should be targeted at a selection of

specific service sectors which can benefit from the addition of bio-based as criteria in their sustainability practices.

- This will allow all actors involved in the uptake of bio-based - including manufacturers, distributors, specifiers, buyers, users and standards bodies - to engage on real cases. For instance hospitals, defence forces, construction, roads, ministries, public transport and education. All campaigns will include information and support to assure procurers develop expertise on the sustainability and life cycle profiles of the bio-based products in question.

4. Roll-out of Standards. Accelerate convergence on commonly accepted bio-based and sustainability standards, their uptake and the practical application of such standards. This will require the setting of threshold or default values by standards organisations and political bodies.

- A number of important standards, and standards application frameworks have recently become available or are under development. Since 2011 the CEN Technical Committee **CEN/TC 411 "Bio-based products" has been developing European standards with uniform requirements and test methods regarding the characteristics of bio-based products.** These cover horizontal issues including the essential elements of LCA, sustainability, end-of-life options and bio-based (carbon) content which are at the heart of bio-based value chains. These standards enable promotion of the benefits of bio-based products. They are fundamental for a sound understanding of the sustainability and life cycle benefits of bio-materials. Some key standards are very recent and not widely known. Some are in the final stages of development. Once complete, these standards will require considerable effort to assure their widespread acceptance and application. Currently these standards have no defined thresholds for the minimum amount of bio-based content, nor regarding sustainability criteria for bio-based products in general. Developing and agreeing upon these standards, thresholds, criteria and appropriate certification is viewed as the collaborative responsibility of those involved in bio-based value chains, from primary producers through to consumer product manufacturers and end of life managers.

5. Labels. Promote development of and convergence on commonly accepted sustainability labels, their uptake and the widespread application of such labels by manufacturers.

Establishing threshold or default values for labelling schemes based on relevant standards will be part of the effort.

- Label schemes, while not mandatory, greatly facilitate public procurement selection processes. Efforts should be made to converge on a commonly accepted labelling approach inside an ambitious timeframe, say by 2020, and for this approach to be promoted to bring about widespread application. Label schemes should ideally help to **ensure sustainable sourcing of the biomass and include LCA profiles**. A database of products applying such labels, and meeting recognised standards, should be created. **Working Group 5 of CEN Technical Committee CEN/TC 411 “Bio-based products” is developing standards for reporting and communication of characteristics of biobased products in Business to Business and Business to Consumer interaction.**

6. Sector Analysis. Carry out comprehensive information gathering exercise on the number, nature, distribution and practices of Europe’s public procurement bodies so that future efforts to promote uptake of bio-based procurement criteria are founded on comprehensive sector intelligence.

7. Bio-based Uptake Indicators. Define metrics and measuring techniques for determining the level of incorporation of ‘bio-based’ as criteria in public and innovative procurement practices. Define a baseline for future reference. Market pull instruments (i.e. indicative targets, tax credits) for growth may also be considered. The indicator set could be extended to include measures of bio-based uptake generally. Such indicators will be valuable to all bioeconomy stakeholders. They should be linked to underlying sustainability and LCA profiles. This effort will provide stakeholders and leaders with a common language for direction setting and progress monitoring.

8. Manifesto, Value Proposition and Mission. Develop and articulate a clear manifesto for advocates and stakeholders of bio-based public procurement. The heart of this concerns the sustainability and LCA benefits to society and the environment. The signatories should be individuals relevant to the target public procurement community.

- The importance of such an authoritative manifesto is that it will provide a solid basis and mandate for professionals

working in the field, helping overcome barriers to recognition and acceptance. It will also give it visibility and authority among political figures.

9. Procurement Specifiers Information. Develop comprehensive product and materials information kits to support procurers and their associated service providers in the specifications and tender design processes.

- The action should be one-size-fits-all, since it is expected that national and regional organisations will take up initiatives and will adapt them if necessary to the needs of their respective regions and procurer organisations.

10. Targeted Outreach. Integrate bio-based public procurement into the frameworks of the Commission’s most important platforms and instruments, such as the LIFE Programme, Green Public Procurement, the Key Enabling Technology (industrial biotechnology) strategy, Horizon 2020 (Societal Challenges 2), the Bio-based Industries Joint Undertaking’s calls and the actions of the Circular Economy Package.

11. EU Legislation Review. Review legislation and regulatory files of the European Commission to identify upcoming items of legislation with the potential to influence and foster uptake of bio-based public procurement. Identify opportunities for favourable adaptation of such files.

- The action should also include a review of current legislation to identify barriers and opportunities for take-up of bio-based public procurement. In addition, action should be taken to stimulate and support similar initiatives for legislation at national and regional levels.

12. Bio-based Materials Directive. Consider a directive to mandate public procurement action for bio-based materials. The directive scope may be enlarged to address other bio-based sector growth mechanisms and aims, allowing member states to determine the instruments most relevant to them.

- A Bio-based Materials Directive should be comprehensively explored in order to identify and articulate viable legislative measures. For instance a hierarchy of targets for different materials and applications categories could be considered, based on volumes, impact, availability and timing. Inspiration should also be drawn from the USDA

BioPreferred legislation which mandates ‘affirmative public procurement practices’, as opposed to ‘mandated targets’. The European Energy Taxation Directive should be considered as a model. Carbon or emissions trading schemes may be considered. Fiscal incentives such as refundable tax credits should be considered, as they are in the USA. Measures should be designed to provide 10-20 years of stability in order that long term regional, educational, financial, agricultural and industrial investments can be made in confidence and such stability should be enshrined in the legislation itself.

13. International Cooperation. Identify and collaborate with standards, labels and public and innovative procurement schemes outside the European Union. Establish shared approaches. Transfer home and localise successful approaches.

14. General Outreach. Conduct sustained campaigns of high quality communication, outreach and promotion of

sustainable bio-based products and of public procurement opportunities.

- It should include information campaigns by way of quality journalism in relevant media channels. There should be determined efforts to build bio-based public procurement through professional networks, conference events and through publicity for success stories, testimonies and inspiring leader figures. Industry and research stakeholders can be engaged to support outreach efforts by joint actions and synergies.
- Recognition of the terms ‘bio-based’ and ‘public procurement’ are generally low, outside of a small and close community of professionals. The basic notions and benefits are not immediately obvious to non-experts.

15. Permanent Coordination Initiative. Establish a full-time office dedicated to planning and implementation of a diverse package of measures for reaching ambitious targets for uptake of bio-based public procurement practices.

6.7 The European Trade policy

6.7.1 Free Trade Agreement between the European Union and Japan

On 20 November 2015 EOS attended the Civil Society meeting on “Free Trade Agreement between the European Union and Japan” where the Study entitled “Trade Sustainability Impact Assessment (TSIA) of the Free Trade Agreement between the European Union and Japan” was presented and discussed.

In particular, the document concludes that there is no negative impact on greenhouse gases and CO₂ emissions from the FTA ; indeed, **the agreement should favour relatively less energy and emission intensive sectors**, leading to a reallocation towards these cleaner sectors instead. “Lower trade barriers to environmental goods and services contribute to increased competition inducing greater innovation. This yields to positive environmental benefits with improved resource-use efficiency and pollution prevention. Nor will the FTA will induce a pressure on energy demand, nor imports of natural resources and waste production”. In particular **the case study on forestry concludes that sourcing timber within the EU will not**

lead to negative impacts. The risks are imports from third countries as both the EU and Japan are known to import significant volumes of high-risk timber.

