EUROPEAN ORGANISATION
OF THE SAWMILL INDUSTRY

2016
2017

Bethlehem Haus, Switzerland, 1287

ANNUAL REPORT OF THE EUROPEAN SAWMILL INDUSTRY

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Bethlehem Haus – The House of Bethlehem

In the summer of 1287 in Schwyz (central Switzerland) a well-to-do local family built its two-storey wooden house using the timber from the local forest. The family, whose name we do not know, hope their house will last and be passed on to the next generation.
2017: the house still stands. The House of Bethlehem survived the ravages of time and a fire which destroyed most of the village in the seventeenth century.
More than 700 years later, the house is now a museum and **the oldest surviving wooden house in Europe**: as old as Notre Dame in Paris.
Bethlehem House was last occupied in the 1980s, divided into two apartments and then transformed in a museum.

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Foreword

by Sampsa J. Auvinen, EOS President and CEO Norvik Timber Industries

This year we celebrate 60 years of the Rome Treaties, 60 years of a priceless good: peace between 28 Member States. Peace is not easy. It implies discussions, compromises and often complicated negotiations. Peace is democracy. In these 60 years, the European economic interdependence, the expansion of the free market, and economic integration have been an important tool for reducing interstate conflicts and avoiding wars.

29 March 2017. The Prime Minister Theresa May triggered Article 50 and formally started the Brexit process. As Mss May said "this decision was no rejection of the values that Britons shares as fellow Europeans. Nor was it an attempt to do harm to the European Union or any of the remaining member states. Great Britain is leaving the European Union, not Europe –remaining committed partners and allies to friends across the continent."

This is a new phase for Europe. And it is undeniable that there will be implications also for the European Sawmill sector. The United Kingdom is one of the largest sawnwood importers in the world. Its sawnwood consumption (particularly sawn softwood) has been steadily growing for past years and its main suppliers are all European countries: for Sweden and Latvia, the UK is the main export market, while it is also a very important market for Finland and Germany. Therefore, the European Sawmill Industry hopes for a deal between the UK and the EU, which will ensure that the trade flows will not be disrupted.

Overall, how the Brexit negotiations will be managed represents a concern for the Sawmill sector. The feelings in the sector are indeed mixed: on the one hand, all in all 2016 was a good year: economies across Europe kept growing – albeit moderately – and the construction sector was relatively lively. Other tail winds include strong demand from several relevant export countries: China's economic outlook looks much better than it did some months ago and its sawnwood imports reached all-time highs in 2016. Many European operators contributed to

satisfy the Chinese appetite for sawnwood, with double-digit increases of exports to China observed in many European countries. Shipments to other large Asian markets such as Japan also developed positively. The United States is a promising market, too: housing starts keep growing and European exporters will likely take advantage of the ongoing softwood lumber dispute between Canada and the United States: pricier Canadian exports will push US importers to look for alternative suppliers, and the European shipments to the US are already growing. Wide-ranging at EOS level, production, demand and exports were all on the rise and, based on early projections, growth might even gain further momentum in 2017 on the back of lively demand in Europe and increasing overseas exports.

However, there are factors which may negatively impact on the sector: the other side of the coin of the US-Canada softwood lumber dispute is that Canadian exporters may direct some of their products away from the US to Asia and the MENA area, thus intensifying competition for Europe. In the MENA area, in particular, European

countries have seen their exports shrink over the last year because of widespread political uncertainty and a low oil price, which is pushing some countries to tentatively put in place economic reforms with the aim of diversifying away from oil dependency. At times, however, the steps taken risk severely hampering the trade flows between Europe and those countries, like in Algeria, where the government introduced a generalized import licenses system, which is a breach of the Free Trade Agreement between the EU and Algeria.

From the 1st April 2017, Algerian importers require import licenses for all wood products covered in the HS code from 4407 to 4412. These licenses must be requested in Arabic and in French, directly by the Algerian importer to the Trade Department of Wilaya. EOS has been closely monitoring the development of this issue, hoping to contribute in a positive resolution of this problem. According to the information received, Algeria is introducing this measure particularly for reducing the imports of low quality products coming from China and Asia, rather than creating a barrier to trade for European products.

Regretfully, logs ban still persists in the geographical Europe. On 27 March the EOS Secretariat hosted a small Delegation from Belarus in order to exchange information on the European timber market and establish the first step for a positive and fruitful to enhance the cooperation with the Republic of Belarus Association of furniture and woodworking enterprises. An overview of the most recent discussion on trade is available in Chapter 6 of this Annual Report.

Promoting the use of wood as environmentally friendly material remains a key activity of the European Organization of the Sawmill Industry. This year, our commitment in promoting wood has been particularly strong: on 21 March 2017, in occasion of the World Forests Day, EOS had the pleasure to co-sponsor and participate in the International Forum "The Value of Wood," which was held in Brussels. The aim of this activity was the promotion of wood products as carbon neutral material. The event was hosted by the Honourable Member of the EU Parliament (MEP) Mr Paul Brannen, who also moderated the first panel, while MEP Mrs Henna Virkkunen moderated the second panel. Both Members of the European Parliament highlighted the need for an increase of wood products as building materials. An EOS message on the key role of wood products in climate mitigation was disseminated within the Members of the European Parliament involved in the LULUCF negotiation and the EOS Member Mr Streiff was one of the speakers of the EU Parliament hearing where he presented the role of harvested wood products in the LULUCF framework highlighting that substituting a cubic meter of wood for other construction materials (such as concrete or bricks) results in the significant average of 0.75 to 1 ton of CO2 savings. Detailed information on this and other EOS advocacy actions is available on our Chapter 6.

Finally, I would like to conclude this foreword warmly thanking the EOS Member, Mr Hugues Frère and the external correspondents for their important contribution in elaborating the special focus of this Annual Report. Their contribution has given an undeniable added value to this edition providing an accurate insight view of the relevant markets for the European sawmill Industry. I am looking forward to continuing the market discussion in occasion of the **2017 INTERNATIONAL SOFTWOOD CONFERENCE** that will be organised on the 4th-6th OCTOBER 2017 in Hamburg. As per tradition, the presentations will be focused on facts and figures showing softwood production as well as consumption in the most relevant timber markets such as North Africa, Egypt, Japan, Russia and USA, for mentioning few. Moreover, the **2017 INTERNATIONAL HARDWOOD CONFERENCE** will be held in the city of Venice, in Italy from the 15th to 17th of November. The conference, which will be enriched by collateral events such as a factory tour visit, will offer an exclusive view on the global hardwood timber and provide a unique high level networking in this sector.

Sampsa J. Auvinen

EOS President
CEO Norvik Timber Industries

NORVIK

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1. General Economic Situation

EOS expresses gratitude to SEB Bank for its kind contribution to this EOS Annual Report. For more information please consult SEB's Nordic Outlook – May 2017.

1.1 Rising global optimism across a broad front

The global economy has continued to improve. Economic actors are signalling strong optimism, while first quarter 2017 corporate reports have mainly been surprisingly positive. Hard macroeconomic data have also improved, though not as much as sentiment indicators suggest. Disappointing Q1 growth in the United States is one important exception to this upbeat picture. Several underlying factors explain strong world economic growth. For example, industrial capacity utilization has finally moved up to levels that will trigger new investments on a broader scale. Emerging market (EM) economies have also undergone adjustment processes that have improved their balance situation, while rising commodity prices have brought relief to previously hard-pressed producer countries.

Global GDP growth

Year-on-year percentage change

	2015	2016	2017	2018
United States	2.6	1.6	2.3	2.5
Japan	1.2	1.0	0.8	0.5
Germany	1.7	1.9	2.0	1.9
China	6.9	6.7	6.7	6.3
United Kingdom	2.2	1.8	1.4	0.9
Euro zone	2.0	1.8	2.0	2.0
Nordic countries	2.3	2.0	2.2	2.1
Baltic countries	2.0	2.0	3.1	3.2
OECD	2.4	1.8	2.1	2.2
Emerging markets	4.2	4.3	4.8	4.9
World, PPP*	**3.4**	**3.2**	**3.7**	**3.8**

Source: OECD, SEB

* Purchasing power parities

Recent developments have thus provided support for our rather optimistic economic picture, especially concerning the EM sphere and Western Europe. Looking at the world economy as a whole, we now believe that **GDP growth will accelerate from 3.0 per cent in 2016 to 3.7 per cent this year and 3.8 per cent in 2018**.

1.2 Hesitant inflation upturn

Inflation has generally risen in the past six months mainly due to base effects, as earlier energy price declines have vanished from 12-month figures. In addition, new energy price increases are one reason why headline inflation (the consumer price index, CPI) is now above core inflation for the first time in years. A rising trend in inflation expectations in most countries also confirms that we have moved a bit away from a zero inflation environment, but the most recent signals have been mixed. In March, inflation fell significantly both in the US and the euro zone. Inflation expectations according to the index-linked bond market have also fallen a bit, after a sharp upturn following the US presidential election in November. This trend shows that although deflation risks appear increasingly distant, the inflation upturn is still vulnerable as long as pay increases remain historically low. The US pay upturn looks rather stable. If it persists, it will soon reach levels that will give the Fed room to continue its gradual key interest rate hikes. In Western Europe, the weak wage response to stronger labour markets is more problematic for central banks. Not even in Germany – where a record-high percentage of companies report that labour shortages are hampering production – are wages rising by more than 2 per cent a year. This is not far above the euro zone average of 1.5 per cent. Looking ahead, we expect a slight upturn but the rate of increase will not reach 2 per cent even in 2018. In the euro zone, we expect inflation to trend downward towards 1 per cent in mid-2017. As annual averages, inflation will fall **from 1.6 per cent this year to**

0.9 per cent in 2018. In the US, a persistent inflation upturn will not occur until well into 2018, once pay increases have accelerated more clearly. Average CPI **inflation will end up at 2.1 per cent in both 2017 and 2018**. The risks are on the upside, though. The broad commodity price upturns we have seen recently may have a bigger impact on consumer prices than we had anticipated. So far we have seen their effect on food prices, but core inflation may also be affected in the coming months, especially in Western Europe. It is also possible that cyclical inflationary forces may generally strengthen to a rather great extent. Companies are signalling that they have growing opportunities to push through price hikes. This usually manifests itself in higher inflation, with a slight lag. Pay hikes may also accelerate a bit faster than expected as shortages increase, in an environment with more protectionist headwinds.

1.3 The United States: Acceleration after temporary dip early in 2017

Hopes of major fiscal stimulus that existed early in 2017 have been dashed. The Trump administration seems incapable of delivering particularly forceful actions this year and probably not in 2018 either. In other ways, too, the start of the year was disappointing. First quarter GDP growth reached only an annualised 0.7 per cent. The main disappointment was household consumption, which decelerated sharply and showed annualised growth of a mere 0.3 per cent. As on several occasions in recent years, this dip seems to have been caused by weather effects and is thus expected to be temporary. Continued labour market improvement and an ever-brighter capital spending outlook suggest continued recovery. **We expect GDP to climb by 2.3 per cent in 2017 and by 2.5 per cent in 2018**.

Strong sentiment data are also contributing to our optimism about the next few quarters. In March, the Conference Board's Consumer Confidence Index reached its highest level since the dotcom (IT) boom in 2000. Indicators are generally at levels that signal a major acceleration in GDP growth. But the wide divergence between soft and hard data is causing uncertainty, resulting in caution. Indicators will probably fall a bit again in the near future as hopes of stimulus measures start to fade.

Private consumption decelerated sharply in the first quarter, increasing by a weak 0.3 per cent annualised rate, but this slowdown is largely explained by temporary factors. Record-warm temperatures in January and February reduced the need for space heating, which explains the weak figure. Delays in tax refund payments also partly explain this weakness. There is thus **good potential for consumption to take off soon**. Aside from elevated consumer confidence indicators, there are more concrete factors that suggest an acceleration. The labour market is continuing to strengthen, while pay increases are expected to speed up this year. Even if the promised tax cuts do not materialise in 2017, household wealth is increasing because of rising home prices and record-high stock markets. Meanwhile household debt has decreased significantly in recent years, and borrowing costs are low.

But the question also remains: **Will households actually increase their consumption, rather than their savings?** The household savings ratio has fallen a bit from a peak of around 6 per cent during 2016. **We believe that the savings ratio will also fall slowly in 2017 and 2018**, driven by labour market improvement. This will enable a **consumption increase of 2.3 per cent in 2017 and 2.4 per cent in 2018**.

The outlook for business investments has improved further in recent months. The ISM index of manufacturing sentiment has dropped back from the recent high in February but is still at a level consistent with 3 per cent GDP growth. **Capital spending** has also been a bright spot among hard data, **helping keep first quarter GDP growth from slowing even more** thanks to an increase of more than 9 per cent in annualised quarterly growth. The strong rebound is mainly a result of **a clear recovery in the petroleum and mining sectors**, thanks to commodity prices well above last year's. Oil drilling activity has picked up significantly, thus stimulating investments. Given our forecast that oil and other commodity prices will remain close to current levels, there is potential for continued expansion in these sectors. In addition, industrial production has increased strongly for several months, and capacity utilisation continues to creep higher. Utilisation is now just above 76 per cent,

closer to the 80 per cent level at which investments usually take off. **The construction sector also saw investments rising sharply in the first quarter**. The supply of homes is limited, while demand is good because of population growth and low interest rates. Since residential investments are historically low as a percentage of GDP, we expect an increase during the next few years.

Our forecast is that **business investments will increase by 5.0 per cent in 2017 and 4.5 per cent in 2018**, which implies that they will contribute substantially to GDP growth in both years. There are sources of concern, however. A US dollar appreciation would hamper industrial production, and any attempts by the Trump administration to help manufacturers by means of protectionism will risk having the opposite effect. Another risk is that the weak productivity trend reflects a shortage of investment opportunities.

So far, the strong labour market has not affected wages and salaries very much. During 2016 the rate of pay increases accelerated, but in recent months it has again stagnated. In April the rate of increases was 2.5 per cent. This levelling out is partly due to base effects, and several factors suggest that **pay hikes will again accelerate during 2017**. A growing percentage of companies are reporting difficulty in recruiting employees; this is especially clear among small business. Company compensation plans also indicate upward pressure. As the labour market tightens further, the effects of rising demand for labour will shift from increasing employment to rising wages and salaries. **We forecast that the rate of pay increases will accelerate during 2017, reaching around 3.5 per cent by year-end**.

Last autumn, inflation rose because earlier energy price declines disappeared from the 12-month figures, but this trend has now reversed. In March, the inflation rate fell to 2.4 per cent from 2.8 per cent the previous month. The downturn was partly explained by weather factors. Core inflation (CPI excluding food and energy) also fell and in March was at 2.0 per cent, its lowest level in 17 months. In a broader perspective, we are maintaining our assessment that it will take a little more time before wages and salaries take off. **A sustained upturn in the inflation rate will thus not occur until early 2018**. The lack of fiscal stimulus also suggests that it will be a while before inflation accelerates, and the upside risk in our inflation forecast has eased. **We expect average annual inflation to end up at 2.1 per cent in both 2017 and 2018**. The Fed's main metric, core inflation using the personal consumption expenditures (PCE) deflator, remains below the 2 per cent target but is expected to accelerate to around 1.9 per cent by the end of 2018. **Our full-year forecast is that core PCE will increase by 1.4 per cent in 2017 and by 1.7 per cent in 2018**.

1.4 Euro zone: GDP will accelerate, confirming strong indicators

Euro zone growth has markedly improved. Employment and household optimism are rising, while decently high capacity utilisation is helping to speed up the growth in capital spending. Sentiment indicators point to a significant acceleration, but some indicators are so strong that they are difficult to trust completely. Political uncertainty has decreased, after anti-EU and anti-euro candidates were less successful than expected in the Netherlands and France. Yet the remaining question marks about the EU's long-term development and its ability to deal with problems will have only marginal negative effects on growth. **We expect GDP to climb 2.0 per cent both in 2017 and 2018, which means our scenario remains a bit brighter than consensus**. Despite low inflation, we believe that the European Central Bank (ECB) will trim its stimulus measures further in September 2017.

GDP forecasts
Year-on-year percentage change

	2015	2016	2017	2018
Germany	1.7	1.9	2.0	1.9
France	1.3	1.2	1.4	1.4
Italy	0.7	0.9	1.0	1.2
Spain	3.2	3.3	3.0	2.8
Euro zone	**2.0**	**1.8**	**2.0**	**2.0**

Source: Eurostat, SEB

Most euro zone countries are weighed down by large deficits and/or high public sector debt, although stronger economic conditions and low interest rates are easing their situation. There is heavy spending pressure, for example due to ageing populations, refugee resettlement and increased security tensions. In this environment, we expect fiscal policies to be weakly expansionary in 2017-2018. Because many governments are under pressure from the success of populist parties, Brussels will adopt a gentler attitude towards how quickly budget deficits must be pushed below 3 per cent of GDP. Yet public sector **deficits in the euro zone as a whole may fall towards 1 per cent of GDP in 2018**, while government debt, now at just below 90 per cent of GDP declines slowly. The biggest risks are in Italy, where a high percentage of bad loans in the banking sector, slow growth, political uncertainty and already heavy government debt are a hardly manageable set of problems.

Sentiment indicators are currently strong, pointing to a clear acceleration in economic activity. Euro zone purchasing managers' indices (PMIs) are at their highest since 2011 and the upturn is broad-based, both in geographic and sectoral terms. PMIs for the four largest countries (Germany, France, Spain and Italy) are in the 54-57 range, where 50 is neutral. The manufacturing and service sectors are roughly in line with composite indices, while the construction sector – despite improvements – lags somewhat behind. The order situation is good in both domestic and export markets, and companies are also beginning to see opportunities to raise prices, but because actual industrial production has shown sluggish growth – especially around year-end – we should interpret the indicator situation with some caution. Export figures have strengthened, however. Based on the indicators as well as improved international economic conditions, we anticipate that **exports will accelerate to an annual growth rate of around 4.5 per cent** in 2017-2018. However, the increase in **industrial production will reach only about 2 per cent**.

Despite an upturn in recent years, capital spending is about 10 per cent lower than in 2008. A speed-up is now likely, since investment activity benefits from better economic conditions, rising production, low interest rates and greater demand for loans. Companies are satisfied with their order bookings and foresee greater potential for raising prices, which points in the same direction. Housing construction is also benefiting from rising prices for existing homes in most countries. Meanwhile there are factors holding back capital spending growth: strong indicators need to be confirmed by additional hard data, and it is uncertain to what extent companies are actually expanding within the euro zone. The problems of southern Europe's banking sector also remain a constraining factor. Although ECB studies indicate that southern European companies pay interest rates on a par with the euro zone as a whole, less willingness to lend money is hampering the effectiveness of ECB policies. Overall, however, we have adjusted our forecast somewhat higher. We predict that **total capital spending will increase by more than 4 per cent yearly in 2017 and 2018**.

Various factors now suggest a stronger consumption increase; consumer confidence has improved, employment is rising, interest rates are low and fiscal policy headwinds have eased. Higher car sales confirm the optimistic picture, but meanwhile relatively weak retail sales show that households remain cautious. Because of low nominal income increases, even an upturn in inflation as moderate as we have now seen hurts purchasing power. The household savings ratio has also fallen since 2008 due to economic recovery and is now at 6 per cent. Such a depressed level makes households especially sensitive to the political uncertainty lingering in many countries. Overall, we thus foresee a **yearly upturn of less than 2 per cent in household consumption in 2017-2018**.

The labour market shows continued strength. The jobless rate was 9.5 per cent in February: its lowest level since 2009. Compared with the peak in 2013, the number of unemployed has fallen by 4 million. The trend is positive in most countries, although the picture is divergent. In Germany and Spain, the jobless rate is falling clearly, while little has changed in Italy and France. **Business hiring plans according to PMIs are at high levels** that have only been achieved a few times since 2000, and job growth has historically followed this indicator relatively well. **We expect unemployment to fall slightly below 9 per cent by the end of 2018**. This means it will stay a bit above equilibrium, which we estimate at about 8 per cent.

Despite the ever-stronger labour market, there are **no signs that pay hikes will accelerate**. Although a record-high percentage of German businesses (according to the EU index) state that labour shortages are hampering production, for the euro zone as a whole this is not an imminent problem. Yet the gap between actual pay hikes is not so wide; German wages and salaries are rising at a 2 per


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cent yearly pace, compared to 1.5 per cent for the overall euro zone. In Spain, pay levels are largely constant. Looking ahead, we expect pay increases to accelerate somewhat to nearly 2 per cent by the end of 2018.

Driven by temporary surges in energy and food prices, inflation according to the harmonised index of consumer prices (HICP) temporarily reached 2 per cent, the highest reading since January 2013, in early 2017. The peak is now already past, however. We expect slightly falling inflation this spring and summer, then a clearer downturn to **about 1 per cent**. **This is also consistent with the underlying price pressure that has largely prevailed for the past 3 years** in an environment of low pay increases. At present there are gaps between countries; in March, inflation varied between 0.6 per cent (Netherlands) and 3.3 per cent (Latvia). In 8 of the 19 euro zone countries, inflation exceeded 2 per cent. Slightly higher inflation has left its mark in higher inflation expectations. According to ECB, inflation is expected to reach some 1.5 per cent looking ahead a few years, while financial market pricing indicates levels of 1-1.5 per cent depending on the time horizon. Although this is a bit below the ECB's target of close to but below 2 per cent, deflation worries have greatly eased. We expect **inflation of 1.6 per cent in 2017 and 0.9 per cent in 2018**. Core inflation will end up near 1 per cent in both years.

1.5 The United Kingdom: Election will strengthen dominance of May and Tories

So far the British economy has shown few signs of the slowdown feared after the Brexit referendum. Significant currency depreciation has helped. In Q4 2016, **growth even accelerated a bit compared to the preceding quarter**. Early 2017 also looked stable, but we believe **political uncertainty will increasingly hamper future economic growth** via weaker capital spending and consumption. **This year growth will fall to 1.4 per cent, and in 2018 GDP will increase by only 0.9 per cent**: a forecast that is somewhat below consensus. Given such slow growth, we expect **rising unemployment**, reaching 5.2 per cent by the end of 2018 compared to 4.7 per cent today.

Growth in 2017-2018 will be greatly affected by what future relationship the UK and the EU can agree on. The **British government's policy is to withdraw completely from the EU**, among other things because the UK's demands for controlled immigration and full influence on legislation are incompatible with "limited membership" such as in a European Economic Area (EEA) treaty. It is thus out of the question that British companies can enjoy unlimited access to the EU single market. Instead, the government's goal is **to negotiate a free trade agreement that can maintain commercial relations with the EU to the greatest possible extent**. But EU leaders have made it clear that a partnership can never give the UK the same benefits as membership. A lot is at stake for the UK, since 44 per cent of its exports go to other EU countries.

In recent years, household consumption has been the engine of UK economic growth, but we now fear a slight

deceleration. Wage growth looks set to remain weak and the savings ratio is at historically low levels, **limiting the potential for further reductions**. Meanwhile **higher inflation and a weaker labour market are undermining household purchasing power**. Year-on-year inflation will peak at 2.9 per cent in 2018 and **annual average inflation will reach 2.5 per cent in 2017 and 2018**. A continued weak currency and strong international conditions **will soften the slowdown**, however. The depreciation of the pound has helped keep export order bookings stable, but we still see signs of slowing business investments. The latest statistics show unchanged investments compared to last year, and spending plans fell in the second half of 2016. Withdrawal from the EU will also make fiscal tightening hard. The government has abandoned its ambition to achieve a budget surplus by the end of its term. Instead it will implement aggressive measures such as **cutting corporation tax to 17 per cent by 2020** and **new investments in research, development and infrastructure**.

1.6 China: Slowdown due to policy tightening

China began 2017 with very robust growth. First quarter GDP was up 6.9 per cent year-on-year, somewhat higher than the 6.7 per cent outcome in 2016 and within the government's 6.5-7.0 per cent target interval for last year. **Stronger exports** due to increased global activity are a key driver. **Construction** and **private consumption** are also benefiting from favourable credit conditions, which are pushing up home prices and boosting household wealth. Because of the better economic outlook, Beijing is also abstaining from letting the currency continue its weakening trend from 2016; so far this year, the yuan has largely remained flat at around 6.90 per US dollar.

During the rest of our forecast period, we expect a controlled deceleration. **GDP growth will be 6.5 per cent in 2017**, in line with the revised target of "around 6.5 per cent", falling to **6.0 per cent in 2018**. In recent months, the government has revised its economic policy with the aim of slowing growth. Such measures as limits on home mortgage lending – initially intended to cool off the housing market mainly in large cities – have now also begun to affect smaller cities. In addition, increased inflation pressure and Fed rate hikes have forced the People's Bank of China (PBoC) to tighten monetary policy.

The risk picture for GDP growth is balanced this year, among other things because 2017 is a politically important year. In October the Chinese Communist Party's top leadership will be reshuffled, something that occurs every five years. President Xi Jinping is seeking stable growth and limited financial market volatility during 2017 in order to ensure a smooth political transition. Signs of undesirable deceleration would lead to a resumption of more expansionary monetary policy.

Once the new political leadership has settled in, we expect the **implementation of reforms that will contribute to a deceleration in GDP growth to 6.0 per cent**. For example, tightening of credit conditions is likely, in order to slow the increase in debt. Beijing is also expected to take steps to reduce surplus production capacity in the coal, cement and base metal sectors. This is in line with the country's goal of moving higher in the value-added chain for production of goods and services. Exactly how these reforms will look will be unveiled when Chinese officials announce their GDP growth target for 2018.

During the rest of 2017, the **main task will be to manage monetary aggregates** in order to lower inflation risks. In March, producer prices showed a 7.6 per cent year-on-year increase: the highest level in nearly a decade. Historically, this has had clear secondary effects on consumer prices. Higher inflation might push up interest rates and thus increase the burdens on highly indebted households and businesses. Meanwhile there is a greater risk of bankruptcies and an upturn in the percentage of doubtful loans, which might destabilise both the financial system and the entire economy. We estimate that **CPI inflation will be 2.5 per cent both in 2017 and 2018**: an upturn from 2.0 per cent in 2016. Inflation will thus end up **below the PBoC's 3 per cent target**, partly due to the beginnings of monetary tightening. To further limit inflation pressure, fiscal policy is also expected to be unchanged, with a government budget deficit of about 3 per cent of GDP.

1.7 Russia: Oil gets the wheels spinning again

The recession that began in 2015 is now over. Russian GDP fell by about 0.2 per cent in 2016, but this **full-year figure conceals a significant upturn in the fourth quarter**, when the economy grew by 0.3 per cent year-on-year. Ultimately, the rebound is being driven by a recovery in oil prices and higher oil production, but the agricultural and manufacturing sectors have also taken off. The depreciation of the rouble since 2014 has provided an extra push for exports of both energy and other products, helping Russian PMIs climb well above 50.

Investment appetite has been cautious, however, which **will limit GDP growth to 1.1 per cent in 2017 and 1.5 per cent in 2018**. Another factor restraining growth will be fiscal austerity, but the economy will benefit a bit from monetary easing. Inflation fell sharply to 4.3 per cent in March and we expect the central bank to reach its 4 per cent target by mid-2017, which seemed impossible only a year ago. **It will, however, be difficult to keep inflation down** due to imminent value added tax hikes and pent-up wage and salary demands. Inflation expectations remain high, suggesting that key interest rate cuts will be implemented at a cautious pace from today's 9.25 per cent. Our forecast is that the **key rate will stand at 8.0 per cent at the end of 2017 and 7.25 per cent at the end of 2018**, while annual average **inflation** will end up at **4.3 per cent in 2017 and 4.2 per cent in 2018**.

A tug-of-war is under way between the central bank and the Finance Ministry. The central bank is currently prevailing, thanks to support from the Kremlin for a tight monetary policy aimed at bringing down inflation expectations. High inflation combined with increased poverty could potentially be politically explosive even in Russia. But high interest rates also mean a strong rouble, which hurts government finances since each dollar of Russian oil that is sold brings in fewer roubles.

The Finance Ministry aims to bring the federal budget deficit down to 1.0 per cent of GDP in 2019 from last year's 3.4 per cent. This plan is ambitious, and the March 2018 presidential election will make budget targets tough to achieve, especially if the rouble keeps appreciating. The deficit will probably shrink to about 3.0 per cent of GDP in 2017 (in line with the ministry's subtarget) and 2.5 per cent in 2018 (0.5 points above target). **As inflation expectations fall** and pressure on the budget increases, however, the central bank will ease monetary policy and the **Finance Ministry will gain increased influence over the currency**.

1.8 Brazil: Slow-motion recovery

The Brazilian economic recovery has been delayed but it now seems under way. **GDP fell by 3.6 per cent in 2016**. Exports rose by 1.7 per cent, driven by a weaker currency, but that was not enough to offset the sharp downturn in private consumption and capital spending. **During the first quarter of 2017, however, the trend reversed**. The central bank's economic activity index rose by 1.3 per cent in February, its largest upturn since 2010, driven by exports. The economy has bottomed out, but **remains in a deep hole that it will take time to climb out of** – due to weaknesses in government finances, infrastructure and the business climate.

We estimate that Brazil's **GDP will climb by 0.7 per cent in 2017 and 2.0 per cent in 2018**. The most important drivers will be exports of agricultural products, which will rebound after last year's drought, and of iron ore. Year-on-year inflation fell from 10.7 per cent in January 2016 to 4.6 per cent in March 2017 due to currency appreciation and weak domestic demand. We expect an **inflation rate of 4.2 per cent in 2017 and 4.8 per cent in 2018**, well in line with the central bank's 4.5 ± 1.5 per cent target.

The need to consolidate Brazil' public finances will hamper growth for years. **The budget deficit** was 9.7 per cent of GDP in 2016 and **is expected to shrink slowly to around 8.0 per cent** in 2017 and 7.0 per cent in 2018. Lower interest rates on government debt and a cyclical economic upturn will help, but the government will need to cut spending since the tax burden is already one of the highest among emerging market countries. But this will take time, since about 80 per cent of spending is governed by rules written into the constitution.

Special Focus: China and East Asia

China's import of softwood lumber sets new record

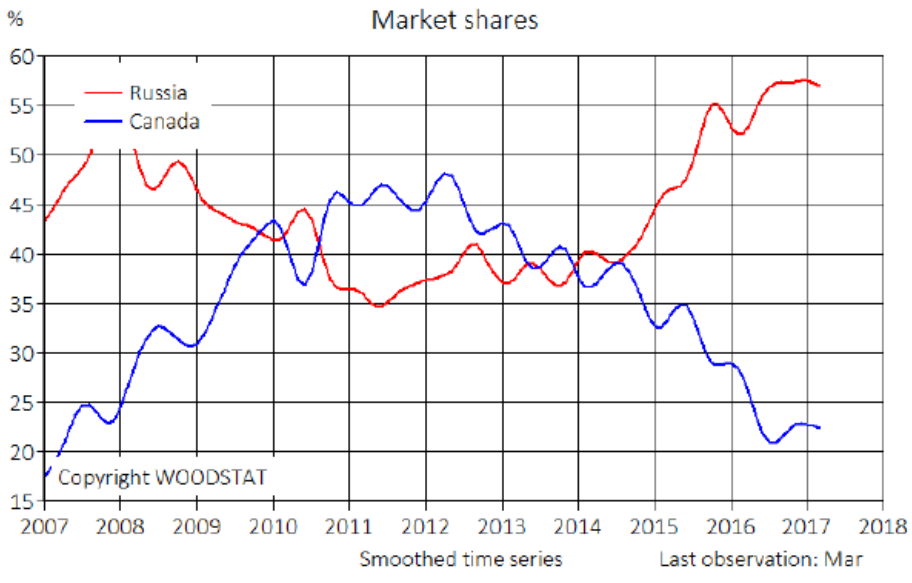
During 2015 there was no balance between supply and demand on sawn softwood, but 2016 ended up looking much better. This can partially be explained by a new record high import in China who increased the import by 21% to 21 million m^3 during 2016 (compared to 2015). Compared to ten years ago total imports increased by 18.3 million m^3 and China, which was a relatively insignificant importer, went on to become the second largest importer in 2016, after the US. In the last few years, Russia has invested in high tech sawmills which produce mainly for China - increasing Russia's market share to almost 60% compared to 40% five years ago. In the same period, Canada lost market shares from 45% to 25%. Analyzing the data in details we can however see that European sawmills were the big winners in 2016. China's import of softwood lumber from Europe (excluding Russia) increased by 40% (compared to 2015) to 1.9 million m^3.

We can observe an increased interest in spruce softwood within the furniture industry which contributed to the positive development of the import from Europe. For European sawmills, China has now become an important customer and in Finland, China became the third largest market in 2016, only beaten by Egypt and Japan. Sweden, the Baltics, Austria and Ukraine also increased their export to China in 2016 (compared to 2015). This positive trend for European exporters has continued this year and has stabilized the European lumber market.