In extreme synthesis, the Report emphasizes the following considerations:

- “Japan is not a major destination for EU exports, however, accounting for only about 0.9 per cent of total EU wood and paper exports. The sector accounted for about 3 per cent of total EU exports to Japan”.
- “FLEGT: Activities in Japan have been much more limited. In contrast to the EU, the Japanese government has preferred to pursue voluntary rather than regulatory measures. Its promotion of the country’s own legality verification system – the goho-wood system – has helped to raise awareness of the issue of illegal logging, but the system is only voluntary and suffers from serious design weaknesses, including a very loose definition of ‘legal’ and a general absence of any independent monitoring or verification of legality. In fact, the system may be inhibiting

the take-up of wood products certified under the main global sustainability certification schemes. Since 2006, public procurement policy has required the purchase of goho-wood products; sustainability is preferred but is not a requirement. The policy only applies to central government, however, not regional or local authorities, and there are no penalties for noncompliance”.

- “Japan’s imports of timber-sector products at high risk of illegality are estimated nevertheless to have declined since the start of the century.”
- **“Non-tariff barriers also appear to affect in particular the construction sector.** The Wood Use Points System, introduced in 2011, was designed to **favour the use of locally sourced wood in house-building**; buyers of new homes were eligible for rewards in proportion to the volume of local wood used. In December 2013, **the programme was extended to include the use of Douglas fir, regardless of its origin.** Douglas fir is a species native to the Western United States and Canada; although it is also grown in many other countries, including Japan, the decision had the greatest impact on US exports; it is estimated that more than 90 per cent of the softwood products exported from the US to Japan are Douglas fir”.
- “The revision of the **construction code, due to be complete by 2016, to encourage the widespread use of cross-laminated timber (CLT) in buildings**, displacing steel and concrete. The new standard for CLT published in December 2013 **initially did not permit one type of resin adhesive widely used in the EU. A revision of the standard in February 2014 allowed the adhesive, but only on a case-by-case basis after the submission of technical data and evaluation by committee.** More broadly, it is not yet clear whether the code will give priority to domestic species such as cedar over wood species used more commonly in the EU.

The European Sawmills Organisation (EOS) fears that the case study entitled “Timber” doesn’t sufficiently highlight the great importance of the EU-Japan trade for the entire European wood working industry. EOS recognises that several European countries (particularly, Romania, Austria, Sweden and Finland) depend on lumber and wood products exported to Japan.

Due to the importance of Japan as trade partner for the

Combined with the regulations on adhesives, this clearly poses a potential barrier to imports”.

- “Given the limited extent of the trade in wood and paper products between the EU and Japan, the potential impact of the FTA on bilateral trade in wood and paper products between the EU and Japan is accordingly not very high, though more important for EU exports to Japan than Japan’s exports to the EU”
- Recommendations of the Document:
 - “Exchange of information on best practice in public procurement policies for legal and sustainable timber, including efforts to reach mutually compatible and verifiable definitions of ‘legal’ and ‘sustainable’.
 - Exchange of information on the implementation of the EU Timber Regulation, with a view to providing assistance should Japan adopt similar legislation, including specific recognition of VPA licensed timber as meeting requirements for ‘legal’.
 - Encouragement for Japan to join existing VPAs, or negotiate similar such agreements, with countries exporting timber products to Japan, including in particular Malaysia, Indonesia and Vietnam”.

Generally speaking the “Trade Sustainability Impact Assessment” comes to the conclusion that the potential economic gains, outlined in the overall economic analysis, will not be outweighed by negative social and environmental impacts. **The EU-Japan FTA adheres to the objective of creating a ‘smart, sustainable and inclusive growth’.**

After attending the DG TRADE “Social Dialogue” held in Brussels on 20 November 2015, EOS invited the EU Commission and the LSE Enterprise that was responsible for the stakeholder consultation conducted as part of the TSIA of the EU-Japan Free Trade Agreement to take into consideration the following comments.

European forest based industry and in particular for the European sawmills, EOS hopes that the EU Commission will be vigilant in order to assure a fair and balance free trade agreement.

According to the information that EOS has received by its members active in Japan, the following tariff barriers are still in place:

- Lumber (HS Code beginning with 440710): 4.8%

- Glue Lam Timber and edge glued boards (HS Code beginning with 441890): 3.9%
- Edge glued panels are charged with 6.0% upon arrival.
- These tariffs shall be removed in order to create an effective level playing field.

Moreover, EOS highlights that the European Commission should put a strong focus on NTBs which significantly hamper market access for EU companies in Japan in many sectors, including the sawmill industries.

Regretfully EOS considers that the Japanese construction code for CLT – so far presented by the Japanese competent authorities – represents an unintended non tariff barrier. Indeed Europe's CLT products won't be allowed to be sold on the Japanese market. Indeed cedar wood specie is not used in the European industrial processing and EPI-resins are not used in any established European CLT production.

Copy of the final report is available at the following link :

http://www.tsia-eujapantrade.com/uploads/4/0/4/6/40469485/tsia_final_report.pdf

6.7.2 MES: the market economy status for China

On 27 January 2016, EOS attended the conference organised by Business Europe (European Business Associations) on *“China's “new normal”: what's in it for businesses?”*

Speakers of the event were: Mrs Cecilia Malmström, European Commissioner for Trade, the President of the European Union Chamber of Commerce, Joerg Wuttke, and Mr. Jo Leinen, Member of the European Parliament and Chair of the Delegation for Relations with the People's Republic of China.

This event was dedicated to the possibility for China to grant the market economy status (MES). Indeed China argues that its WTO accession documents foresee an automatic acquisition of MES after 11 December 2016 as in the subparagraph of Section 15 of China's Protocol of Accession to the WTO.

At the moment, the European Commission and the European Parliament are investigating and discussing on whether or not China must be granted market economy status after 2016 and what methodology could be used by the EU in its anti-dumping investigations into Chinese goods.

Mrs Cecilia Malmström, Commissioner for Trade, was present to this event and she underlined the following points;

- “This year, most economists are predicting a further slowdown in growth for China. President Xi himself said

that 6.5% is the minimum target for the year. Rates like that are a significant drop from over 10% in 2010”;

- “China has a massive stake in its relationship with the European Union. Up to now, that stake has been measured mostly on manufactured goods exports. But this is changing indeed, last year services overtook manufacturing in China's GDP. As a matter of fact, Chinese investment flows into the EU have also been on the increase. It will not come as a surprise if one day in the near future they overtake EU investment flows into China.
- It is clear that certain provisions of China's protocol of accession to the WTO related to this issue will expire in December. The Commission is now examining the implications of this, including the economic impact of any change to our anti-dumping rules, for all Member States and for all sectors.

Commissioner Mrs Malmström recalled that the ongoing negotiations for an **EU-China bilateral investment agreement** aims at facilitating European investors in the Chinese market and to improve the balance between investment protection, sustainable development and the capacity of states to regulate in the public interest.

Key information provided by the European Union Chamber of Commerce

- In 2014, China exported euro (EUR) 302.6 billion in goods to Europe, compared with Europe's exports to China which total 164.7 billion EUR. At the same time, the EU's trade deficit with China grew to EUR 137.8 billion in 2014.