Table 1: China's import of softwood lumber from main European exporters (1 000 m^3)

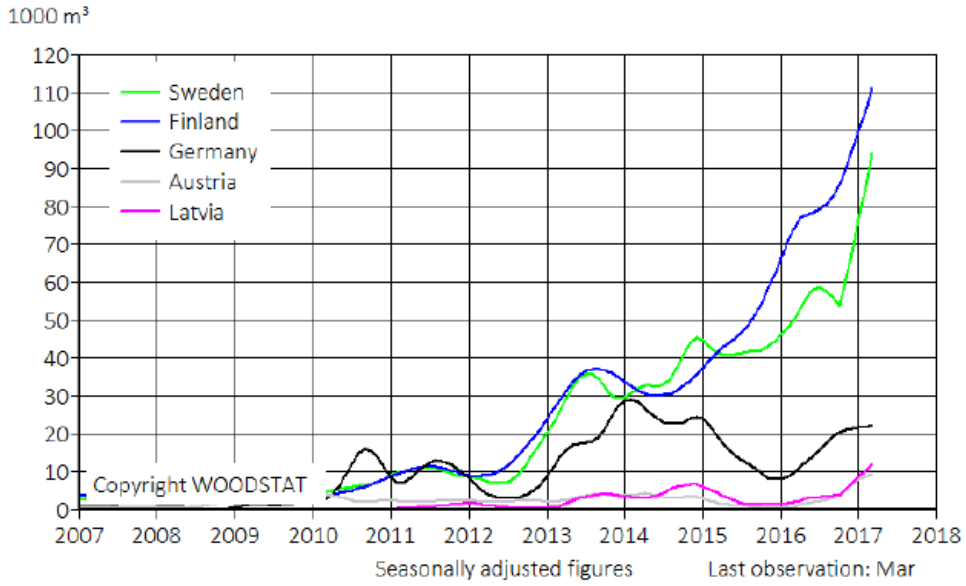
	2016	2015	2016/2015
Russia	11 643	8 531	+36%
Finland	914	584	+57%
Sweden	685	509	+35%
Germany	177	192	-8%
Baltics	82	55	+49%
Austria	35	17	+106%
Ukraine	32	22	+45%
Total	**13 568**	**9 910**	**+37%**

Figure 1: China softwood lumber import



Source: Chinese Customs

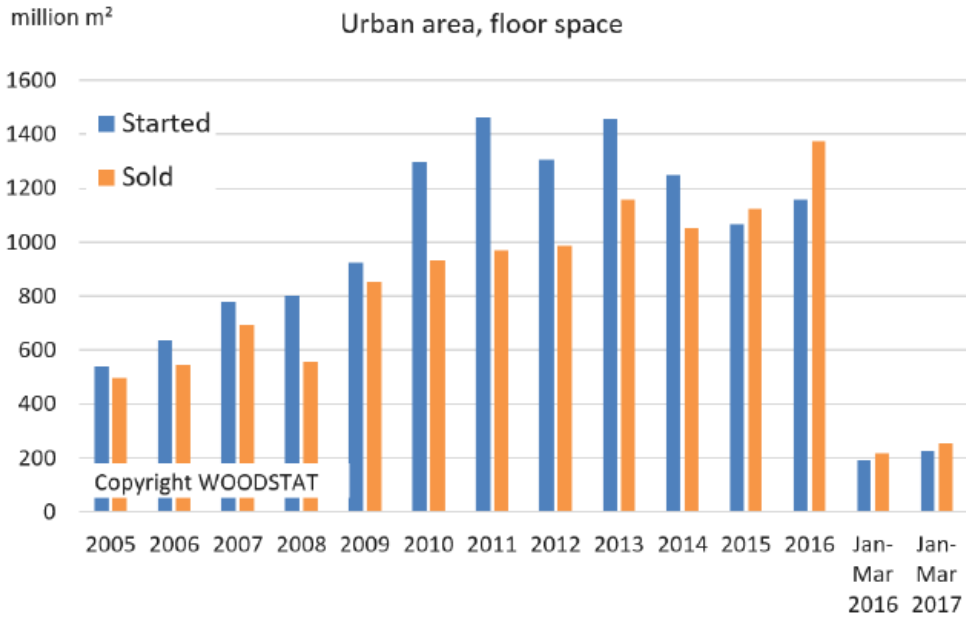
Figure 2: China monthly import of softwood lumber



Source: Chinese Customs

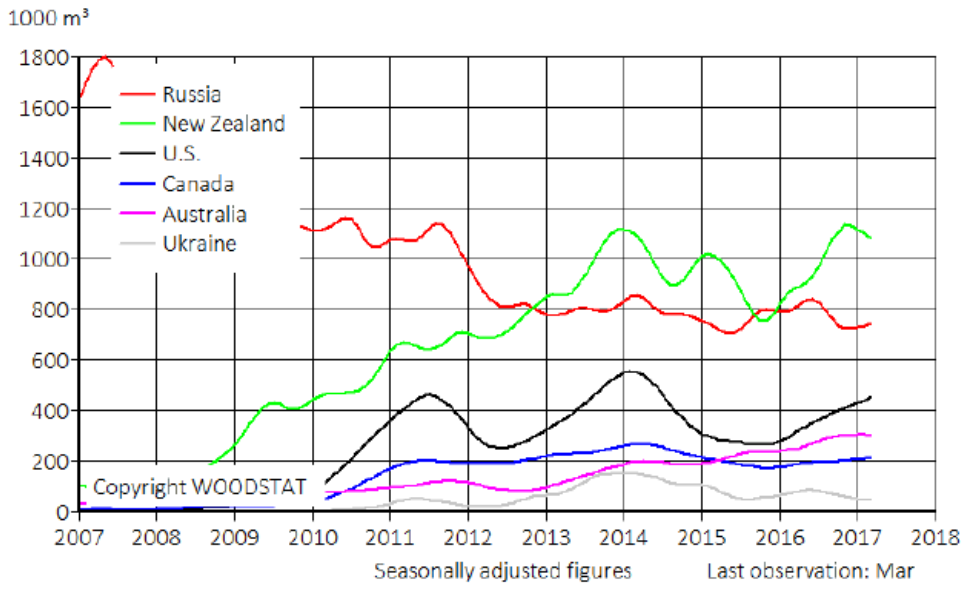
The rapidly increasing import in China is obviously a consequence of the increased building rate, whose floor space increased by 8.7% during 2016. Rapid urbanization in Chinese cities is the main cause for this. However, this has also caused lots of unsold apartments in smaller cities. Last year there was however an important change in the Chinese building industry as the amount of sold housing surpassed the amount of started housing. Hence the stock of unsold housing decreased which is important to stabilize the building industry long term. Housing prices in major cities have been increasing rapidly for several years but that trend

Figure 3: China residential buildings, started & sold



Source: China Statistical Information

Figure 4: China monthly import of softwood logs

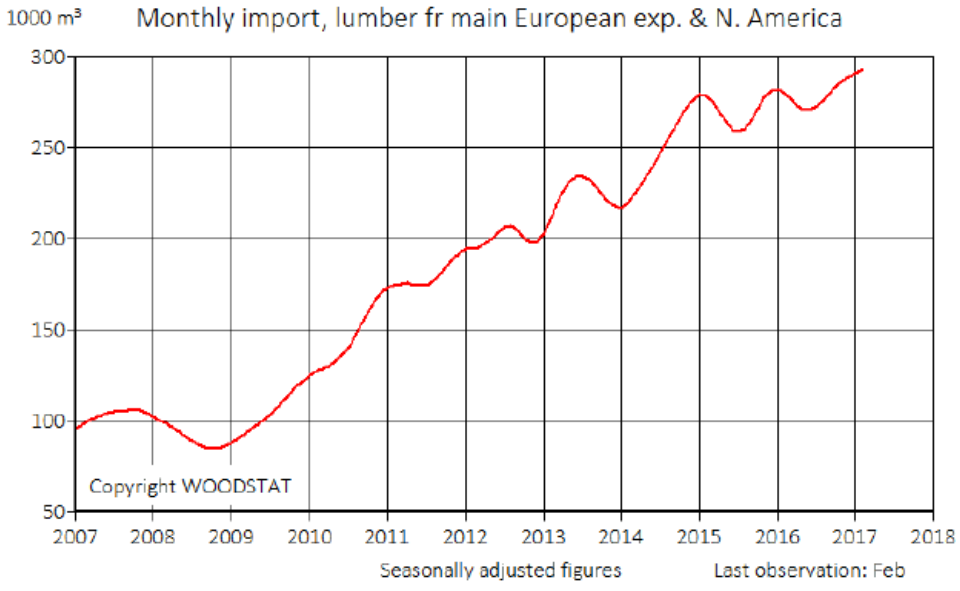


Source: Chinese Customs

has stopped and we are now seeing essentially constant pricing.

There is however another variable to consider; China's falling import of softwood logs from Russia. In the last 10 years, the import of softwood log has been cut in half while softwood lumber has increased by 700%. At the same time the log import from New Zealand has increased a lot and log prices has gone up significantly. The total log import increased slightly during 2016 but ended up less than the figure for 2014. It is however not only logs from Russia and New Zealand that satisfies China's demand as US, Canada and Australia all

Figure 5: Southeast Asia excl. China & Japan



Source: Eurostat, Russian Customs, USDA, Statistics Canada

Table 2: The Southeast Asian (China and Japan excluded) import of softwood lumber from main European exporters (1 000 m³)

	2016	2015	2016/2015
Germany	514	427	+20%
Russia	444	421	+5%
Baltics	264	200	+32%
Sweden	219	182	+20%
Austria-Slovenia	196	136	+44%
Finland	134	116	+16%
Romania	75	71	+6%
Total	**1 846**	**1 553**	**+19%**

significantly contribute. Another important question is how much will be imported from North America in the long term now that demand is increasing in North America.

In the far east, China obviously dominates as an importer, but Japan imported just over 6 million m³ of softwood lumber in 2016. This is however 13% less than 10 years ago. Many other markets in the region for example South Korea, India, Pakistan and Taiwan are increasing the softwood import rapidly. The import in Southeast Asia (excluding China and Japan) from leading exporters ended up being 3.3 million m³ during 2016 and the trend is clearly increasing. Many countries in the region have strong growing economies with an expanding building industry which is why we can count on a continued increased demand.

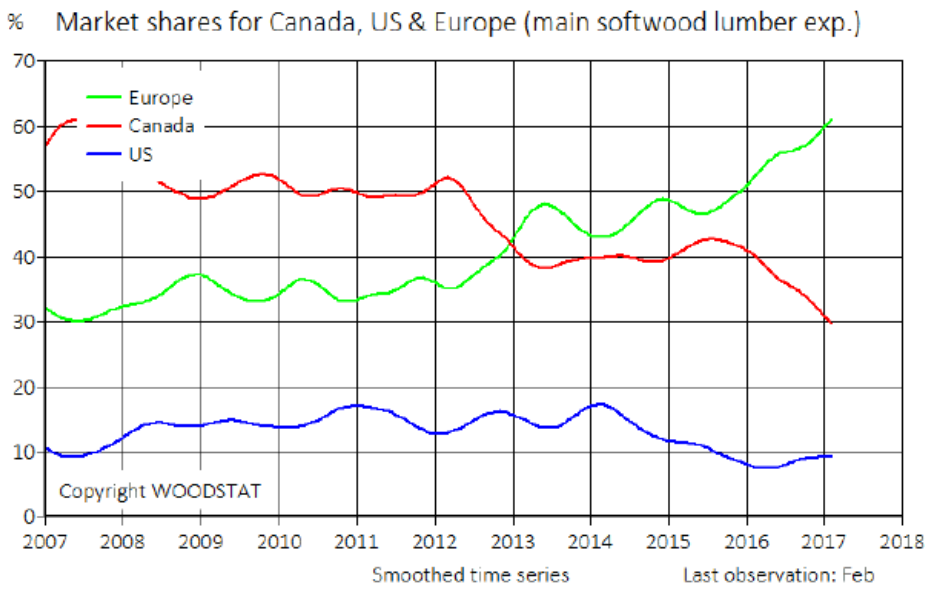
The European sawmills are now rapidly increasing the export to the region. Germany increased its delivery by 20% during 2016 (compared to 2015) and became the leading exporter with 514,000 m³. Russia increased its export by 5% and became the second largest exporter.

Europe is slowly gaining market share in the region primarily from Canadian sawmills who were the leading exporters only a few years ago. In the last ten years, we have seen the European market share double and it is now 60%. Simultaneously, Canada has lost half of its market share from more than 60% to just over 30% at the beginning of this year. Also, the US has lost market share in the region, it is now under 10%.

Increased construction in Asia, Europe and the US are now increasing the demand for lumber. We can also add the fact that there is an increased interest in using wood as a building material compared to other materials. The interest in using nature's own building material will have a positive impact on the lumber industry going forward.

Jenny Wessung
CEO
Woodstat AB
www.woodstat.com

Figure 6: Southeast Asia excl. China & Japan



Source: Eurostat, Russian Customs, USDA, Statistics Canada

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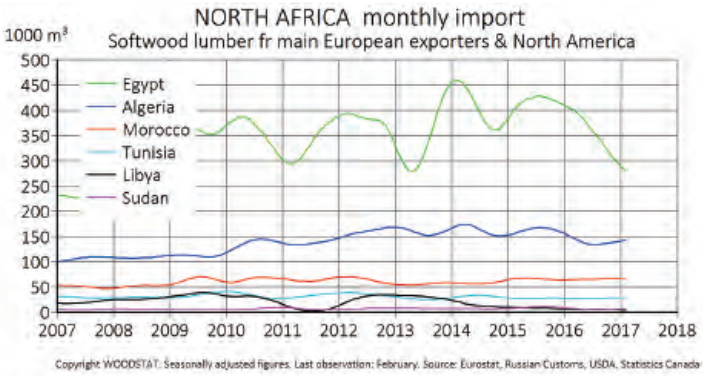

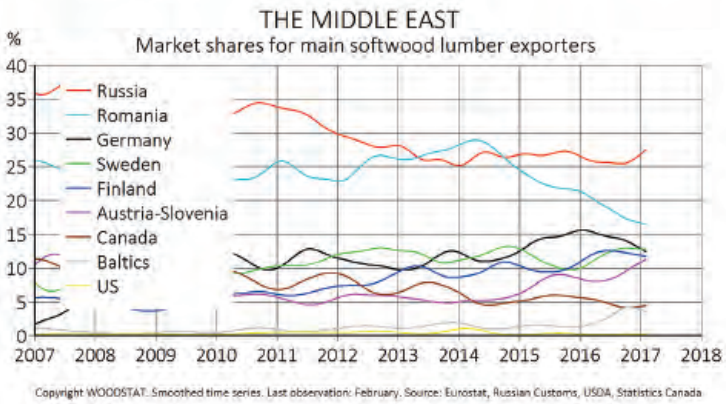

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2. The woodworking industries in the European Union (EU-28)

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.

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.

2.2 Production

The total production value of the woodworking industries in the European Union (EU) peaked in 2007 at 237 billion EUR before falling under 190 billion EUR in 2008 and 2009 as a result of the global economic crisis. The production value upturned in 2010 and grew further in 2011 but dropped again in 2012 and 2013, below the 200 billion EUR threshold. In 2014, the production value upturned again and, in 2015, it continued to grow by 3.4% and amounted to almost 218 billion EUR.

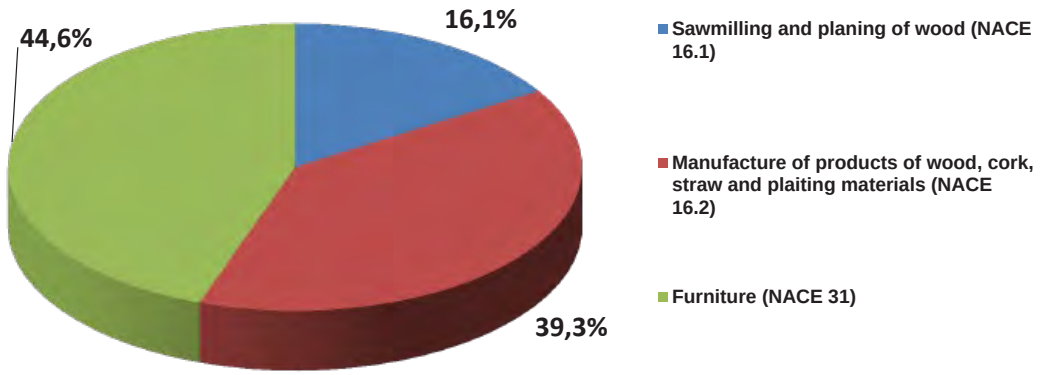
Table 2.2: Production in the woodworking industry in million EUR, 2011-2015 (NACE 16 & 31)

Production (excl VAT)	2011	2012	2013	2014	2015	15/11	15/14
16.1	33.749	33.001	32.758	34.890	35.116	*4,1%*	*0,6%*
16.2	84.191	80.842	79.318	83.583	85.522	*1,6%*	*2,3%*
Subtotal 16	117.940	113.842	112.076	118.473	120.638	*2,3%*	*1,8%*
31	90.560	89.183	87.632	92.139	97.204	*7,3%*	*5,5%*
Total 16 + 31	**208.500**	**203.026**	**199.708**	**210.612**	**217.841**	***4,5%***	***3,4%***

Source: CEI-Bois calculations & Eurostat

In 2015, the production value of sawmill products (NACE 16.1) grew slightly by 0.6%. The value of other woodworking products (NACE 16.2) also increased but to a bigger extent by 2.3%. Consequently, the woodworking industries stricto-sensu (NACE 16) rose by 1.8%. The production value in the furniture sector (NACE 31) increased more significantly (+5.5%).