- On 30th June, 2015, China submitted its intention to the United Nations Framework Convention on Climate Change (UNFCCC) secretariat to **increase its forest stock volume by around 4.5 billion m³ by 2030 against 2005 levels**.
- Statistics of the European Union Chamber of Commerce report that “current wood consumption in China amounts to approximately 500 million m³, 50 % of which depends on the import of wood and wood materials. And by 2020, China’s wood consumption is estimated to reach 800 million m³. This indicates that **imported timber will continue to play an important role in the coming 20 to 30 years**, despite the fact that China is the world leader in wood plantations”.
- In March 2014 the National New-Type Urbanisation Plan was published in order to enhance China’s urbanisation with specified targets and environmentally-friendly measures up until 2020. This plan will serve as an engine for sustainable, healthy economic growth and support China in achieving its ecological and energy targets. As part of the plan, the Chinese Government aims to lift the **urbanisation rate from the current 54 per cent to 60 per cent by 2020**. One of the element presents in the National New-Type Urbanisation Plan is the objective of reducing building energy consumption and carbon dioxide (CO₂) emissions, both in new construction and existing buildings;
Consideration of the European Union Chamber of Commerce: “The current lack of transparency in the process of developing or modifying building codes and standards in China undermines the credibility of the process. Assessment Building codes ensure the health and safety of building occupants and the general public. However, **many current building codes in China pay little attention to design verification, project execution and building operational performance**, in compliance with approved designs and codes”.
- In 2013, the revision of several building application standards was postponed due to the long-delayed **revision of the National Building Fire Design Code**. Although **the revised code is yet to be released**, local authorities have already developed regional-specific interpretations and local requirements.
In March 2015, the MOHURD (Ministry of Housing and Urban-Rural Development) and the MIIT (Ministry of Industry and Information Technology) started to revise the Green Building Material Evaluation Guideline. In this guideline, it states: “**Provisions shall not use flame retardants containing halogen. Flame retardants for environmental issues shall clearly identify what kind of flame retardant for persistent organic pollutants (POPs) are used.**”
- Overall **public procurement in China represents well over 20% of China’s rapidly growing economy**. According to the European Union Chamber of Commerce the regulatory framework governing this “enormous and increasing amount of economic activity is fragmented, inconsistent and unevenly implemented. Common challenges encountered by EU businesses when competing for public contracts included:
 - Difficulty in obtaining timely, accurate information about upcoming projects;
 - Lack of communication of detailed evaluation criteria for projects;
 - Trend towards decentralization of tenders leading to more costs, less transparency;
 - Unfair implementation of public procurement awards;
 - Unsatisfactory appeals procedures”.

6.7.3 UKRAINE: Logs export ban from Ukraine

Last April 2016, EOS Secretariat was officially informed that the Government of Ukraine has started to amend its national law -Ukrainian Law Nr. 325-VIII (09.04.2015) – **that stipulates a temporary ban for unprocessed wood** including raw wood, such as roundwood in the form of logs, poles etc. with moisture content exceeding 22% and sawn timber with the thickness exceeding 70 mm and moisture content more than 22%. Indeed, the moratorium on export of raw wood has been in place since the 1 November 2015

(for further information, please see EOS Circular letter n°1_16, 51_15, 38_15 and 15_15) and it temporarily prohibits (10 years) the exportation outside the customs territory of Ukraine of untreated wood from all tree species (customs classification code 4403), except pine - from November 1, 2015, including pine - from January 1, 2017.

The revision of the Ukrainian Law Nr. 325-VIII is in the framework of the EU-Ukraine Association Agreement.



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In particular, the Ministry of development and trade of Ukraine presented to the European Commission an **amended proposal of the Ukrainian Law Nr. 325-VIII** in order to introduce a temporary mechanism for regulating the wood markets and preventing shortage of raw materials for domestic manufactures.

Specifically, according to the proposal for amendments, **80% of the wood resources will be sold in auctions** (with 3 years of transition) and 20% by direct contracts.

The auctions will be organized in 2 “stages”:

- STAGE 1: Auction for residents of Ukraine (without the right to export);
- STAGE 2: Residual volume of wood is auctioned for non-residents of Ukraine (with the right to export).

At the end of the transition period (3 years long), the auctions will be open to domestic producers and so called “non residents” both with the right of export.

In addition to these new proposals, the Ministry of development and trade of Ukraine informed the European Commission that **a new system for the origin of wood products will be established**. This certification system will be mandatory for all wood products.

7. HIGH LEVEL CONFERENCES CO-ORGANIZED BY EOS

7.1 The 10th International Softwood Conference, Amsterdam 2015

On 5-6 November 2015, the city of Amsterdam hosted the 10th edition of the International Softwood Conference. The event, co-organised by EOS, the European Timber Trade Federation (ETTF) and the Netherlands Timber Trade Association (NTTA), it reflected a softwood sector becoming increasingly globalised, and contending simultaneously with market, structural and technical change. The view of the November Amsterdam event was that softwood is largely through the recession, but remains in recovery mode and facing some ongoing challenges.

EOS president Sampsa Auvinen agreed the EU was out of recession, but it remained a 'roller coaster of market

ups and downs'. *"The concern is production out-running consumption,"* he said. *"We're seeing good recovery in some countries, but overall growth is slow, with EU construction expected to rise just 1-2% this year. There's talk of a decrease in EOS country softwood output to 79.6 million m³ this year in line with demand, but so far it's not apparent."*

Additionally, EOS Presided stressed that *"long-term prospects were good with China regaining momentum and new markets emerging, including Poland and Iran. But Europe's short-term prospects looked weak and if mills wanted to seek relief in volatile emerging markets "their production must react to demand fluctuations quicker".*



7.1.1 Summary of the main market elements

All this information is based on the presentations given during the 10th International Softwood Conference

The global sawn softwood production has been consistently growing for some years: 275 million m³ were produced in 2010 and the figure climbed to 315 million m³ in 2014. Rising production has been driven mainly by **North America** (+3.5% to 95.7 million m³) and **China**, which from 2010 to 2014 has seen its production almost doubling, reaching 28.8 million m³. **Europe** (without Russia) remains the largest producer with 101 m³. Even global consumption has been on the rise since 2010 (from 272 million m³ in 2010 to 313 million m³ in 2014). Europe, which is also growing, has been almost reached as the largest consumer by North America (86.5 million m³ vs 85.6). **China** has almost doubled its consumption (to 47.3 million m³ in 2014) since 2010. Per capita sawn softwood consumption is concentrated in northern countries, while there is significant scope for growth in developing countries and also in Southern and Eastern Europe. Global trade is rising since 2009, Canada (40 million m³), Russia (about 21 million m³), and Sweden (12 million m³) are the three biggest exporters, while the US (29 million m³), China (18 million m³), and Japan (6 million m³) are the three largest importers.

Amidst a challenging overall economic context, sawn softwood demand has been flat with improvements in some European countries. Demand is expected to grow slowly, but the biggest issue is oversupply. **Europe** (minus Russia) in 2015 accounts for 23% of global production and 22% of global consumption. In terms of production, in the EOS countries¹, the Nordic countries (with the exception of Finland), Austria and Latvia are doing well, while in Germany, after a drop in 2015, growth is expected to resume in 2016. France, Switzerland, and the UK have also seen a decrease of production. In terms of consumption, the most significant increases have been registered in Sweden, Latvia and Austria, while France's consumption is dropping sharply, and Germany and Italy have also seen a decrease in consumption. Log availability has been increasing for the last few years, but in 2016 a drop is likely. As for trade, Sweden remains the biggest exporter, followed by Finland (7 million m³) and Germany (6 million m³). These countries have all experienced a growth in exports in 2014 compared with 2013. The UK remains the biggest importer of sawn

softwood with 5 million m³, followed by Italy and Germany (both around 4 million m³).