Figure 2.1: Production 2015 – Relative importance of the sub-sectors

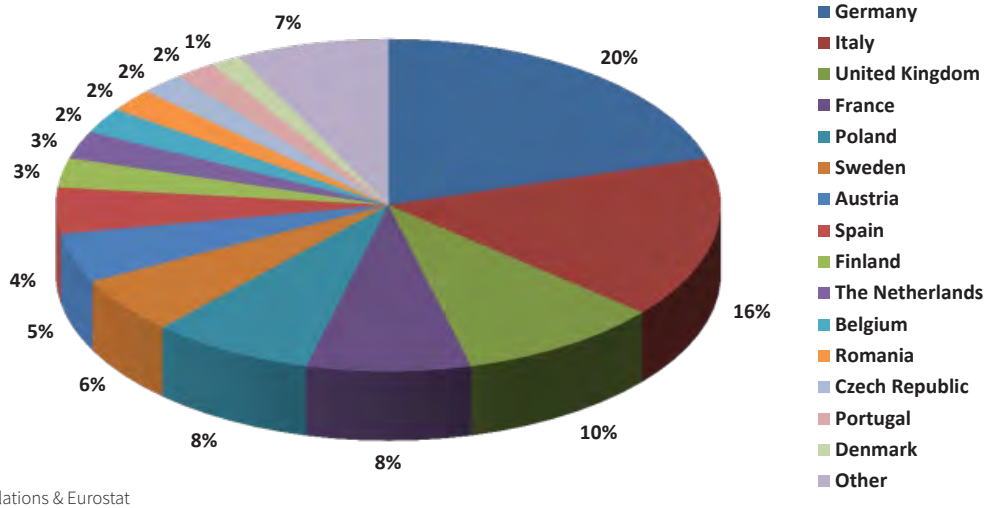


Source: CEI-Bois calculations & Eurostat

Thanks to its increase of activity in 2015, the share of the furniture sector (NACE 31) rose to 44.6% while other woodworking industries (NACE 16.2) represented 39.3% of the production. These increases were made at the expense of the sawmilling and planing of wood (NACE 16.1).

2.2.1 Production per Country

Figure 2.2: Production 2015 – Relative importance of the EU Member States (NACE 16 and 31)



Source: CEI-Bois calculations & Eurostat

Within the overall woodworking industries, Germany consolidated further its leading position thanks to a slightly but constantly increasing production value (+1.4%) which exceeded 44 billion EUR in 2015. Italy kept its second position, with an increase by 3.9% of its production value, while the United Kingdom consolidated and reinforced its third position (+16.6%) on the podium of the largest contributors to the production value of the woodworking industries in Europe. France, Poland, Sweden and Austria followed with a production value above 10 billion EUR each. French production dropped significantly by 6.4% while Polish production increased by 7.7%.

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Table 2.3: Production value per EU Member State in million EUR, 2011-2015

Production (excl VAT)	2011	2012	2013	2014	2015	15/11	15/14
Austria	10.470	10.403	10.288	10.299	10.490	*0,2%*	*1,9%*
Belgium	5.442	5.216	5.114	5.291	5.414	*-0,5%*	*2,3%*
Bulgaria	764	813	844	898	966	*26,4%*	*7,6%*
Croatia	864	872	933	1.011	1.087	*25,7%*	*7,5%*
Cyprus	223	187	134	129	130	*-41,7%*	*0,9%*
Czech Republic	4.693	4.468	4.276	4.293	4.548	*-3,1%*	*5,9%*
Denmark	3.290	3.334	3.193	3.214	3.235	*-1,7%*	*0,6%*
Estonia	1.711	1.759	1.973	2.198	2.362	*38,0%*	*7,5%*
Finland	6.759	6.552	6.502	6.392	6.200	*-8,3%*	*-3,0%*
France	18.364	17.637	17.264	18.556	17.362	*-5,5%*	*-6,4%*
Germany	42.084	43.158	42.643	43.824	44.446	*5,6%*	*1,4%*
Greece	1.343	961	699	702	689	*-48,7%*	*-2,0%*
Hungary	1.267	1.218	1.224	1.327	1.476	*16,5%*	*11,2%*
Ireland	1.149	892	1.082	1.464	1.460	*27,1%*	*-0,3%*
Italy	37.484	34.178	32.680	33.093	34.377	*-8,3%*	*3,9%*
Latvia	1.781	1.873	2.041	2.198	2.198	*23,4%*	*0,0%*
Lithuania	1.810	1.965	2.082	2.446	2.425	*34,0%*	*-0,9%*
Luxembourg	214	213	209	207	211	*-1,3%*	*1,7%*
Malta	53	47	51	56	58	*11,2%*	*3,5%*
Poland	13.728	13.332	14.269	15.938	17.171	*25,1%*	*7,7%*
Portugal	3.881	3.781	3.791	4.081	4.375	*12,7%*	*7,2%*
Romania	3.958	4.161	4.482	4.730	4.937	*24,7%*	*4,4%*
Slovakia	1.644	1.506	1.514	1.978	2.027	*23,3%*	*2,5%*
Slovenia	1.008	951	922	997	1.049	*4,0%*	*5,1%*
Spain	12.276	10.590	9.494	9.857	9.765	*-20,5%*	*-0,9%*
Sweden	12.315	11.885	11.362	11.783	12.128	*-1,5%*	*2,9%*
The Netherlands	5.866	5.542	5.119	5.319	5.886	*0,4%*	*10,7%*
United Kingdom	14.062	15.533	15.523	18.330	21.371	*52,0%*	*16,6%*
EU 28	**208.500**	**203.026**	**199.708**	**210.612**	**217.842**	***4,5%***	***3,4%***

Source: CEI-Bois calculations & Eurostat

Compared to 2014, the strongest growth rates of production value have been recorded in the United Kingdom (+16.6%), Hungary (+11.2%), the Netherlands (+10.7%), Poland (+7.7%), Bulgaria (+7.6%), Croatia and Estonia (+7.5% each). On the other hand, only France (-6.4%) and, to a lesser extent, Finland (-3%) experienced reductions of woodworking industries production value in the EU in 2015.

The production value of the woodworking industries stricto-sensu for the 28 countries of the EU rose further by 1.8% in 2015. It exceeded 120 billion EUR compared to a little more than 100 billion EUR in 2009, although it still remains below the peak level of 2008 which exceeded 125 billion EUR. The United Kingdom (+16.4%), the Netherlands (+10.4%), Bulgaria (+9.9%) and Hungary (+9.8%) experienced the highest increases in production value while Malta, France and Greece showed the largest decreases in 2015. Germany, Italy and the United Kingdom, at the expense of 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, 2011-2015

Production (excl VAT)	2011	2012	2013	2014	2015	15/11	15/14
Austria	7.571	7.490	7.443	7.454	7.575	*0,1%*	*1,6%*
Belgium	3.091	3.090	2.942	3.101	3.301	*6,8%*	*6,5%*
Bulgaria	376	392	416	440	484	*28,7%*	*9,9%*
Croatia	511	517	593	677	714	*39,6%*	*5,5%*
Cyprus	160	133	89	86	89	*-44,6%*	*3,6%*
Czech Republic	3.370	3.171	3.045	3.043	3.215	*-4,6%*	*5,7%*
Denmark	1.473	1.527	1.438	1.471	1.467	*-0,4%*	*-0,3%*
Estonia	1.332	1.361	1.554	1.765	1.867	*40,2%*	*5,8%*
Finland	5.646	5.465	5.466	5.386	5.186	*-8,1%*	*-3,7%*
France	11.335	10.993	10.579	11.462	10.733	*-5,3%*	*-6,4%*
Germany	22.470	22.641	23.406	24.158	23.447	*4,3%*	*-2,9%*
Greece	617	434	309	290	272	*-56,0%*	*-6,1%*
Hungary	706	674	682	752	826	*16,9%*	*9,8%*
Ireland	604	562	611	852	850	*40,7%*	*-0,3%*
Italy	17.323	14.639	13.224	12.993	13.271	*-23,4%*	*2,1%*
Latvia	1.621	1.680	1.829	1.964	1.956	*20,7%*	*-0,4%*
Lithuania	869	832	902	1.070	1.089	*25,3%*	*1,8%*
Luxembourg	195	196	192	190	195	*0,0%*	*0,0%*
Malta	14	11	10	13	8	*-42,9%*	*-36,0%*
Poland	6.591	6.682	6.944	7.687	8.106	*23,0%*	*5,5%*
Portugal	2.552	2.550	2.506	2.681	2.856	*11,9%*	*6,5%*
Romania	2.476	2.646	2.851	2.945	2.997	*21,0%*	*1,8%*
Slovakia	950	813	804	1.153	1.151	*21,3%*	*-0,1%*
Slovenia	619	607	610	646	693	*12,0%*	*7,3%*
Spain	6.321	5.483	4.999	5.288	5.330	*-15,7%*	*0,8%*
Sweden	9.390	8.999	8.584	9.164	9.426	*0,4%*	*2,9%*
The Netherlands	2.716	2.418	2.208	2.341	2.584	*-4,9%*	*10,4%*
United Kingdom	7.040	7.836	7.842	9.405	10.950	*55,5%*	*16,4%*
EU 28	**117.940**	**113.842**	**112.076**	**118.473**	**120.638**	***2,3%***	***1,8%***

Source: CEI-Bois calculations & Eurostat

The European furniture industry realised a total production value over 97 billion EUR in 2015 (+5.5%). Despite this further increase in production, the level was still low compared to the 2007 and 2008 peaks, which exceeded 110 billion EUR. The Italian production value, which increased by 5%, remained just above the German production value which rose by 6.8%. Both reached or exceeded the 21 billion EUR threshold. Luxembourg and France experienced, once again, the largest drops of production value in the furniture industry in 2015 (-6.8%, and -6.6% respectively). On the other hand, the United Kingdom, Malta, Estonia, Hungary, Croatia and the Netherlands showed the most important increases, above 10%.

Table 2.5: Production value per EU Member State in million EUR – furniture industry, 2011-2015

Production (excl VAT)	2011	2012	2013	2014	2015	15/11	15/14
Austria	2.899	2.913	2.845	2.845	2.915	*0,5%*	*2,4%*
Belgium	2.351	2.125	2.173	2.190	2.113	*-10,1%*	*-3,5%*
Bulgaria	388	421	428	458	483	*24,3%*	*5,4%*
Croatia	353	355	340	334	373	*5,6%*	*11,5%*
Cyprus	62	54	45	43	41	*-34,3%*	*-4,4%*
Czech Republic	1.323	1.297	1.232	1.250	1.333	*0,8%*	*6,6%*
Denmark	1.818	1.807	1.754	1.744	1.768	*-2,7%*	*1,4%*
Estonia	379	398	419	434	495	*30,6%*	*14,1%*
Finland	1.113	1.087	1.036	1.006	1.013	*-9,0%*	*0,7%*
France	7.029	6.644	6.685	7.094	6.629	*-5,7%*	*-6,6%*
Germany	19.614	20.518	19.237	19.666	20.999	*7,1%*	*6,8%*
Greece	726	526	390	413	417	*-42,6%*	*1,0%*
Hungary	561	544	543	575	650	*15,9%*	*13,1%*
Ireland	545	330	471	612	610	*11,9%*	*-0,3%*
Italy	20.161	19.540	19.456	20.101	21.106	*4,7%*	*5,0%*
Latvia	160	192	212	233	242	*51,4%*	*3,5%*
Lithuania	941	1.133	1.181	1.377	1.336	*42,1%*	*-2,9%*
Luxembourg	19	17	17	18	17	*-12,2%*	*-6,8%*
Malta	39	36	42	44	50	*30,9%*	*14,8%*
Poland	7.136	6.649	7.325	8.251	9.064	*27,0%*	*9,9%*
Portugal	1.329	1.231	1.284	1.400	1.519	*14,3%*	*8,5%*
Romania	1.482	1.516	1.631	1.785	1.940	*30,9%*	*8,7%*
Slovakia	695	693	711	825	875	*26,0%*	*6,1%*
Slovenia	389	344	312	351	355	*-8,7%*	*1,1%*
Spain	5.955	5.107	4.495	4.569	4.436	*-25,5%*	*-2,9%*
Sweden	2.925	2.887	2.778	2.619	2.702	*-7,6%*	*3,2%*
The Netherlands	3.149	3.124	2.911	2.978	3.303	*4,9%*	*10,9%*
United Kingdom	7.022	7.697	7.681	8.925	10.421	*48,4%*	*16,8%*
EU 28	**90.560**	**89.183**	**87.632**	**92.139**	**97.204**	***7,3%***	***5,5%***

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 34 billion EUR in 2015, reflecting a significant increase of 14.9% compared to 2014. It is important to note that trade figures for the furniture sector have been revised upward by official EU statistics. The furniture industry experienced the largest increase of imports (+16.2%), followed by other woodworking products stricto-sensu (+13.5%), while the imports of the sawmill industry rose by 8.8%.

Table 2.6: Extra-EU imports in million EUR, 2011-2015

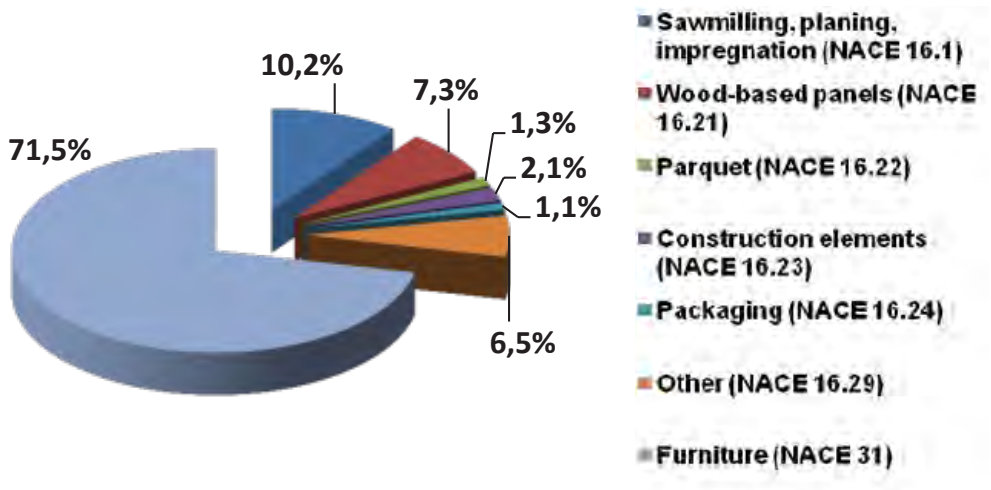
NACE code	2011	2012	2013	2014	2015	15/11	15/14
16.1	3.374	2.955	2.913	3.191	3.471	*2,9%*	*8,8%*
16.2	5.345	5.212	4.899	5.481	6.223	*16,4%*	*13,5%*
16,21	2.125	1.994	1.954	2.222	2.475	*16,5%*	*11,4%*
16,22	449	447	383	422	451	*0,4%*	*6,9%*
16,23	674	631	562	582	713	*5,8%*	*22,5%*
16,24	155	189	207	268	360	*132,3%*	*34,3%*
16,29	1.942	1.951	1.793	1.987	2.224	*14,5%*	*11,9%*
Subtotal 16	8.719	8.167	7.812	8.672	9.694	*11,2%*	*11,8%*
31	18.542	19.332	18.571	20.963	24.360	*31,4%*	*16,2%*
Total 16 + 31	**27.261**	**27.499**	**26.383**	**29.635**	**34.054**	***24,9%***	***14,9%***

Source: Eurostat

Imports of all the sub-sectors of other woodworking industries stricto-sensu (NACE 16.2) rose further in 2015. Imports of packaging (NACE 16.24) continued to increase significantly (+34.3%), whereas imports of other builders' carpentry and joinery (NACE 16.23), other products (NACE 16.29) and wood-based panels (NACE 16.21) rose by more than 10% each.

Furniture (NACE 31) accounted for almost 72% of the extra-EU imports of woodworking products in 2015. Sawmilling products (NACE 16.1) accounted for 10% of imports and other wood products (NACE 16.2) for 18%. More specifically, wood-based panels (NACE 16.21) and other products (NACE 16.29) represented 7% each.

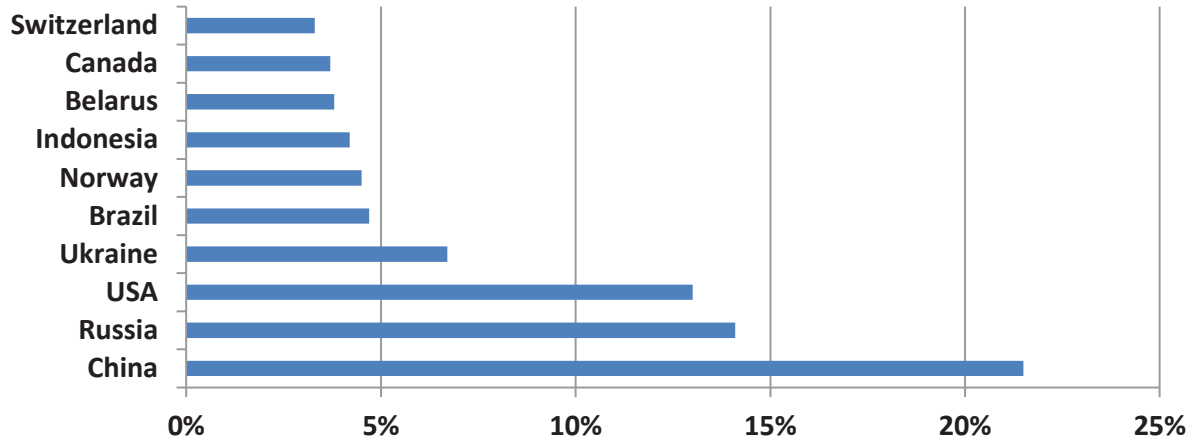
Figure 2.3: Extra-EU Imports 2015 – Relative importance of the NACE sub-sectors



Source: CEI-Bois calculations & Eurostat

In 2015, China and Russia continued to be the largest Extra-EU suppliers of wood products to the EU, with market shares of 22% and 14% respectively. The United States were the third largest trading partner with a rising market share of 13%. As in 2014, imports from American countries such as Brazil and Canada amounted together to approximately 9% of the market while only 8% of imports came from Norway and Switzerland together. 7% came from Ukraine and 4% from Belarus. Finally, Indonesia accounted for 4% of EU imports.

Figure 2.4: Extra-EU imports 2015 - Relative importance of main countries of origin



Source: CEI-Bois calculations & Eurostat

2.4 Extra-EU Exports

Table 2.7: Extra-EU exports in million EUR, 2011-2015

NACE code	2011	2012	2013	2014	2015	15/11	15/14
16.1	3.929	4.370	4.894	5.210	5.107	*30,0%*	*-2,0%*
16.2	6.015	6.707	7.028	6.850	7.082	*17,7%*	*3,4%*
16,21	2.603	2.915	3.002	2.882	2.915	*12,0%*	*1,1%*
16,22	382	418	444	448	460	*20,4%*	*2,7%*
16,23	1.723	1.940	2.103	2.036	2.144	*24,4%*	*5,3%*
16,24	429	479	530	524	553	*28,9%*	*5,5%*
16,29	878	955	949	960	1.010	*15,0%*	*5,2%*
Subtotal 16	9.944	11.077	11.922	12.060	12.189	*22,6%*	*1,1%*
31	17.044	19.009	20.399	21.106	22.320	*31,0%*	*5,8%*
Total 16 + 31	**26.988**	**30.086**	**32.321**	**33.166**	**34.509**	***27,9%***	***4,0%***

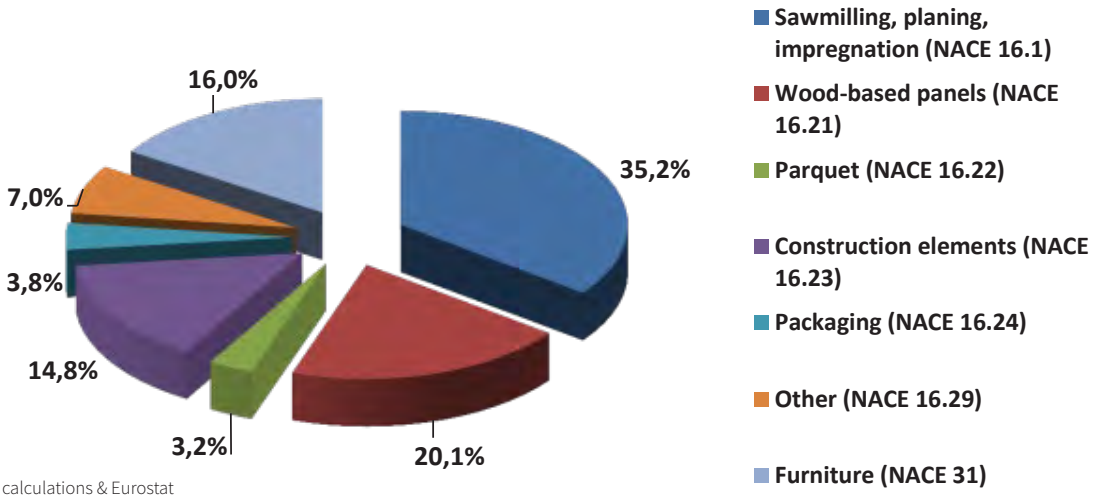
Source: Eurostat

The overall value of EU-28 exports of woodworking products exceeded 34 billion EUR in 2015 which was 4.0% more than in 2014. It is important to note that trade figures for the furniture sector have been revised upward by official EU statistics. Exports of woodworking products stricto-sensu upturned by 3.4% in 2015, reflecting increases of exports of all sub-sectors, and especially of packaging (NACE 16.24), construction elements (NACE 16.23) and other products of wood (NACE 16.29).

Furniture increased their exports by 5.8% while the value of sawmilling, planing and impregnation (NACE 16.1) exports declined by 2%.

Furniture (NACE 31) accounted for 65% of the extra-EU exports of woodworking products in 2015. Sawmilling products (NACE 16.1) accounted for a share of 15% of exports and other wood products (NACE 16.2) for a share of 21%. More specifically, wood-based panels (NACE 16.21) and construction elements (NACE 16.23) represented 8% and 6% respectively.

Figure 2.5: Extra-EU exports 2015 - Relative importance of the NACE sub-sectors



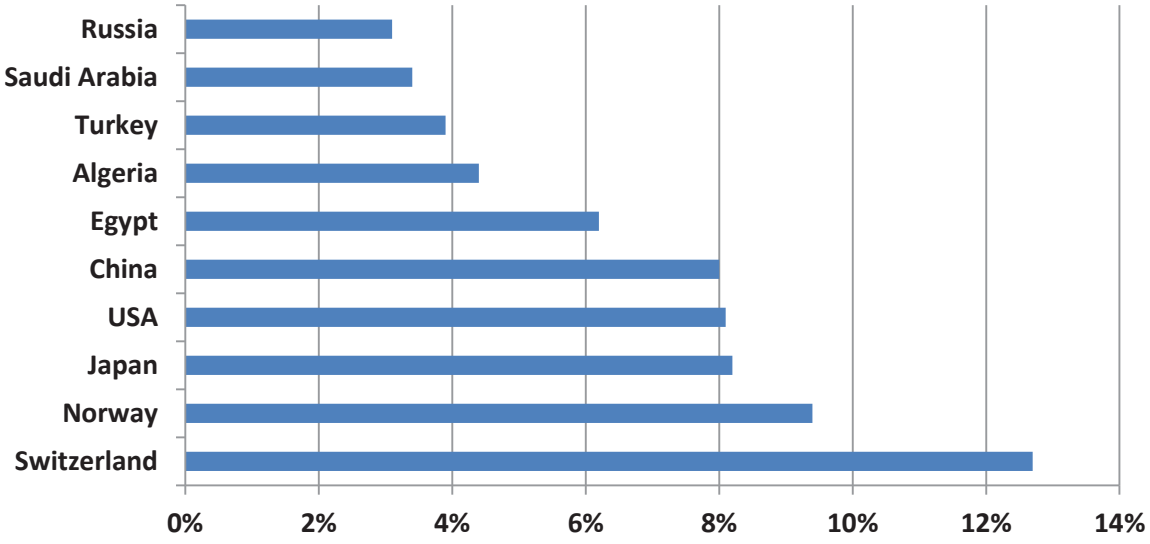
Source: CEI-Bois calculations & Eurostat

Transit trade not taken into consideration, the 28 Member States exports outside the EU amounted to 15.8% of their overall production in 2015. The woodworking industries stricto-sensu exported about 10.1% while the furniture sector sold 23% of its production outside the EU.

2.5 Destination of Exports

In 2015, the EU woodworking industries continued to export primarily to Switzerland, Norway and Japan which accounted for stable shares of 13%, 9% and 8% of extra-EU exports respectively. USA and China followed with both 8% of the extra-EU exports. Egypt accounted for 6% while Algeria and Turkey accounted for 4% each. Finally, Saudi Arabia and Russia, which collapsed to the bottom of the list, completed the top ten destinations of extra-EU exports.

Figure 2.6: Extra-EU exports 2015 - Relative importance of main destinations



Source: CEI-Bois calculations & Eurostat

2.6 Trade Balance

The trade balance for the woodworking industries is different according to the products. In total, the EU trade balance dropped from 3.5 billion EUR in 2014 to 0.5 billion EUR in 2015. The woodworking industries stricto-sensu (NACE 16) ended 2015 with a surplus of 2.5 billion EUR while the furniture industry (NACE 31) registered a negative balance of 2 billion EUR. In 2015, all sub-sectors of the woodworking industries stricto-sensu have positive trade balances except other woodworking products (NACE 16.29) whose balance remained, as usual, negative.

Table 2.8: Trade balance in million EUR, 2011-2015

NACE code	2011	2012	2013	2014	2015
16.1	555	1.415	1.981	2.019	1.636
16.2	670	1.495	2.129	1.369	859
16,21	*478*	*921*	*1.048*	*660*	*440*
16,22	*-67*	*-29*	*61*	*26*	*9*
16,23	*1.049*	*1.309*	*1.541*	*1.454*	*1.431*
16,24	*274*	*290*	*323*	*256*	*193*
16,29	*-1.064*	*-996*	*-844*	*-1.027*	*-1.214*
Subtotal 16	1.225	2.910	4.110	3.388	2.495
31	-1.498	-323	1.828	143	-2.040
Total 16 + 31	**-273**	**2.587**	**5.938**	**3.531**	**455**

Source: Eurostat

2.7 Apparent Consumption

Apparent consumption of wood products grew further by 5% in 2015 compared to 2014 and exceeded 217 billion EUR. The consumption of products from the woodworking industries stricto-sensu increased by 2.7%, while the apparent consumption of furniture rose by almost 8%. The other woodworking products (NACE 16.2) rose by 3% in 2015 while the sawmill, planing and impregnation products (NACE 16.1) sector experienced an increase by 1.9%.

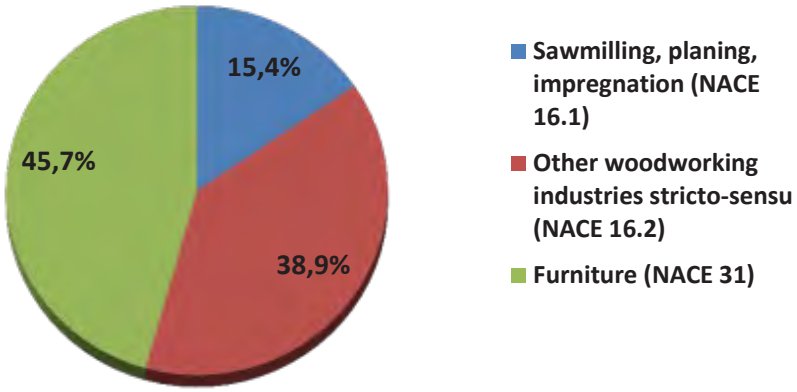
Table 2.9: Apparent consumption per sub-sector in million EUR, 2011-2015

NACE code	2011	2012	2013	2014	2015	*15/11*	*15/14*
16.1	33.194	31.586	30.777	32.871	33.480	*0,9%*	*1,9%*
16.2	83.521	79.347	77.189	82.214	84.663	*1,4%*	*3,0%*
Subtotal 16	116.715	110.933	107.966	115.085	118.143	*1,2%*	*2,7%*
31	92.058	89.506	85.804	91.996	99.244	*7,8%*	*7,9%*
Total 16 + 31	**208.773**	**200.439**	**193.770**	**207.080**	**217.387**	***4,1%***	***5,0%***

Source: CEI-Bois calculations & Eurostat

In this analysis, the consumption of sawmill products (NACE 16.1) amounted to 33.5 billion EUR and accounted for 15.4% of the total consumption of wood products in 2015. The consumption of other woodworking products (NACE 16.2) exceeded 84 billion EUR and represented 38.9% of the total consumption of wood products while the consumption of furniture (NACE 31) exceeded 99.2 billion EUR, meaning a relative consumption of 45.7%.

Figure 2.7: Apparent consumption 2015 - Breakdown per NACE sub-sector



Source: CEI-Bois calculations & Eurostat

2.8 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 industries should be estimated at substantially more than 2 million in 2015.

Table 2.10: Employment in the EU woodworking industries, 2011-2015

NACE code	2011	2012	2013	2014	2015	15/11	15/14
16.1	264.363	253.450	244.510	249.584	246.835	*-6,6%*	*-1,1%*
16.2	775.651	746.348	721.986	741.021	725.838	*-6,4%*	*-2,0%*
Subtotal 16	1.040.014	999.798	966.496	990.605	972.673	*-6,5%*	*-1,8%*
31	1.035.364	998.680	971.007	964.856	979.788	*-5,4%*	*1,5%*
Total 16 & 31	**2.075.378**	**1.998.478**	**1.937.503**	**1.955.461**	**1.952.461**	***-5,9%***	***-0,2%***

Source: CEI-Bois calculations & Eurostat

According to the Eurostat data, employment in the woodworking industries remained stable in 2015, being lower than the 2 million threshold. Employment declined in the woodworking industries stricto-sensu (-1.8%) while it upturned in the furniture sector by +1.5%. Within the woodworking industries stricto-sensu, decreases of employment were observed both in the other woodworking industries (-2.0%) and in the sawmill sector (-1.1%).

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Table 2.11: Employment in the EU woodworking and furniture industries per EU Member State, 2011-2015

number of employees	2011	2012	2013	2014	2015	15/11	15/14
Austria	63.932	63.796	62.009	60.989	60.051	-6,1%	-1,5%
Belgium	26.957	25.117	24.573	25.171	24.107	-10,6%	-4,2%
Bulgaria	38.288	38.126	38.376	38.815	39.234	2,5%	1,1%
Croatia	27.233	27.051	26.635	26.848	26.479	-2,8%	-1,4%
Cyprus	4.296	3.668	2.942	2.714	2.603	-39,4%	-4,1%
Czech Republic	88.914	87.196	81.707	80.269	80.605	-9,3%	0,4%
Denmark	21.721	21.059	20.053	20.174	20.331	-6,4%	0,8%
Estonia	21.767	22.933	23.118	24.230	25.154	15,6%	3,8%
Finland	33.408	32.150	30.030	28.686	27.999	-16,2%	-2,4%
France	142.861	125.291	121.815	121.750	116.883	-18,2%	-4,0%
Germany	279.148	275.500	279.440	277.298	273.536	-2,0%	-1,4%
Greece	29.415	23.451	14.874	14.605	15.400	-47,6%	5,4%
Hungary	34.609	33.817	33.402	34.043	35.976	3,9%	5,7%
Ireland	6.722	5.453	5.898	5.900	8.614	28,1%	46,0%
Italy	290.265	276.186	263.847	263.060	249.437	-14,1%	-5,2%
Latvia	28.029	29.404	30.825	30.604	31.516	12,4%	3,0%
Lithuania	41.967	44.342	46.264	50.904	50.683	20,8%	-0,4%
Luxembourg	187	173	169	161	161	-13,9%	0,0%
Malta	1.691	1.524	1.503	1.781	1.379	-18,5%	-22,6%
Poland	276.751	267.136	264.642	281.991	297.703	7,6%	5,6%
Portugal	67.099	60.958	57.000	57.671	57.916	-13,7%	0,4%
Romania	119.040	119.976	119.796	118.123	120.621	1,3%	2,1%
Slovakia	42.369	36.660	33.828	39.699	37.345	-11,9%	-5,9%
Slovenia	17.017	15.531	14.306	14.249	14.257	-16,2%	0,1%
Spain	138.136	119.812	108.634	103.317	100.102	-27,5%	-3,1%
Sweden	53.789	50.625	47.121	46.788	48.445	-9,9%	3,5%
The Netherlands	40.326	39.256	37.327	35.810	36.621	-9,2%	2,3%
United Kingdom	139.441	152.287	147.369	149.811	149.303	7,1%	-0,3%
EU 28	**2.075.378**	**1.998.478**	**1.937.503**	**1.955.461**	**1.952.461**	**-5,9%**	**-0,2%**

Source: CEI-Bois calculations & Eurostat

Among the 28 Member States, and thanks to a further increase of 5.6%, Poland consolidated its leading position in the employment ranking in the woodworking industries (NACE 16 + 31). Poland is now approaching the 300,000 jobs threshold. Besides Poland, Ireland, Hungary and Greece showed the most significant increases while Malta (-22.6%), the Slovak Republic (-5.9%) and Italy (-5.2%) experienced the largest decreases in employment in 2015.