As far as the construction market is concerned, the value of EU construction in August 2015 is still 5% lower than in 2010 and 20% down on 2008, before the global financial crisis. The construction confidence is still low across the EU and in 2015 building permits are still significantly below the 2010 level, with the exception of Germany, which is 15% above its 2010 level. Both the sales of windows (wood has a market share of 20% in this sector) and the sales of doors have probably hit rock bottom in 2013 but in 2014 the recovery has been slow: +1.6% in the unit sales of windows in 2014 and +1.6% in the total value of wood doors supplied to the EU28. Overall, for Europe, although it seems that the political situation has stabilized, unpredictability is likely to continue with slow economic growth. Demand from overseas markets is not likely to increase in the short term. Exchange rate fluctuations will continue to affect the industry. As the European sawmilling industry is more and more dependent on volatile emerging economies it will need to react faster to changes in demand.

Both **Canada** and the **US** have been experiencing growth of sawn softwood production and sawn softwood consumption since 2009 and growth is expected to continue into 2016 (the US are expected to produce 54 million m³, while Canada 44.5). Canada is taking advantage of the sharp increase in Chinese consumption as in August 2015 it accounted for 36% of China softwood lumber imports. Canada has one third of all world exports. The US import mainly from Canada and their exports account for around 25% of the global imports. Housing starts in the last few years have been very volatile: they were 1.5 million before the crisis, reached a trough of 0.5 in 2009 and in 2014 they attained again 1 million.

Chinese economy is slowing down, impacting raw materials across the globe. The Chinese economy grew in 2015 by 6.9 percent in the July-to-September quarter from a year earlier. **China** is the world's second largest market for sawn timber and therefore very important. There is also general uncertainty because of the stock market turbulence and devaluation of the currency. The underlying long term demand is expected to grow as an estimated 300

1. Austria, Belgium, Denmark, Finland, France, Germany, Italy, Latvia, Norway, Romania, Sweden, Switzerland, United Kingdom

million people are moving to cities. China is committed to increasing the use of wood in future construction. Also, as China will ease family planning restrictions to allow all couples to have two children demand for ecologically built houses will increase.

Russia, which is characterized by macroeconomic volatility – the rouble has sharply depreciated since 2013 vis-à-vis the main currencies –, is increasing capacity and modernizing wood working facilities in Siberia, where several forests are present. Currently, Russia accounts for 44% of China imports. The growth in exports to China (in H1 2015 4.6 million m³) due to increasing Chinese consumption is more than offsetting the drop in exports to the CIS region. Exports to Europe are overall stable (at around 1.5 million m³ in H1 2015), while exports to the MENA region grew, distancing the exports to Europe. Russia exports a considerable quantity of logs to China, a figure which is stable at around 10 million m³ a year in the period 2012-2014. Overall Russia is a net exporter as in 2015 it produces around 32 million m³ of softwood and it consumes around 10 million m³.

The **MENA** area, which is characterized by a very young population but also by a volatile political situation, is an attractive “new market” of vital importance for European countries. In the last few years Russia exports to the area have been declining after a peak of more than 4 million m³ (rolling 12 months, at the beginning of 2011); in mid 2015 it exported slightly less than 3 million m³ to the region, while Sweden, Finland have seen an increase of the exports to the area, reaching respectively 3.5 million m³ and 3 million m³ in mid 2015. Romania is also very active in the area.

Japan, in spite of an aging and declining population, also represents an important destination for European lumber exports. Indeed, as of 2014, it consumed 28 million m³ a year of lumber, of which 10 million was imported. Lumber imported from Europe was just 7% of the total in 1995, while in 2014 it reached 39% (more than 2 million m³). The share of wooden houses is projected to slightly increase over



the next decades, reaching 54% in 2030. The government, however, is aiming to increase the self-sufficiency rate from 30% to 50%. Due to this, and the aging of population, the long-term prospects are challenging.

Two European Federations were also present at the Conference. **The European Wooden Packaging and Pallet Market** (FEFPEB) promotes, defends and furthers the interests of the EU WPM industry. It is active in the sectors of pallets, industrial and light weight packaging. It represents a share of 25% EU annually sawn timber, 9952 enterprises and 80000 employees. Its aim is to unite the lobbying efforts with EOS and ETTF to ensure that EU regulations and directives/decisions are reasonable, feasible and affordable.

The **Confederation of European Paper Industries** (CEPI), which represents the paper industry, is experiencing tough times, as its turnover has been overall slightly decreasing in the last 15 years. Europe's paper industry adds 15 billion euro a year to the European GDP. It includes 515 companies and 22% of paper production is exported. In 2014 its members produced 91 million tonnes, substantially the same level than in 2013 but 10.8% lower than in 2007. Germany produced more than 22 million tonnes, which is more than the combined sum of the second and third country producer, respectively Sweden and Finland, which both produced around 10 million tonnes.

7.2 7th International Hardwood Conference, Copenhagen 2015

7.2.1 The International Hardwood Conference

On 16-18 September 2015, EOS jointly with the European Timber Trade Federation and in strong co-operation with the Danish Sawmill Association and the Danish Timber Trade Federation organized the **7th International Hardwood Conference, in Copenhagen.**

As stated by EOS President Mr Auvinen, the conference offered a clear overview of the global hardwood trade and new market opportunities for hardwood. In terms of promotion, therefore, Mr Auvinen highlighted that it is very important that our industry recognize and target not only the high-volume manufacturing sectors of today

and tomorrow, but new market opportunities and niches within well-established, so-called “mature” markets should be explored. With the development of policies to reduce CO2 emissions, especially in the building sector, the need to promote strong “environmental credentials” of wood and hardwood products is more important than ever. EOS President stressed that “an effective promotion should help create new opportunities in the construction and in the furniture sector. The woods used for hardwood furniture, such as oak, mahogany and mango, all have natural beauty, bringing the warmth of real wood to your home and contributes to climate change mitigation”.



7.2.2 Key market elements highlighted during the International Hardwood Conference

This information is based on the presentations given during the 7th International Hardwood Conference.

The value of global hardwood trade in 2014 was around 39 billion US dollars. Logs became the most traded product with 11 billion dollars, closely followed by sawn and plywood.

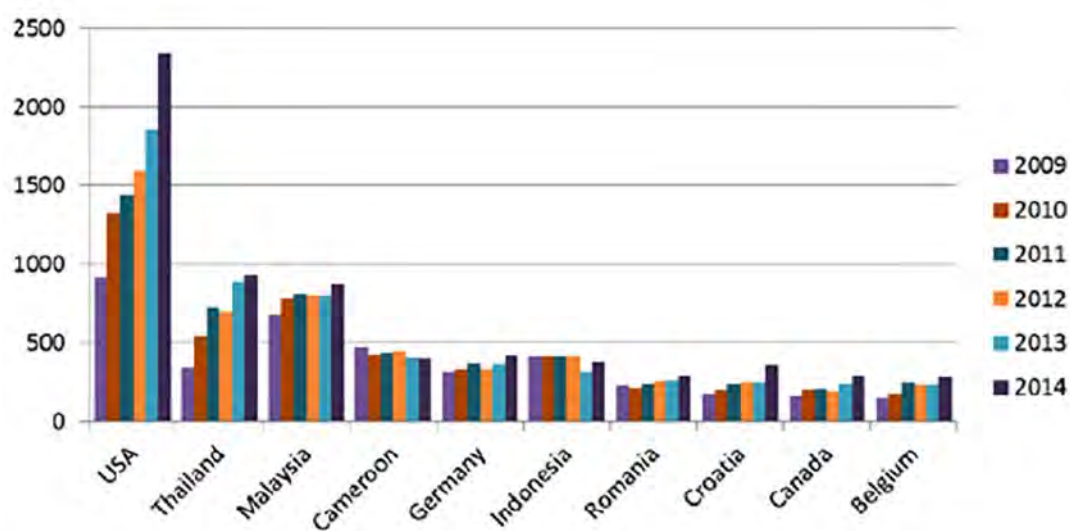
Mouldings' and veneers' trade had a value of about 2 billion dollars each. After some years of impressive growth, China in 2014 edged Europe and became the largest importer of the world with a trade that had a value of 12 billion dollars (Europe 11 billion dollars). North America, with 4 billion dollars, is the third macro-region. Regarding the exports,

Europe remains the most important region, with almost 9 billion dollars, followed by South East Asia (7 billion), and China (6). The temperate sawn hardwood remains the most traded with 11 million m³, surpassing the 2007 level for the first time in the last few years, while 9 million m³ of tropical sawn hardwood were harvested. Overall the US is by far the largest exporters of hardwood in general and of temperate hardwood in particular, and saw their exports soaring over the period from 2009 to 2014, reaching almost 4 million m³. Croatia exported 900,000 m³, and Romania around 750,000. As far as the tropical hardwood is concerned, Thailand (2.8

million m³) is the largest exporter, followed by Malaysia (2 million m³, and its share is slightly decreasing over the last few years. Regarding the imports, China is mainly importing from the Mekong area (more than 3 million m³) and the US (almost 1.9 m³). Europe exports to China are also growing (0.6 million m³).

Regarding the value generated by exports, the figure below shows that the US also lead in this dimension and have been experiencing very high growth for years.

Figure 7.1: The world's 10 largest hardwood exporters 2009-2014 (\$ million)



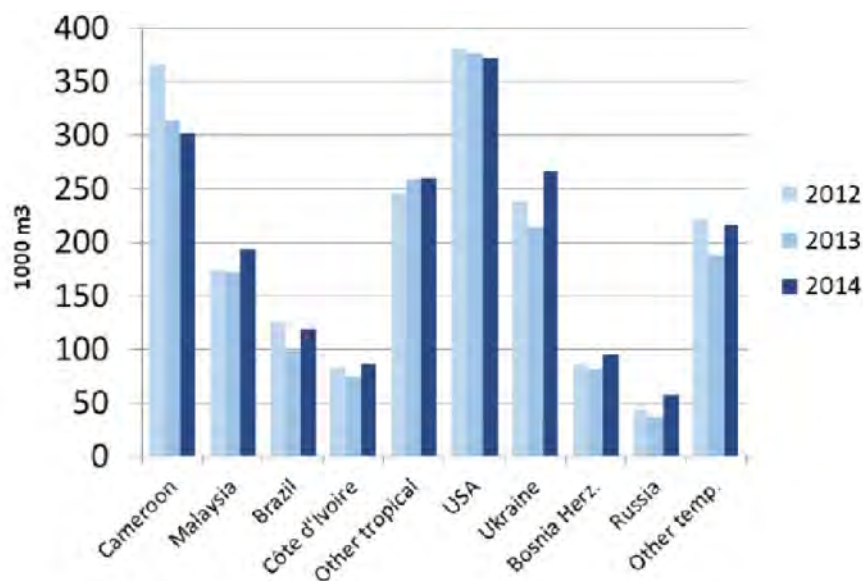
Source: Global Trade Atlas

The American Hardwood Export Council emphasizes that, in testing times for hardwood industries in **Europe** and in a market where there is evidence of long term trends of falling hardwood consumption, there is a strong need of finding new markets and of better promoting the material; the industry needs to provide more technical information and performance data and has to be innovative. Having a closer look at the data, the UN estimate that European sawn production increased 8% to 11.66 million m³ in 2014. Production in EU28 increased 9% to 10.2 million m³ in 2014.

Production in other European countries (mainly Ukraine, Serbia, Bosnia and Belarus) stayed level at 1.46 million m³ in 2014. EU28 sawn hardwood imports were 1.97 million m³ in 2014, 9% up on 2013 but 54% down on pre-recession EU28 peak; imports of sawn tropical hardwood were 960,000 m³ in

2014, 5% up on 2013 but 63% down on pre-recession EU28 peak; imports of sawn temperate hardwood were 1 million m³ in 2014, 12% up on 2013 but 41% down on pre-recession peak. The largest exporters, which followed Croatia and Romania, were Germany, France and Latvia, while Italy, with 700,000 m³ is by far the largest importer, followed by the UK and Belgium, which in 2014 imported a little more than 400,000 m³ of hardwood.

The table below shows the main suppliers of the EU countries in the last three years. Cameroon remains the most important supplier of tropical hardwood, albeit with a decreasing quantity. Malaysia instead has seen a relevant increase of its exports to the EU (+13% 2014/2013). The US is by far the most relevant supplier of temperate hardwood. Ukraine is the third largest exporter to the EU and sees a sharp increase of volumes sold (250,000 m³).

Figure 7.2: EU28 sawn hardwood imports. Years 2012-2014 by main supplier (million m³)

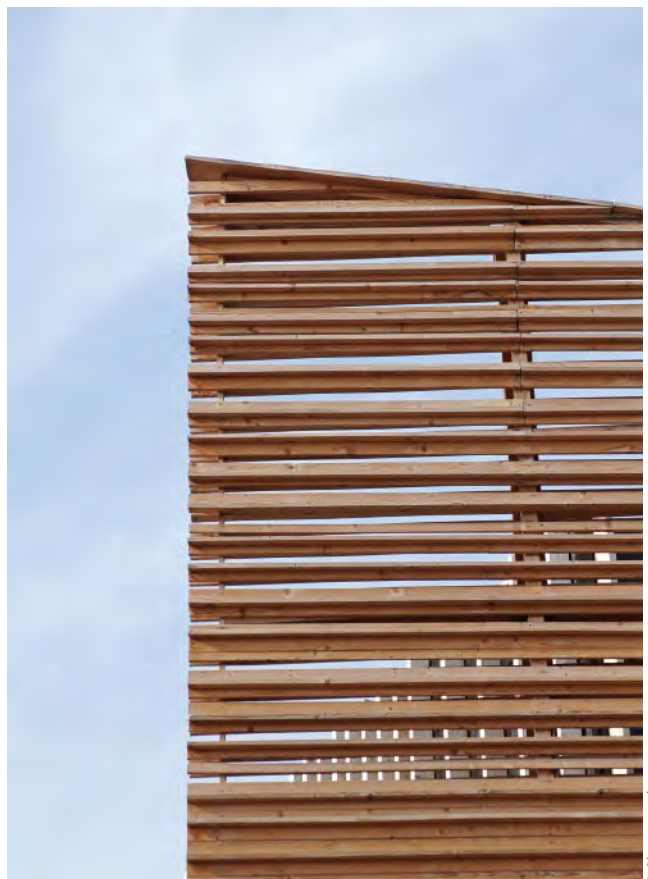
(Source: Estimates by ITTO IMM from Eurostat COMEXT data. Includes only extra imports and excludes all internal trade.)

Regarding **Asia, India**, which has a young and growing population and is characterized by a remarkable GDP growth, is already an important market for logs, as in 2014 it imported more than 6 million m³, while imports of sawnwood are in the region of 400.000 m³. Europe's share in India imports are low, it seems that there is scope for growth. India's main tropical hardwood products are destined to domestic markets and exports, mainly to the Middle East.