Table 2.12: Employment in the EU woodworking and furniture industries per EU Member State, 2015

number of employees	16	16,1	16,2	31	16 + 31
Austria	32.547	10.380	22.167	27.504	60.051
Belgium	12.588	1.344	11.244	11.519	24.107
Bulgaria	17.394	6.623	10.771	21.840	39.234
Croatia	16.657	7.439	9.218	9.822	26.479
Cyprus	1.760	9	1.751	843	2.603
Czech Republic	54.477	7.882	46.595	26.128	80.605
Denmark	9.412	882	8.530	10.919	20.331
Estonia	17.212	5.279	11.933	7.942	25.154
Finland	20.870	8.581	12.289	7.129	27.999
France	66.890	19.011	47.879	49.993	116.883
Germany	130.252	24.677	105.575	143.284	273.536
Greece	6.800	890	5.910	8.600	15.400
Hungary	18.030	5.060	12.970	17.946	35.976
Ireland	4.286	986	3.300	4.328	8.614
Italy	112.952	14.986	97.966	136.485	249.437
Latvia	24.852	13.416	11.436	6.664	31.516
Lithuania	23.144	8.292	14.852	27.539	50.683
Luxembourg	0	0	0	161	161
Malta	183	0	183	1.196	1.379
Poland	123.838	36.241	87.597	173.865	297.703
Portugal	28.351	5.125	23.226	29.565	57.916
Romania	56.920	29.245	27.675	63.701	120.621
Slovakia	22.779	10.257	12.522	14.566	37.345
Slovenia	8.441	2.075	6.366	5.816	14.257
Spain	46.005	5.978	40.027	54.097	100.102
Sweden	33.321	12.933	20.388	15.124	48.445
The Netherlands	13.365	1.355	12.010	23.256	36.621
United Kingdom	69.347	7.889	61.458	79.956	149.303
EU 28	**972.673**	**246.835**	**725.838**	**979.788**	**1.952.461**

Source: CEI-Bois calculations & Eurostat

In terms of employment, the furniture industry represented half of the jobs, the sawmill industry accounted for 12.6% of the employment while the other sub-sectors accounted for 37.2%. Again this year, in the sawmill industry (NACE 16.1) and the furniture sector (NACE 31), most people were employed in Poland. Germany continues to dominate the other sub-sectors (NACE 16.2).

2.9 Number of Enterprises

According to Eurostat, the woodworking industries counted more than 290,000 companies in 2015, meaning a decrease of about 1,500 companies compared to 2014. Among these 290,000 companies, 120,000 were active in the furniture business (NACE 31) while the sawmill industry (NACE 16.1) and the other sub-sectors of woodworking products (NACE 16.2) accounted for roughly 34,500 and 136,000 companies respectively. These figures

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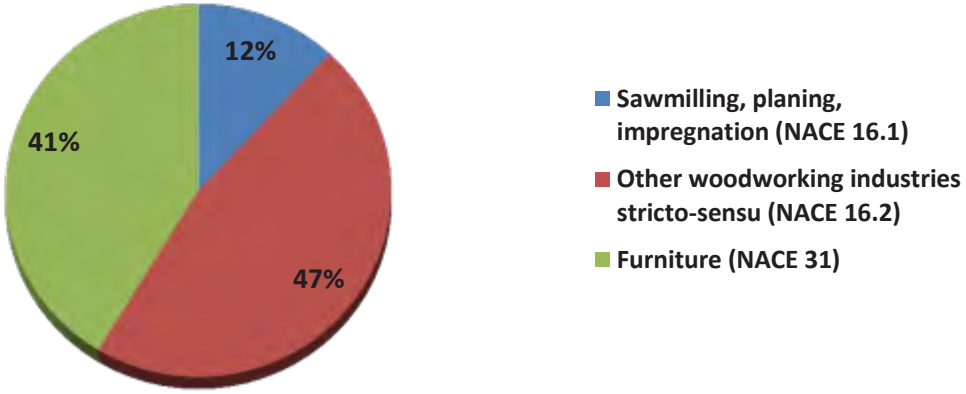
may be underestimations since small companies are not necessarily taken into account in the Member States' reporting. In the furniture and the construction elements sectors, the number of small companies is considerable and therefore, the real number of firms could be estimated at more than 350,000 companies.

Figure 2.8: Number of enterprises 2015 - Breakdown per NACE sub-sector



Source: CEI-Bois calculations & Eurostat

Preface

Svenskt Träteknisk Forum, Suomen Sahateollisuusmiesten Yhdistys and Treindustriens Tekniske Forening, Norway, (the Association of Swedish Wood Processing Forum, the Association of Finnish Sawmillmen and the Norwegian Sawmillmen's Association) have jointly updated the 1994 edition of the Nordic Timber Grading Rules also known as Nordic Timber or the Blue book.
The background of this update is that the market has gradually changed through new sales techniques, customer-specific products and changes in product ranges etc, resulting in a need to update the Grading Rules. Information about the intended updates was sent to member companies of the above mentioned associations in Sweden, Norway and Finland, and at the same time we asked whether they felt any additional changes were needed.
NORDIC TIMBER forms a tool for training of graders and others who work in the timber trade.

Introduction

The GRADES listed in NORDIC TIMBER reflect qualities that the forest sector produces on a sustained basis and which the sawmills are able to continuously deliver to the markets. The NORDIC TIMBER grading practice, which will be applied in all the Nordic countries, illustrates the potential for sawmills to adjust themselves to delivering sawn timber which meets the end-users demand and requirements. NORDIC TIMBER applies to both the export and domestic markets. It divides the sawn timber into GRADES according to the wood features: GRADE US, GRADE V, GRADE VI, and GRADE VII. In this new edition the traditional quality names US, V, VI and VII are again used instead of A, B, C and D, since the system of letter grades, introduced in 1994, has not been widely adopted.

3. Economic overview of the wood markets

3.1 Wood Raw Materials

In the UNECE Region (Europe, CIS Countries and North America) total removals of wood in the rough reached in 2015 1.317 billion m^3. This figure is projected to rise to 1.332 billion m^3 in 2016 and 1.35 billion m^3 in 2017.

Wood fuel represents overall 15.2% of total removals of wood in the rough in the UNECE region. This figure is expected to slightly decline to 15% in 2017. There are however significant differences at regional and country level.

In Europe, up to 23% of wood removed in the rough was used for fuel. Such figure was expected to decline to 22.8% in 2017. At local level, the variance is considerable: wood fuel represents a remarkable 93% of total wood removed in Albania, 82% in Serbia, 81% in Macedonia, while in Western Europe the wood fuel share is especially high in Denmark (64%), Italy (59%), and France (52%). Conversely, in countries such as Germany (18%), the UK (18%), Finland (13%), Sweden (9%), Slovakia (6%) and Portugal (5%), the wood fuel share is much lower.

In the CIS region in 2015 the wood fuel share was 14%, and this figure is not expected to change over the next couple of years, while in North America the wood fuel share is at around 8.6%, a figure which is projected to remain stable in 2016 and 2017. Differences within North America are significant, as Canada share is just 2.9% while the US share is 10.7%.

However, UNECE/FAO recommends taking these data with a pinch of salt: "data for roundwood removals for fuel are unreliable because few countries have consistent methods of collecting relevant data for this increasingly important end use; nevertheless, it is clear that a fairly large share of forest removals are used for energy" (FAO Annual Review 2015-2016).

As regards industrial roundwood, it makes up almost 85% of total removals of wood in the rough in the UNECE region, with significant differences across the region. Indeed, in Europe its share is 77%, while in the CIS region is 86% and in North America 91%. Of the total industrial roundwood removals of 1.1 billion m^3 in the UNECE in 2015, 58.8% was accounted for by logs. This figure is expected to remain stable over the next couple of years.

In general, the demand of wood (both industrial roundwood and wood fuel) is growing across all regions. Total log use reached its highest level in almost ten years in each of the three UNECE sub-regions in 2015. Almost all of the increase in the timber harvest in the UNECE region in 2015 was accounted for by softwood logs, while removals of hardwood logs were steady.

The table below shows the main market indicators in the last 6 years in the UNECE region (2016 forecasts, data are shown in 000 m^3). Apparent consumption has increased, outpacing the growth of removals.

Table 3.1: Industrial Roundwood main indicators, UNECE Region, 2011-2016 (1.000 m^3)

	Industrial Roundwood							
UNECE region	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**15/14**	**16/15**
Removals	1.066.535	1.053.406	1.069.642	1.095.284	1.105.499	1.108.795	0,9	0,3
Imports	59.720	56.367	64.013	62.318	61.824	61.309	-0,8	-0,8
Exports	86.715	79.270	90.012	92.128	86.136	88.310	-6,5	2,5
Net trade	26.995	22.903	25.999	29.810	24.313	27.001		
Consumption	1.039.540	1.030.503	1.043.642	1.065.474	1.081.186	1.081.794	1,5	0,1

Source: FAO 2016 and EOS re-elaboration, 2016 data are estimates

The UNECE region continues to be a net exporter of logs, with globally significant trade flows of softwood logs from North America and the Russian Federation to China and the Republic of Korea. After a solid growth in 2013 and 2014, net trade sharply reduced in 2015, due to a marked diminution of exports. In 2016, however, exports are expected to pick up again. Imports are also slightly decreasing. Overall decline of exports is due to lower-than-expected shipments to China from New Zealand, the Russian Federation and the US, which were all lower in 2015 compared with 2014.

By and large, UNECE/FAO reports the global trade of softwood logs fell by almost 10% in 2015, to just over 76 million m^3 (Wood Resources International, 2016), due predominantly to lower demand for wood raw materials in the major Asian markets. Demand for imported logs picked up in early 2016, however, with higher volumes shipped to both China and Japan in the first five months of 2016 compared with the same period in 2015.

3.1.1 Europe – Industrial Roundwood

Table 3.2: Industrial Roundwood main indicators, Europe, 2011-2016 (1.000 m^3)

Europe	2011	2012	2013	2014	2015	2016	15/14	16/15
Removals	373.166	363.464	367.292	381.617	389.205	387.478	2,0	-0,4
Imports	53.623	49.992	57.644	56.588	55.463	54.927	-2,0	-1,0
Exports	41.306	37.800	43.132	44.448	43.025	44.266	-3,2	2,9
Net trade	-12.317	-12.192	-14.512	-12.140	-12.437	-10.661		
Consumption	385.483	375.656	381.804	393.757	401.642	398.139	2,0	-0,9

Source: FAO 2016 and EOS re-elaboration, 2016 data are estimates

Industrial roundwood removals in 2015 in Europe reached 389.2 million m^3, a figure higher than previously forecast, up 2% vs the previous year. This number has been projected to somewhat decrease in 2016. Softwood removals were up by 1.6% in 2015 to 298 million m^3, while hardwood removals grew by more than 3% to 91.2 million m^3. European demand for logs in 2015 followed the same trend of log production, with log consumption reaching its highest level since 2007. The largest producer of logs is Sweden (68 million m^3). A distant second comes Finland (51 million m^3), followed by Germany (45 million m^3), Poland (36 million m^3) and France (25 million m^3). At global level Sweden is the sixth biggest producer, while six European countries (including Turkey) are among the 20 largest producers. The largest increases in log use by domestic forest industries in the five years to 2015 were in Finland (+5.9 million m^3), Turkey (+3 million m^3), Poland (+2.7 million m^3) and Sweden (+2.6 million m^3). Conversely, log consumption decreased in the five-year period in Norway (-2.4 million m^3), Italy (-1.1 million m^3) and France (-0.9 million m^3), while it was stable in Germany. According to UNECE/FAO, "the main reasons for the changes in log consumption have been higher lumber production (northern Europe and Poland), a rise in the production of composite board (Turkey), reduced pulp production (Norway), lower lumber production (France), a decline in composite board manufacturing (Italy), and, in general, fewer roundwood imports".

As far as trade is concerned, Europe continues to be a net importer of industrial roundwood. Softwood and hardwood, however, keep showing diverging trend as the trade deficit of softwood was around 6 million m^3 in 2011 and is projected to almost halve to 3.3 million m^3 in 2016, while the logs' hardwood trade deficit is increasing: it was 6.3 million in 2011 and it was expected to reach 8.2 million.

Some of the most relevant changes in log trade flows over the past few years have been in the Nordic countries and in central Europe. The largest European importers of roundwood in 2015 was Germany (8.6 million m^3, +22.5% vs 2011) followed by Austria (7.6 million m^3), Sweden (6.9 million m^3), Finland (5.7 million). Italy imported in 2015 2.6 million m^3, a figure which is 20% lower than in 2011. UNECE/FAO reports that Germany and Austria are respectively the world's second largest and third-largest importers of softwood logs; during the global financial crisis, in 2008, Germany was a net log exporter by about 1.6 million m^3, but the flow of softwood logs has had a complete turnaround: the country was a net log importer (by 5.4 million m^3) in 2015. The largest log-supplying countries in 2015 and early 2016 to Germany were (in descending order, by volume) the Czech Republic, Poland, Norway and Estonia.

The largest exporters of industrial roundwood were France, Czech Republic, Norway, Latvia, and Germany, with figures ranging between 4.2 and 3.7 million m^3. In the last few years the Baltic countries have lost market share in Scandinavia as the subdued Russian ruble has made Russian exports extremely competitive: shipments of softwood logs from the Baltic countries have declined steadily (from 3.1 million m^3 in 2011 to about 1.3 million m^3 in 2015). Exports of hardwood logs from the Baltic States also fell (by almost 30%) in the five years to 2015.

3.1.2 CIS Region – Industrial Roundwood

The timber harvest in the CIS region (of which the three largest countries are Russia, Ukraine, and Belarus, where most of the forest-based industry of the region is located) has been growing for a number of years. 2015 saw a slight decrease in the pace of growth, but in 2016 removals are expected to grow by 3% to 216 million m^3. Softwood species account for about two thirds of total harvest, and this percentage has been growing. However, non coniferous species' removals are also increasing.

In 2015, log exports accounted for an estimated 13% of the harvest in the three countries combined. Export volumes slowed down, however, in both the Russian Federation and Ukraine because of, *inter alia*, slowing demand, especially in China, the Republic of Korea and Turkey. Overall, exports were expected to grow again in 2016, reaching 26.6 million m^3.

Table 3.3: Industrial Roundwood main indicators, CIS Region, 2011-2016 (1.000 m^3)

CIS	2011	2012	2013	2014	2015	2016	15/14	16/15
Removals	191.931	196.125	199.661	208.029	210.258	216.512	1,1	3,0
Imports	864	713	571	559	550	550	-1,6	0,0
Exports	25.949	23.149	25.158	27.022	25.550	26.599	-5,4	4,1
Net trade	25.085	22.436	24.587	26.463	25.000	26.049		
Consumption	166.846	173.690	175.075	181.566	185.259	190.463	2,0	2,8

Source: FAO 2016 and EOS re-elaboration, 2016 data are estimates

Russia is of course the major producer of industrial roundwood in the region with 190.5 million m^3 removed in 2015. In the five years to 2015, harvests in Russia grew by an aggregated 8.5%. UNECE/FAO reports that the increase in the timber harvest in 2015 was not uniform across the country, however: it was higher in the eastern provinces of Siberia and the Russian Far East, while harvests declined in most central and western provinces. Moreover, it is worth emphasizing that the exactness of harvesting data in the Russian Federation is far from certain because, in addition to official estimates, the Russian government acknowledges that there is "undocumented" timber harvesting. What is more, the amount of illegal harvesting remains unclear and estimates of the illegal harvest vary substantially. Recent government's reports estimate a relatively lowly figure of 2 million m^3 a year, while WWF Russia and the World Bank put the number at a dramatic 35-40 million m^3. President Putin himself has acknowledged the problem, stating that it affects especially the Russian Far East.

The Western sanctions connected to the deteriorating geopolitical situation in Eastern Europe still took their toll on the Russian economy in 2016. However, the rate of growth of the GDP in 2016 was around -0.5%, which is a marked improvement compared to 2015. As a result of the deteriorating macroeconomic picture, the ruble remains very weak in historical terms – though the Russian currency in 2016 has been slowly strengthening again. In spite of overall logs consumption having grown by 10% to 171 million m^3 in the year 2015, there are reasons to believe that the domestic consumption of forest products remains low and higher demand for logs was driven mainly by improved export opportunities for processed products such as sawnwood. Russia, officially, remains the world's largest exporter of industrial roundwood with 19.4 million m^3 exported in 2015.

Belarus, due to its geographical proximity, is an interesting country for Europe. Data from Belarus is not considered too easy to retrieve – removals of industrial roundwood look like being in the region of 11.3 million m^3, making it a relatively large producer. Removals appear on the rise in the last 5 years, while exports in 2015 were 2.7 million m^3. In 2015,

the President of Belarus signed a law banning log exports, with has entered into force in 2016. The law contains a clause, however, declaring that it is possible to exempt some exporters from the ban. The situation is blurred and it is unclear to predict how the logs trade patterns are changing. Politically, it looks like Belarus is tentatively opening to Western Europe. President Lukashenko, in January 2017, signed a decree allowing citizens from, inter alia, the European Union, America and 51 other countries visa-free entry to the country. The policy has limits: visitors are only eligible for exemption if they enter Belarus via Minsk Airport and stay for a maximum of five days. However, according to *The Economist*, the move "signals a significant shift. […]. By opening borders, Mr Lukashenko hopes to attract investment and generate trade with the West." (*The Economist*, January 2017).

Ukraine was in 2015 the world's fourteenth largest exporter of roundwood. In the last five years, production has remained quite stable, at around 8 million m^3. Under the existing Ukrainian policy, log exports from the country are banned for ten years as of 1 November 2015, with the exception of pine log exports, which are banned from January 2017. It remains to be seen for how long the ban will be in force.

3.1.3 North America – Industrial roundwood

Table 3.4: Industrial Roundwood main indicators, North America, 2011-2016 (1.000 m^3)

North America	2011	2012	2013	2014	2015	2016	15/14	16/15
Removals	501.439	493.817	502.688	505.637	506.036	504.805	0,1	-0,2
Imports	5.233	5.662	5.798	5.171	5.810	5.831	12,4	0,4
Exports	19.461	18.321	21.723	20.658	17.561	17.445	-15,0	-0,7
Net trade	14.227	12.659	15.925	15.487	11.750	11.614		
Consumption	487.212	481.158	486.764	490.150	494.286	493.191	0,8	-0,2

Source: FAO 2016 and EOS re-elaboration, 2016 data are estimates

In the last five years total harvest in North America has been overall stable. Relatively to their huge harvest, imports and exports do no account for a big percentage, though the US and Canada do remain the third and fourth largest exporters in the world of industrial roundwood.

The US accounts for more than 70% of total North America' removals; such share has remained stable over the last 5 years (355 million m^3, which is a similar value to 2011).

According to the UNECE," expert analysis based on derived log consumption by the forest industry in the US and net log trade, however, indicates that actual removals of industrial roundwood were closer to 411 million m^3 in 2015, which was 10% higher than in 2011 (the totals in table 4.4.1 are based on official figures). The major reason for the increase in log consumption in the five-year period was higher lumber and pellet production. Softwood lumber production was 21% higher in 2015 than in 2011".

Net log exports by North America fell from 15.5 million m^3 in 2014 to 11.8 million m^3 in 2015, due mainly to shrinking demand for softwood logs in Asia. Projections for 2016 do not point to an inversion of this trend, as shipments are expected to slightly decline. A strong dollar and lower appetite for raw materials in large Asian importing countries meant that log exports from the US west coast to Asia fell considerably (by 33%) from 2013 to 2015, to 6 million m^3. Indeed, the reduced demand for US logs was not limited to China; demand was also down in Japan and the Republic of Korea.

According to official statistics, removals of industrial roundwood in Canada have been slowly but steadily increasing in the last few years. Growth especially accelerated in 2015 vs 2014 (+1.7%) when removals reached 151 million m^3. However, as far as Canada is concerned, UNECE cautions that "according to expert analysis based on derived domestic log consumption and net log trade, roundwood removals increased by 17% from 124 million m^3 in 2011 to a nine-year high of 145 million m^3 in 2015". Higher production in Canadian softwood sawmill is responsible for the increase in log consumption.

Regarding trade, as far as 2015 is concerned, log shipments from British Columbia to Asia (the largest outflow from

Canada) have also fallen in recent years, from just over 6 million m³ in 2013 to 4.9 million m³ in 2015. Shipments declined to both the major markets, China (by 20%) and Japan (by 30%), in the two-year period to 2015. There are signals, however, of a turnaround in 2016 with exports picking up both to China and Japan. It remains to be seen whether this trend will be sustained in the next few months.

3.1.4 Global Focus and Extra Unece region – Industrial Roundwood

Table 3.5: World largest producers, exporters and importers of roundwood, 2015 (m³)

Production		Exports		Imports	
United States of America	354.678.412	Russian Federation	19.437.092	China	45.384.322
Russian Federation	190.507.000	New Zealand	14.688.479	Germany	8.579.330
China	162.484.300	United States of America	11.498.000	Austria	7.659.944
Canada	151.357.559	Canada	6.062.610	Sweden	6.940.767
Brazil	149.530.000	France	4.284.181	India	5.722.238
Sweden	68.100.904	Czech Republic	4.110.000	Finland	5.709.018
Indonesia	62.605.500	Norway	3.987.100	Canada	4.614.344
Finland	51.446.411	Latvia	3.836.744	Belgium	4.407.345
India	49.517.000	Germany	3.656.620	Japan	3.732.000
Germany	45.118.968	Australia	3.615.779	Republic of Korea	3.140.707
Chile	42.590.000	Papua New Guinea	3.578.855	Italy	2.676.723
Poland	36.460.000	Belarus	3.062.784	Poland	2.588.532
New Zealand	29.956.000	Malaysia	2.978.809	Czech Republic	2.542.000
France	25.507.631	Ukraine	2.939.711	Portugal	2.484.761
Australia	25.299.000	Spain	2.604.375	Viet Nam	2.097.470
Japan	21.258.000	Poland	2.542.180	Romania	1.792.438
Turkey	20.008.000	Estonia	2.431.072	Spain	1.749.521
Malaysia	17.786.000	Slovakia	2.402.591	France	1.347.339
Thailand	14.600.000	Slovenia	2.306.227	Latvia	1.299.513
South Africa	14.406.172	Solomon Islands	2.295.000	United States of America	1.196.000

Source: FAO 2016 and EOS re-elaboration

Outside the UNECE region, China, Brazil, and Indonesia are major producers, while New Zealand is the world's second largest exporter, Australia is the tenth (+1 million in 2015 vs 2014 for a total of 3.6 million m³ exported, as it became a very important logs supplier to China. In 2011 Australia shipped only 1.1 million m³), followed by Papua New Guinea, which is the eleventh (but it exported in 2015 half a million m³ less than in 2014 to 3.6 million m³) while Malaysia is the thirteenth (it also exported in 2015 half a million m³ in less than in 2014 to 3 million m³). Out of the non-EOS European countries, Czech Republic remains a very important exporter – the largest in Europe after France. However, in 2015 it exported almost 800,000 m³ less than in 2014.

Regarding imports, China remains by far the largest world importer but with a much-diminished share in 2015 compared with 2014 (36.6% vs 39%). China has been the world's largest importer of softwood logs for 15 years, due to its relative scarcity of domestic forest resources, which cannot meet the raw-material demands of its forest industry. Data about 2016 is available regarding China log imports. "China imported 48.7 million m³ of logs in 2016, an increase of 9% from 2015. Of the total log imports, softwood log imports were 33.7 million m³ (+13% as compared to 2015), while the hardwoods were 15.1 million m³ (+2%). […] New Zealand softwood log exports continue to dominate exporters to China and increased by 12% in 2016 at 11.6 million m³. This was followed by Russia (9.2 million m³), USA (4.5 million m³), Australia (3.3 million m³)

and Canada (2.8 million m^3). The 2016 softwood log import volumes have only been exceeded by the record volume in 2014 of 35.5 million m^3" (International Forest Industries, January 2017).

3.2 Sawn Softwood

The table below shows the main market indicators of the last 6 years in the UNECE region (2016 data are estimates; data are shown in 1000 m^3). Overall in the last few years sawn softwood production has been constantly growing. For 2016 a slight production increase is forecast. In 2016, the slight decline of imports combined with a more tangible growth of exports has probably led overall consumption to its first decline for four years.

Table 3.6: Sawn Softwood main indicators, UNECE Region, 2011-2016 (1.000 m^3)

UNECE region	2011	2012	2013	2014	2015	2016	15/14	16/15
Production	216.715	219.479	225.710	233.936	238.313	240.748	1,9	1,0
Imports	55.491	52.985	56.957	60.766	64.068	63.561	5,4	-0,8
Exports	91.937	92.581	98.460	103.893	106.016	109.142	2,0	2,9
Net trade	36.447	39.596	41.503	43.127	41.947	45.581		
Consumption	180.269	179.883	184.207	190.809	196.366	195.167	2,9	-0,6

Source: FAO 2016 and EOS re-elaboration, 2016 data are estimates

The US dollar strengthened against most currencies in the Northern Hemisphere in 2015 and 2016 (such as the Russian ruble, the British pound, and also to a lesser extent the euro and the Swedish krona) and volatile exchange rates affected countries differently. Sawn softwood production increased in North America by 4.2% in 2015 and in the CIS by just 0.4%, while output in Europe slightly declined by 0.7%.

The construction industry plays traditionally an important role in determining the market trends of the sawn softwood industry.

At their 82nd Conference in Barcelona, Euroconstruct forecast that total construction output in Europe for 2016 would grow by 2%.

In issuing the new forecast, Euroconstruct noted that "Brexit has not yet caused a direct disaster on the European economy, but it has indeed lowered the midterm expectations, combined with a long list of other factors including China slowing down, Germany slowing down, uncertainty in the US, European banks still not out of trouble, and interest rates likely to increase".

Indeed, Euroconstruct observed that expectations for 2017 are not encouraging. European construction output is forecast to increase 2.1% next year, at a rate only slightly faster than the economy as a whole (GDP in the region is expected to grow by around 1.8% next year).

Euroconstruct notes that "there is an interesting window of opportunity created by a combination of cheap credit and a more favourable perception of building as an investment shelter. However, this opportunity may be ephemeral and not a driver for the longer term".

More significant for longer term prospects will be rising public demand, particularly for housing, a trend which Euroconstruct expects to continue. Euroconstruct forecasts that construction sector output will grow between 2.1% and 2.2% in both 2018 and 2019.

Considering individual sectors Euroconstruct forecasts that residential construction will have grown 3.9% in 2016 – mainly because of improving performance in France, Germany and the UK, together with a range of smaller European countries and encouraged by low interest rates.

However, credit is unlikely to remain so favourable and therefore Euroconstruct forecasts that the pace of growth in residential construction will fall to around 2% in 2018 and 2019.

Euroconstruct observes that the recovery of non-residential construction is still at a very early stage in Europe. Euroconstruct does not expect rapid changes, forecasting growth in non-residential construction of only 1.5% for 2016-2017 and 1.8% for 2018-2019.

There are also significant variations between European countries. The increase in construction activity in 2016 has come mostly from Germany. Construction output in Germany increased 2.5% to €297 billion this year, reinforcing the country's position as by far the largest construction sector in Europe.

The UK is currently Europe's second largest construction market, with Euroconstruct estimating output of €223 billion in 2016. However, due partly to Brexit, growth projections for the UK have been slashed. Euroconstruct figures now point to a decline both in 2016 and 2017. This projection is obviously very much subject to modification as at this stage it is difficult to predict the effects of Brexit on the economy as negotiations are projected to last around two years.

France, currently the third largest European construction market with output of €204.33 billion in 2016, will probably be the main generator of growth over the next three years. After some years of decline between 2013 and 2015, construction output in France is estimated to have finally increased 2.4% in 2016, and is forecast to accelerate to 3.6% in 2017, and to remain high at around 3% per year in 2018 and 2019.

The recovery in Spain is also expected to continue, with construction output estimated to have grown 2.1% in 2016 and forecast to grow by over 3% each year between 2017 and 2019. Some clouds remain over Spain due to a relative political instability.

Construction output in Italy finally turned a corner in 2016 according to Euroconstruct, rising by around 1.9% this year and building on an increase of 0.8% in 2015 after several years of significant decline. Growth is expected to continue at a rate of around 2% per year between 2017 and 2019.

In some smaller EU markets the construction sector should grow rapidly over the next three years, most notably Ireland. After some very painful years, the former Celtic tiger has been again growing: november's forecasts show growth in Ireland of 12.5% this year, followed by 8.5% in 2017, 7.1% in 2018 and 9.2% in 2019. This makes Ireland comfortably the fastest growing market by 2019, with only the Czech Republic (8.3%) and Hungary (7.1 %) approaching that level. (Source ITTO/Fordaq, January 12, 2017).

3.2.1 Europe – Sawn Softwood

Table 3.8 Sawn Softwood main indicators, Europe, 2011-2016 (1.000 m^3)

Europe	2011	2012	2013	2014	2015	2016	15/14	16/15
Production	100.889	97.037	98.037	102.064	102.303	102.409	0,2	0,1
Imports	34.423	31.079	31.447	34.207	34.949	34.336	2,2	-1,8
Exports	44.625	43.787	45.245	48.007	48.293	50.111	0,6	3,8
Net trade	10.202	12.708	13.799	13.800	13.344	15.775		
Consumption	90.687	84.329	84.238	88.264	88.959	86.634	0,8	-2,6

Source: FAO 2016 and EOS re-elaboration, 2016 data are estimates

Sawn softwood production in Europe has been overall stable in 2014-2016. There are some significant regional differences which will be analysed more thoroughly in the EOS market survey. It is interesting to note the growth of exports during the six years' period to 2016 while imports are overall stable. This means that the net trade is becoming more and more positive: it was 10.2 million m^3 in 2011 and it is expected to have grown to almost 15.8 million m^3 in 2016.

A sharply growing positive net trade combined with a stable or slightly increasing production means that apparent consumption is declining: indeed, it was around 90.7 million m^3 and it was expected to be around 86.6 million m^3 in 2016.

The following paragraphs will analyse in more detail the various European countries with a focus on non EOS countries; the EOS countries will be thoroughly analysed subsequently.

There were no clear production trends in Europe in 2015. The major European producers are Germany, Sweden, Finland, Austria, France followed by Turkey. The Mediterranean country has seen a healthy increase of production in the five years to 2015 (+7.3% to 4.5 million m^3). Turkey, together with Poland, Austria, and Sweden were among the best performers in Europe in 2015 when it comes to production. Large non EOS European producers also include Poland (where production grew by a little less than 300.000 m^3 to almost 4.4 million m^3, and Czech Republic, which has a stable production at 3.6 million m^3). Production capacity in Europe is still sufficient in the prevailing market conditions, and market consolidation continues: some minor closures took place in Central Europe, and existing mills continue to upgrade, thereby increasing productivity and production capacity.

Regarding consumption, the highlight of 2015 was Turkey where consumption year-on-year grew by more than 7% reaching 5.6 million m^3. Turkey is now the fourth largest European consumer, after Germany, UK, and France, having a higher consumption than Sweden, Austria and Italy. Poland's consumption also increased by more than 4% in 2015. Overall, some European countries that are observing a lower-than-average GDP growth, such as Finland and Belgium, are also having relatively low sawn softwood consumption. A fast-growing, albeit relatively small market is Estonia, whose consumption reached 1.7 million m^3 in 2017. It has the sub-region's highest per capita sawn softwood consumption, which is due mainly to a strongly export-oriented remanufacturing sector, which needs considerable imports of sawn softwood.

Regarding trade, EU28 exports to overseas markets declined by 1% in 2015, to 20 million m^3, and, overall, growth (albeit minimal) was achieved thanks to intra sub-regional exports.

Demand for European sawn softwood declined in Japan by 5%, which was clearly related to an overall decline in demand. The trend in Japan has turned a corner in 2016 with Nordic countries doing particularly well while Egypt, which is undergoing an economic and political crisis remains a market with a huge potential though untapped (see special focus). European exports to China continue to grow rapidly, increasing by 20% in 2015, to 2.1 million m^3 (Finland more than 630.000 m^3 and Sweden around 500.000 m^3). The US market is also a growing market, with exports up by 44% in 2015, to 0.4 million m^3. Volumes exported are still small but prospects look good.