In **China**, which has a fast growing economy projected to increase the consumption of raw materials, there are several trends: a preference for high value goods which favours imports, but also in the last few years a devaluation of the yuan has been taking place, which favours exports. China's production costs are rising, which makes the country less competitive than before. In 2014 China imported almost 16 million logs from several countries all over the world. Its log imports are growing mainly from Papua New Guinea, the Solomon Islands and the EU. As far as sawnwood is concerned, China imported around 15 million m³ (of which less than 2 million from Europe, which has seen its share decreasing in the last few years).

Vietnam also represents a fast-growing market for timber. In 2013 its exports reached 7 million m³ of timber (in 2009 it was still 3 million). The volume of its imports, which were soaring up until 2007, stabilized since at a level slightly

below 5 million m³. Overall, Vietnam is characterized by a high wood consumption and is very export oriented. One of its aims is to enter many bilateral and multilateral agreements to access markets.



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8. European Standardisation – Update

CEN/TC 124 “Timber structures”



Chairperson : Mr Frédéric Rouger

Secretary : Mr François Ravasse

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Structure of the technical committee

Reference	Title	Convenor
CEN/TC124/WG 1	Test methods	Christophe Sigrist
CEN/TC124/WG 2	Solid timber	Frédéric Rouger Joint convenor Antony Fewell
CEN/TC124/WG 3	Glued laminated timber	Tobias Wiegand
CEN/TC124/WG 4	Connectors	Hilmer Riberholt
CEN/TC124/WG 5	Prefabricated wall, floor and roof elements	Simon Aicher
CEN/TC124/WG 6	Wood poles	Willie Clason

Published standards

Reference, Title	Publication date
EN 1075:2014 Timber structures - Test methods - Joints made with punched metal plate fasteners	2014-12-17
EN 12512:2001 Timber structures - Test methods - Cyclic testing of joints made with mechanical fasteners	2001-11-21
EN 12512:2001/A1:2005 Timber Structures - Test methods - Cyclic testing of joints made with mechanical fasteners	2005-09-28
EN 13271:2001 Timber fasteners - Characteristic load-carrying capacities and slip-moduli for connector joints	2001-11-21
EN 13271:2001/AC:2003 Timber fasteners - Characteristic load-carrying capacities and slip-moduli for connector joints	2003-09-24
EN 1380:2009 Timber structures - Test methods - Load bearing nails, screws, dowels and bolts	2009-04-01
EN 1381: 2016 Timber structures - Test methods - Load bearing stapled joints	2016-02-17
EN 1382: 2016 Timber structures - Test methods - Withdrawal capacity of timber fasteners	2016-02-17
EN 1383: 2016 Timber structures - Test methods - Pull through resistance of timber fasteners	2016-02-17
EN 14080:2013 Timber structures - Glued laminated timber and glued solid timber – Requirements	2013-06-26
EN 14081-1: 2016 Timber structures - Strength graded structural timber with rectangular cross section - Part 1: General requirements	2016-02-10
EN 14081-2:2010+A1:2012 Timber structures - Strength graded structural timber with rectangular cross section - Part 2: Machine grading; additional requirements for initial type testing	2012-11-28
EN 14081-3:2012 Timber structures - Strength graded structural timber with rectangular cross section - Part 3: Machine grading; additional requirements for factory production control	2012-01-25
EN 14229:2010 Structural timber - Wood poles for overhead lines	2010-10-06

Reference, Title	Publication date
EN 14250:2010 Timber structures - Product requirements for prefabricated structural members assembled with punched metal plate fasteners	2010-01-27
EN 14251:2003 Structural round timber - Test methods	2003-12-03
EN 14358:2006 Timber structures - Calculation of characteristic 5-percentile values and acceptance criteria for a sample	2006-12-06
EN 14374:2004 Timber structures - Structural laminated veneer lumber – Requirements	2004-11-24
EN 14545:2008 Timber structures - Connectors – Requirements	2008-10-01
EN 14592:2008+A1:2012 Timber structures - Dowel-type fasteners – Requirements	2012-05-23
EN 15228:2009 Structural timber - Structural timber preservative treated against biological attack	2009-03-25
EN 15497:2014 Structural finger jointed solid timber - Performance requirements and minimum production requirements	2014-04-30
EN 15736:2009 Timber Structures - Test methods - Withdrawal capacity of punched metal plate fasteners in handling and erection of prefabricated trusses	2009-08-19
EN 15737:2009 Timber Structures - Test methods - Torsional resistance of driving in screws	2009-08-19
EN 16351:2015 Timber Structures – Cross laminated timber - Requirements	2015-10-14
EN 1912:2012 Structural Timber - Strength classes - Assignment of visual grades and species	2012-04-18
EN 1912:2012/AC:2013 Structural Timber - Strength classes - Assignment of visual grades and species	2013-08-21
EN 26891:1991 Timber structures - Joints made with mechanical fasteners - General principles for the determination of strength and deformation characteristics (ISO 6891:1983)	1991-02-21
EN 336:2013 Structural timber - Sizes, permitted deviations	2013-10-02
EN 338:2016 Structural timber - Strength classes	2016-04-06
EN 380:1993 Timber structures - Test methods - General principles for static load testing	1993-07-18
EN 383:2007 Timber Structures - Test methods - Determination of embedment strength and foundation values for dowel type fasteners	2007-01-10
EN 384:2010 Structural timber - Determination of characteristic values of mechanical properties and density	2010-04-07
EN 408:2010+A1:2012 Timber structures - Structural timber and glued laminated timber - Determination of some physical and mechanical properties	2012-07-25
EN 409:2009 Timber structures - Test methods - Determination of the yield moment of dowel type fasteners	2009-04-01
EN 594:2011 Timber structures - Test methods - Racking strength and stiffness of timber frame wall panels	2011-06-29
EN 595:1995 Timber structures - Test methods - Test of trusses for the determination of strength and deformation behaviour	1995-03-22
EN 596:1995 Timber structures - Test methods - Soft body impact test of timber framed walls	1995-03-22
EN 789:2004 Timber structures - Test methods - Determination of mechanical properties of wood based panels	2004-10-20
EN 912:2011 Timber fasteners - Specifications for connectors for timbers	2011-07-13
EN ISO 8970:2010 Timber structures - Testing of joints made with mechanical fasteners - Requirements for wood density (ISO 8970:2010)	2010-06-15

Pending standards

Project reference	Status	Initial Date	(Forecasted) voting date
prEN 14081-2 Timber structures – Strength graded structural timber with rectangular cross section – Part 2: Machine grading ; additional requirements for initial type testing	Under Approval	2016-01-12	2017-04-12
EN 14081-3 :2012 :prA1 Timber structures – Strength graded structural timber with rectangular cross section – Part 3 : Machine grading ; additional requirements for factory production control	Under Approval	2016-01-13	2017-04-12
EN 14358 :2016 Timber structures - Calculation and verification of characteristic values	Approved	2013-06-10	2015-07-22
prEN 14374 Timber structures – laminated veneer lumber (LVL) - Requirements	Under Approval	2015-10-20	2017-04-19
prEN 14592 rev Timber structures - Dowel-type fasteners – Requirements	Under Drafting	2015-05-12	2017-06-28
prEN 16737: 2016 Structural timber - Visual strength grading of tropical hardwood	Approved	2013-06-10	2015-09-24
FprEN 16784 Timber Structures - Test methods - Determination of the long term behaviour of coated and uncoated dowel-type fasteners	Approved	2013-06-10	2015-10-06
EN 384:2016 Structural timber - Determination of characteristic values of mechanical properties and density	Approved	2013-06-10	2015-07-17
prEN 16929 Test methods - Timber flooring systems - Determination of vibration properties	Under Approval	2015-05-12	2016-09-29
prEN ISO 8970 Timber structures – Testing of joints made with mechanical fasteners – Requirements for wood density	Under Drafting	2015-10-13	2017-11-02

CEN/TC 175 “Round and Sawn Timber”

Chairperson: Mr Philippe Pangault

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Structure of the technical committee

Reference	Title
CEN/TC 175/WG 1	General matters, definitions, measurement methods
CEN/TC 175/WG 2	Sawn timber
CEN/TC 175/WG 4	Round timber
CEN/TC 175/WG 30	Specific user requirements - Consolidation
CEN/TC 175/WG 32	Specific user requirements - Timber in joinery
CEN/TC 175/WG 33	Specific user requirements - Timber in flooring
CEN/TC 175/WG 34	Specific user requirements - Timber in packaging and pallets
CEN/TC 175/WG 36	Specific user requirements - Other timber products
CEN/TC 175/WG 37	Specific user requirements - Timber in stairs
CEN/TC 175/WG 38	Specific user requirements - Timber in cladding and panelling
CEN/TC 175/WG 39	Specific user requirements - Fire retardant treated wood

Published standards

Reference, Title	Publication date
CEN/TS 12169:2008 Criteria for the assessment of conformity of a lot of sawn timber	2008-01-30
CEN/TS 13307-2:2009 Laminated and finger jointed timber blanks and semi-finished profiles for non-structural uses - Part 2: Production control	2009-12-02
CEN/TS 14464:2010 Sawn timber - Method for assessment of case-hardening	2010-07-21
CEN/TS 15676:2007 Wood flooring - Slip resistance - Pendulum test	2007-11-21
CEN/TS 15679:2007 Thermal Modified Timber - Definitions and characteristics	2007-11-28
CEN/TS 15680:2007 Prefabricated timber stairs - Mechanical test methods	2007-11-28
CEN/TS 15717:2008 Parquet flooring - General guideline for installation	2008-04-16
CEN/TS 15912:2012 Durability of reaction to fire performance - Classes of fire-retardant treated wood-based product in interior and exterior end use applications	2012-04-18
EN 12246:1999 Quality classification of timber used in pallets and packaging	1999-06-23
EN 12248:1999 Sawn timber used in industrial packaging - Permitted deviations and preferential sizes	1999-06-23
EN 12249:1999 Sawn timber used in pallets - Permitted deviations and guidelines for dimensions	1999-06-23
EN 1309-1:1997 Round and sawn timber - Method of measurement of dimensions - Part 1: Sawn timber	1997-04-23
EN 1309-2:2006 Round and sawn timber - Method of measurement of dimensions - Part 2: Round timber - Requirements for measurement and volume calculation rules	2006-03-15

Reference, Title	Publication date
EN 1310:1997 Round and sawn timber - Method of measurement of features	1997-04-23
EN 1311:1997 Round and sawn timber - Method of measurement of biological degrade	1997-04-23
EN 1312:1997 Round and sawn timber - Determination of the batch volume of sawn timber	1997-02-19
EN 1313-1:2010 Round and sawn timber - Permitted deviations and preferred sizes - Part 1: Softwood sawn timber	2010-01-27
EN 1313-2:1998 Round and sawn timber - Permitted deviations and preferred sizes - Part 2: Hardwood sawn timber	1998-11-18
EN 1313-2:1998/AC:1999 Round and sawn timber - Permitted deviations and preferred sizes - Part 2: Hardwood sawn timber	1999-06-30
EN 1315:2010 Dimensional classification of round timber	2010-01-27
EN 1316-1:2012 Hardwood round timber - Qualitative classification - Part 1: Oak and beech	2012-10-17
EN 1316-2:2012 Hardwood round timber - Qualitative classification - Part 2: Poplar	2012-10-17
EN 13183-1:2002 Moisture content of a piece of sawn timber - Part 1: Determination by oven dry method	2002-04-17
EN 14076:2013 Moisture content of a piece of sawn timber - Part 1: Determination by oven dry method	2003-09-17
EN 13183-2:2002 Moisture content of a piece of sawn timber - Part 2: Estimation by electrical resistance method	2002-04-17
EN 13183-2:2002/AC:2003 Moisture content of a piece of sawn timber - Part 2: Estimation by electrical resistance method	2003-09-17
EN 13183-3:2005 Moisture content of a piece of sawn timber - Part 3: Estimation by capacitance method	2005-03-16
EN 13226:2009 Wood flooring - Solid parquet elements with grooves and/or tongues	2009-05-27
EN 13227:2002 Wood flooring - Solid lamparquet products	2002-12-18
EN 13227:2002/AC:2007 Wood flooring - Solid lamparquet products	2007-06-27
EN 13228:2011 Wood flooring - Solid wood overlay flooring elements including blocks with an interlocking system	2011-05-18
EN 13307-1:2006 Timber blanks and semi-finished profiles for non-structural uses - Part 1: Requirements	2006-11-08
EN 13442:2013 Wood flooring and wood panelling and cladding - Determination of the resistance to chemical agents	2013-03-13
EN 13488:2002 Wood flooring - Mosaic parquet elements	2002-12-18
EN 13489:2002 Wood flooring - Multi-layer parquet elements	2002-12-18
EN 13556:2003 Round and sawn timber - Nomenclature of timbers used in Europe	2003-06-25
EN 13629:2012 Wood flooring - Solid individual and pre-assembled hardwood boards	2012-04-11
EN 13647:2011 Wood flooring and wood panelling and cladding - Determination of geometrical characteristics	2011-05-18
EN 13696:2008 Wood flooring - Test methods to determine elasticity and resistance to wear and impact resistance	2008-12-10
EN 13756:2002 Wood flooring - Terminology	2002-12-11
EN 13990:2004 Wood flooring - Solid softwood floor boards	2004-02-11
EN 14076:2013 Timber stairs - Terminology	2013-12-11
EN 14220:2006 Timber and wood-based materials in external windows, external door leaves and external doorframes - Requirements and specifications	2006-11-08

Reference, Title	Publication date
EN 14221:2006 Timber and wood-based materials in internal windows, internal door leaves and internal doorframes - Requirements and specifications	2006-11-08
EN 14298:2004 Sawn timber - Assessment of drying quality	2004-11-03
EN 14342:2013 Wood flooring and parquet - Characteristics, evaluation of conformity and marking	2013-07-10
EN 1438:1998 Symbols for timber and wood-based products	1998-08-19
EN 14519:2005 Solid softwood panelling and cladding - Machined profiles with tongue and groove	2005-12-21
EN 14761:2006+A1:2008 Wood flooring - Solid wood parquet - Vertical finger, wide finger and module brick	2008-07-09
EN 14762:2006 Wood flooring - Sampling procedures for evaluation of conformity	2006-02-15
EN 14915:2013 Solid wood panelling and cladding - Characteristics, evaluation of conformity and marking	2013-09-25
EN 14951:2006 Solid hardwood panelling and cladding - Machined profiles elements	2006-03-15
EN 15146:2006 Solid softwood panelling and cladding - Machined profiles without tongue and groove	2006-12-13
EN 1533:2010 Wood flooring - Determination of bending strength under static load - Test methods	2010-08-04
EN 1534:2010 Wood flooring - Determination of resistance to indentation - Test method	2010-10-27
EN 15644:2008 Traditionally designed prefabricated stairs made of solid wood - Specifications and requirements	2008-12-10
EN 1611-1:1999 Sawn timber - Appearance grading of softwoods - Part 1: European spruces, firs, pines and Douglas firs	1999-08-18
EN 1611-1:1999/A1:2002 Sawn timber - Appearance grading of softwoods - Part 1: European spruces, firs, pines, Douglas fir and larches	2002-08-21
EN 16449:2014 Wood and wood-based products - Calculation of the biogenic carbon content of wood and conversion to carbon dioxide	2014-03-12
EN 16481:2014 Timber stairs - Structural design - Calculation methods	2014-06-18
EN 16485:2014 Round and sawn timber - Environmental Product Declarations - Product category rules for wood and wood-based products for use in construction	2014-03-26
EN 1910:2016 Wood flooring and wood panelling and cladding - Determination of dimensional stability	2016-04-27
EN 1927-1:2008 Qualitative classification of softwood round timber - Part 1: Spruces and firs	2008-03-26
EN 1927-2:2008 Qualitative classification of softwood round timber - Part 2: Pines	2008-03-26
EN 1927-2:2008/AC:2009 Qualitative classification of softwood round timber - Part 2: Pines	2009-04-01
EN 1927-3:2008 Qualitative classification of softwood round timber - Part 3: Larches and Douglas fir	2008-03-26
EN 844-10:1998 Round and sawn timber - Terminology - Part 10: Terms relating to stain and fungal attack	1998-04-22
EN 844-11:1998 Round and sawn timber - Terminology - Part 11: Terms relating to degrade by insects	1998-04-22
EN 844-12:2000 Round and sawn timber - Terminology - Part 12: Additional terms and general index	2000-11-22
EN 844-1:1995 Round and sawn timber - Terminology - Part 1: General terms common to round timber and sawn timber	1995-03-07
EN 844-2:1997 Round and sawn timber - Terminology - Part 2: General terms relating to round timber	1997-03-19
EN 844-3:1995 Round and sawn timber - Terminology - Part 3: General terms relating to sawn timber	1995-03-07
EN 844-4:1997 Round and sawn timber - Terminology - Part 4: Terms relating to moisture content	1997-03-19

Reference, Title	Publication date
EN 844-5:1997 Round and sawn timber - Terminology - Part 5: Terms relating to dimensions of round timber	1997-03-19
EN 844-6:1997 Round and sawn timber - Terminology - Part 6: Terms relating to dimensions of sawn timber	1997-03-19
EN 844-7:1997 Round and sawn timber - Terminology - Part 7: Terms relating to anatomical structure of timber	1997-03-19
EN 844-8:1997 Round and sawn timber - Terminology - Part 8: Terms relating to features of round timber	1997-03-19
EN 844-9:1997 Round and sawn timber - Terminology - Part 9: Terms relating to features of sawn timber	1997-03-19
EN 942:2007 Timber in joinery - General requirements	2007-03-14
EN 975-1:2009 Sawn timber - Appearance grading of hardwoods - Part 1: Oak and beech	2009-03-18
EN 975-1:2009/AC:2010 Sawn timber - Appearance grading of hardwoods - Part 1: Oak and beech	2010-09-29
EN 975-2:2004 Sawn timber - Appearance grading of hardwoods - Part 2: Poplars	2004-07-07

Pending standards

Reference, Title	Status	Initial Date	(Forecasted) voting date
EN 14915:2013/FprA1 Solid wood panelling and cladding - Characteristics, evaluation of conformity and marking	Under Approval	2014-06-19	
prEN 13227 Wood flooring - Solid lamparquet products	Under Enquiry	2014-06-20	2015-11-09
FprEN 13489 Wood and parquet flooring - Multi-layer parquet elements	Under Approval	2014-06-20	2015-10-28
prEN 13756 Wood flooring - Terminology	Under Approval	2014-06-20	2015-12-21
prEN 14298 Sawn timber - Assessment of drying quality	Under Approval	2015-02-24	2017-03-28
FprEN 16755 Durability of reaction to fire performance - Classes of fire-retardant treated wood products in interior and exterior end use applications	Under Approval	2012-07-02	2015-07-17
prEN 1309-3 Round and sawn timber - Methods of measurements - Part 3: Features and biological degradations	Under Approval	2014-06-19	2017-05-23
prEN 17009 Flooring of lignified material other than wood - Characteristics, evaluation of conformity and marking	Under Approval	2014-06-19	2017-05-09

EOS organisation 2015/2016

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- Sampsa Auvinen - Norvik Timber (LV)President
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- Joël Lefebvre - Groupe Lefebvre (FR)..... Vice-President for Hardwood
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- Carsten Doebling - Ilim Timber Germany (DE)
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EOS Secretariat - Offices

EOS is located, together with CEI-Bois and other European wood associations at Rue Montoyer 24 in Brussels, Belgium. The office building provides opportunities for meetings of national federations too and members are always welcome to use the various facilities when in Brussels.



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CHP Plant offers Multiple Benefits to Saw Mill and Wood Processing Plants

A Spanner Re² wood cogeneration plant simultaneously produces heat and power from wood chips. This process is much more efficient than just burning the wood chips in a boiler: The Spanner Re² wood gasifier converts wood chips into very pure wood gas. The CHP transforms the gas into electric power and heat. Spanner Re² offers three power sizes: 30 kWel/73 kWth, 45 kWel/108 kWth, and 9 kWel/25 kW.

Turning regional resources into multiple benefits

A Spanner Re² wood cogeneration plant will produce 550 kWh heat and 200 kWh power from one cubic meter of chips, depending on water content of the wood-chips. Heat and power can be either used directly on premises for heating or drying purposes and for powering industrial equipment. Or they can be fed into local heating networks and the public grid, always depending on local feed-in tariffs. This makes very attractive ROIs for saw mills and wood and timber processing plants good access to wood chips.

Efficient use all kinds of wood residues

A Spanner Re² wood cogeneration plant normally requires standard dry wood chip material. However, with very little effort, plant operators can also use roadside, landscaping or short rotation wood. Off-heat produced by the plant will efficiently dry wet wood residues and wood chips. Sawdust, which is usually plentiful in any wood processing



plant, can be purified and pressed into briquettes for use in wood-gasification. Spanner Re² will support saw mill and timber processing companies with competent information on available sieving, drying and other wood processing equipment options.

Flexible from single plant to megawatt cascade installation

For megawatt projects, Spanner Re² wood cogeneration plants can be cascaded. The advantages are convincing: Use of serial components ensures a very competitive total cost of ownership. Planning and implementation processes are simplified and accelerated by simply linking proven standardized single units. Each individual Wood Cogeneration plant works independently of the others, is individually and easily controlled, and can be started and stopped within minutes, enabling individual systems to be switched on or off anytime to meet actual requirements. High system redundancy ensures ultimate availability and easy adjustment to actual consumption.

Benefit from regional programs

In many countries, e.g. Italy, Latvia or Austria, you can participate in feed-in programs with the Spanner Re² wood cogeneration plant because of its environmentally friendly, efficient operation based on sustainable resources. In other countries like Germany the plants are economically attractive for producing domestic and in-house power. Spanner Re² experts support every customer with technology expertise as well as regulatory and economic know how to find the most attractive solution.

Proven reliability

Over 500 Spanner Re² cogeneration plants are in operation in agriculture and forestry applications, hotels and catering, and in domestic and remote heating networks in Europe, Asia and North America. On request, Spanner Re² will provide international industrial forestry references and organize visits to reference sites. More information at www.holz-kraft.de.