According to Eurostat statistics, in 2015, out of the total extra-EU exported sawn softwood more than 16 million out of 20 million m^3 were shipped to the MENA region or East Asia. In the latter region, 3.3 million m^3 were exported to Japan, while 0.6 million to South Korea and 2.1 million m^3 to China; in the former, 3 million m^3 of sawn softwood were exported to Egypt, 2.1 million to Algeria, 1.6 million to Morocco and Saudi Arabia and almost 500,000 m^3 to Tunisia.

Regarding imports, flows are mainly intra sub-regional; however, there were some interesting developments regarding imports from extra EU countries: Russian sawn softwood exports to Europe benefited from the devaluation of the ruble, with the EU28 importing 3.3 million m^3 from the Russian Federation in 2015, the highest volume since 2010. Imports from Belarus also grew by 29%, to 1.0 million m^3. Europe's sawn softwood imports from North America halved in 2015, to 0.3 million m^3. On the other hand, UNECE/FAO reports that imports from the "plantation pine countries" (Brazil, Chile and New Zealand) nearly tripled in 2015, to 0.2 million m^3, with pine clears increasingly used in European remanufacturing.

3.2.2 CIS Region – Sawn Softwood

Table 3.8: Sawn Softwood main indicators, CIS Region, 2011-2016 (1.000 m^3)

CIS	2011	2012	2013	2014	2015	2016	15/14	16/15
Production	32.936	34.408	35.198	36.178	36.315	36.614	0,4	0,8
Imports	4.820	4.612	5.224	4.764	5.060	5.060	6,2	0,0
Exports	20.558	21.149	22.535	23.902	24.714	24.714	3,4	0,0
Net trade	15.738	16.537	17.312	19.138	19.654	19.654		
Consumption	17.198	17.871	17.887	17.039	16.661	16.960	-2,2	1,8

Source: FAO 2016 and EOS re-elaboration, 2016 data are estimates

Russia accounts for more than 88% of total softwood production in the CIS region. Overall, production rose 0.4% and it is set to grow by a slightly higher margin in 2016. Over the last 5 years production grew by 10% (+3.5 million m³).

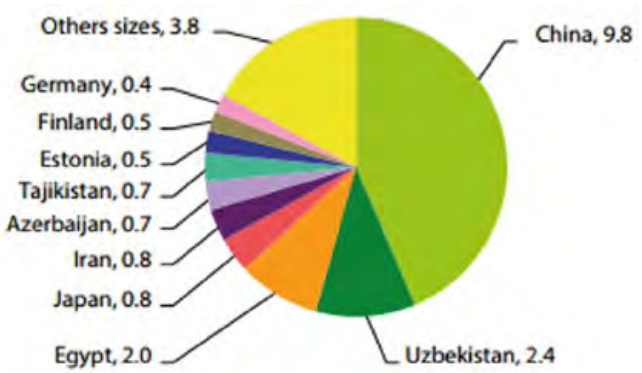
In Russia, the drivers of production growth were in the Irkutsk region (+4%, year-on-year) and the Arkhangelsk region (+8%); these two regions were responsible for 26% of the total Russian production volume in 2015, and the Krasnoyarsk region (2% growth in 2015) accounted for 11%. An interesting development took place in Russia: larger, export-oriented, companies took advantage of the weak ruble and saw their production and exports do well, while smaller mills which mainly sell to the internal market had a difficult year.

The region is clearly extremely export-oriented due to the amount of forest resources and relatively low population. Exports have been growing throughout the last 5 years and the trade surplus keeps increasing. Current geopolitical and economic contingencies are making Russian exports all the more attractive.

The volume of sawn softwood exports from the Russian Federation achieved a record high of 22.4 million m³ in 2015, up by 5% from 2014. China consolidated its position as a key market for Russian sawn softwood (graph 5.3.2). According to WhatWood (2016), China's share of Russian exports rose by 5% in 2015, to 44% of the total volume; China imported 9.8 million m³ of Russian sawn softwood, (8.4 million in 2014). The second largest export market (the figures do not include trade with the Eurasian custom Union) remains Uzbekistan which saw its export decline by 14% to 2.4 million m³).

Remarkable growth in sawn softwood purchases from the Russian Federation in 2015 was also observed in Egypt (up by 33%, to 2.0 million m³: such trend has reversed in 2016 when Russia exported to Egypt 1.5 million m³), Iran (up by 18%, to 779,000 m³), the Republic of Korea (up by 41%, to 385,000 m³), and the UK (up by 18%, to 373,000 m³). There was moderate growth in shipments of Russian sawn softwood to Estonia (+4.1%, to 538,000 m³), Germany (+5.8%, to 445,000 m³), and Japan (+1.8%, to 847,000 m³). There was a sharp drop in exports to Italy (-22%, to 92,500m³), and France (-7.1%, to 283,000 m³). It will be worthwhile monitoring exports to the UK, which sharply grew both in 2014 and 2015, reaching almost 400,000 m³.

Figure 3.1: Russian sawn softwood exports by market in 2015, million m³



Source: Whatwood, 2016

What is more, (see below *Global Focus and Extra Unece region* for more information) according to preliminary data, high demand for Russian sawn softwood products in China has resulted in dramatic growth of the volume of export from Russia: +38% to 11.6 million m³.

3.2.3 North America – Sawn Softwood

Table 3.9: Sawn Softwood main indicators, North America, 2011-2016 (1.000 m³)

North America	2011	2012	2013	2014	2015	2016	15/14	16/15
Production	82.891	88.034	92.475	95.694	99.695	101.725	4,2	2,0
Imports	16.247	17.294	20.287	21.796	24.059	24.165	10,4	0,4
Exports	26.754	27.645	30.680	31.984	33.008	34.317	3,2	4,0
Net trade	10.508	10.351	10.393	10.189	8.949	10.152		
Consumption	72.383	77.683	82.083	85.506	90.746	91.574	6,1	0,9

Source: FAO 2016 and EOS re-elaboration, 2016 data are estimates

Production in North America has been healthily growing for a number of years and it is now set to overtake Europe as the region with the highest sawn softwood production. 19 million m^3 have been added over the last few years. Consumption has been following production trends and it also increased by around 19 million m^3 over the least five years; net trade surplus keeps being in the region of 10 million m^3. Because the Russian Federation had the largest currency devaluation of all exporting countries and offered very competitive prices, it gained market share in China at the expense of North American sawn softwood. Improving demand in China and Japan led to some gains in North American exports, but this trend has slowed in the second quarter of 2016.

The US output accounts for around 53-55 % of the regional production. UNECE/FAO reports that US sawn softwood output was 54.3 million m^3 in 2015, an increase of 1.0% compared with 2014. Production gains were highest in the Midwest and Northeast regions, followed by the Inland (5.0%) and the South (3.0%); the West Coast region recorded a decline of 2.5%. Ongoing depressed sawlog prices (since 2009) due to excess log supplies coupled with strong housing demand put the South – which accounts for more than 50% of US production – in a leading position among US sawn softwood-producing regions.

Overall, the US economic context is positive as GDP growth is expected to be in the region of 2-3% a year even in the years to come. It remains to be seen whether the impact of the policies implemented by the new US administration will be positive or negative for the sawmill sector. President Trump has vowed to massively invest in infrastructures. The market construction remains buoyant: US housing starts reached 1.11 million m^3. There were 397,300 multifamily housing starts in 2015, which is the highest number since 1989. However, multifamily construction consumes approximately 65% less sawn softwood and wood-based panels per family unit than do traditional single-family unit. Industry-based promotional efforts, such as the Softwood Lumber Board (SLB) initiative to boost wood use (including cross-laminated timber) in taller/larger apartment buildings, are expected to lead to further increases in North American wood consumption.

Regarding trade, US sawn softwood exports shrank by 11% in 2015, to 2.6 million m^3. The most significant reductions were to China (30%) and Asian countries other than China and Japan (22%). Imports to the US are predominantly from Canada (more than 95%), but European countries are starting to gain a foothold in the huge American market.

Canadian sawn softwood production soared by 8.3% in 2015, to 45.4 million m^3. Two reasons for that have been identified. First, the relative weakness of the Canadian dollar versus the US dollar. Second, export duties on Canadian lumber to the US were eliminated for a one-year period, starting in October 2015. The new US administration stance versus trade is a source of concern to Canada, especially to British Columbia (B.C.), which supplies half of Canada's softwood-lumber exports to the United States. B.C. is now bracing for what could be its toughest round of trade conflict over softwood lumber (Random Lengths, February 2017). In late April 2017, the US government has decided to levy a preliminary countervailing duty rate of 19.88% against Canadian softwood lumber exports to the U.S. (Random Lengths, April 2017). High import tariffs on Canadian lumber to the U.S. are likely to increase U.S. lumber production and boost shipments from overseas in 2017. Another outcome of the countervailing duties is that Canadian lumber companies will probably be more aggressive in their search for alternative markets to the U.S (Wood Resources International LLC, April 2017). It remains to be seen whether, over the next few months, a new softwood agreement will be negotiated in 2017, as some hope.

Canadian sawn softwood exports to overseas markets declined by 5% in 2015, to 7.7 million m^3. China is still a significant offshore market for Canadian sawn softwood products as exports have increased enormously over the span of a decade. From 2005 to 2015, sawn softwood exports to China increased by almost 2500% on a volume basis. However, in 2015, the Canadian sawn softwood export volume to China decreased by 14% compared to 2014 and in the first six months of the 2016, exports further decreased by 8% compared to the same period in 2015. The most relevant flow remains the one to the US with 22 million m^3 exported.

3.2.4 Global Focus and Extra Unece region – Sawn Softwood

Table 3.10: World largest producers, exporters and importers of sawn softwood, 2015 (1.000 m^3)

Production		Exports		Imports	
United States of America	54.335.000	Canada	30.274.000	United States of America	23.359.329
Canada	45.360.000	Russian Federation	22.438.000	China	15.189.826
Russian Federation	32.150.000	Sweden	12.827.600	United Kingdom	5.887.783
China	30.479.000	Finland	7.866.917	Japan	5.606.000
Germany	20.433.479	Germany	6.244.070	Egypt	4.990.110
Sweden	18.074.000	Austria	5.040.061	Germany	4.329.760
Finland	10.600.000	Chile	2.881.800	Italy	3.873.087
Brazil	9.230.000	Latvia	2.756.000	Uzbekistan	2.411.406
Austria	8.681.000	United States of America	2.734.259	Netherlands	2.316.000
Japan	8.622.000	Romania	1.935.700	Algeria	2.166.000
Chile	7.859.000	New Zealand	1.774.449	France	2.146.323
France	6.213.860	Czech Republic	1.510.000	Denmark	2.100.000
Turkey	4.498.000	Brazil	1.313.631	Saudi Arabia	2.082.000
Poland	4.400.000	Ukraine	1.162.902	Austria	1.627.418
Australia	4.090.000	Belarus	1.097.546	Mexico	1.349.781
New Zealand	3.960.000	Belgium	1.050.000	Morocco	1.348.000
Czech Republic	3.610.000	Slovenia	896.979	Belgium	1.254.000
Romania	3.500.000	France	871.187	Turkey	1.177.000
United Kingdom	3.449.384	Estonia	778.367	United Arab Emirates	1.067.000
Latvia	2.767.654	Ireland	699.942	Republic of Korea	1.023.225

Source: FAO 2016 and EOS re-elaboration, 2016 data are estimates

Outside the UNECE area, the largest producer remains China. China's production remained in 2016 at a very similar level compared with the previous year. The slowdown of Chinese economy, especially of construction and housing, has contributed to the relatively disappointing performance of 2015; the medium-term dynamics, however, remain positive for the Chinese markets as hundreds of millions of people are expected to move to urban areas in the next decades. The slowdown of imports observed in 2015 compared with the previous year looks set to be reversed when the 2016 data are confirmed. The table below (Zhang, International Softwood Conference 2016) depicts the Chinese sawn softwood imports in the first 6 months of 2016.

Table 3.11: China sawn softwood imports (1.000 m^3), H1 2016, million m^3

Rank	Country	Volume millions (m^3)	Market Share
1	Russia	6.0	55%
2	Canada	2.8	26%
3	Finland	0.5	5%
4	Sweden	0.3	3%
5	Chile	0.3	3%
Other		0.9	8%
Total		10.8	100%

Source: Zhang (International Softwood conference 2016)

Taking advantage of the weak ruble, China's imports from Russia have consistently grown in 2015 surpassing the 8 million threshold (15% increase vs previous year), and this figure looks set to further increase as imports in H1 2016 from Russia have already reached the 6 million threshold. The second largest supplier of sawn softwood to China will remain Canada, which, however, in 2015 exported less than 6 million m^3 to China, a figure lower than in 2011.

What is more, from preliminary data it looks like this forecast will be confirmed: according to Woodmarkets, China imported 21.1 million of sawn softwood in 2016 (+20% to 2015) reaching an all-time high. "Russian softwood lumber imports soared by 38% and totalled 11.6 million m^3. This was followed by Canada (5.2 million m^3; -6%), Finland (0.95

million m^3; +55%); Chile (0.75 million m^3; +10%); Sweden (0.69 million m^3; +34%); and the USA (0.64 million m^3; +8%). Scandinavian exports surged as demand was very strong in the furniture, door and decoration segment. Of the top 10 exporters to China, only Canada (-6%), New Zealand (-18%), and Germany (-6%) recorded decreases in softwood lumber exports to China in 2016". (China Bulletin, Wood Markets, February 2017).

According to Wood Resource Quarterly, China imported record-high volumes of softwood lumber in 2016 and softwood log imports reached their second highest level on record. Despite relatively pessimistic forecasts for wood demand early in 2016, China's need for imported wood picked up during the summer and fall with import volumes of both logs and lumber being up about 20% in the 4Q/16 as compared to the 4Q/15. As lumber markets in the Middle East and Northern Africa (the MENA countries) and Europe were relatively weak the past few years, many sawmills in the Nordic countries have increased their presence in the Chinese market with shipments being up by very large margins as we have seen above. Although lumber supply from Finland and Sweden still account for only 6% of the total lumber imports, the share can be expected to increase in the coming years because of more intense marketing of predominantly higher-quality spruce lumber for the Chinese furniture, millwork and construction industries.

Japan is the non-UNECE second largest producer and importer. Japanese production increased year-on-year by slightly more than 10%. Although new housing starts were up slightly (by 1.9%) compared with 2014, sawn softwood imports declined as domestic supply increased its share of total consumption (ITTO, 2016). The Japanese government has indeed indicated that it aims to increase the self-sufficiency rate, i.e. the percentage of imported wood on total wood consumed must decrease. Japanese demographics prospects are not bright but it remains a very relevant market for overseas exporters.

Chile, New Zealand and Brazil (in descending order, by volume) were the only significant exporters of sawn softwood outside the UNECE region in 2015. Chile's export markets are diversified, with significant volumes shipped to Asian, Latin American and Middle Eastern markets while New Zealand's major markets are more restricted and are predominantly in the Asia-Pacific region – Australia, China, the US and Vietnam. Exports picked up in 2015 with some major reinvestments in sawmills.

3.3 Sawn Hardwood

The table below shows the main market indicators for the last six years in the UNECE region. Overall at UNECE level production is increasing, albeit there was a growth slowdown in 2015 which looks set to be confirmed even for 2016. All three sub-regions have observed a production growth.

Table 3.12: Sawn Hardwood main indicators, UNECE Region, 2011-2016 (1.000 m^3)

UNECE region	2011	2012	2013	2014	2015	2016	15/14	16/15
Production	34.823	36.053	37.505	39.947	40.680	40.820	1,8	0,3
Imports	6.613	6.078	5.984	6.472	6.576	6.659	1,6	1,3
Exports	9.515	9.860	9.838	11.153	11.670	11.500	4,6	-1,5
Net trade	2.902	3.782	3.854	4.681	5.093	4.841		
Consumption	31.921	32.272	33.651	35.266	35.587	35.979	0,9	1,1

Source: FAO 2016 and EOS re-elaboration, 2016 data are estimates

Consumption (which is always calculated as apparent consumption: production + imports – exports) of sawn hardwood in the UNECE region was 35.6 million m^3 in 2015, a 0.9% rise compared with 2014. Sawn hardwood consumption in the UNECE region has grown steadily each year since 2011, though it has recently slowed down as consumption fell in Europe and the CIS in 2015, which was however offset by rising consumption in North America.

The UNECE region has a trade surplus which has increased over the years to reach 5 million m^3 in 2015. Exports slowdown, however, will probably contribute to a slight decline of the trade surplus in 2016.

3.3.1 Europe – Sawn Hardwood

Table 3.13 Sawn Hardwood main indicators, Europe, 2011-2016 (1.000 m^3)

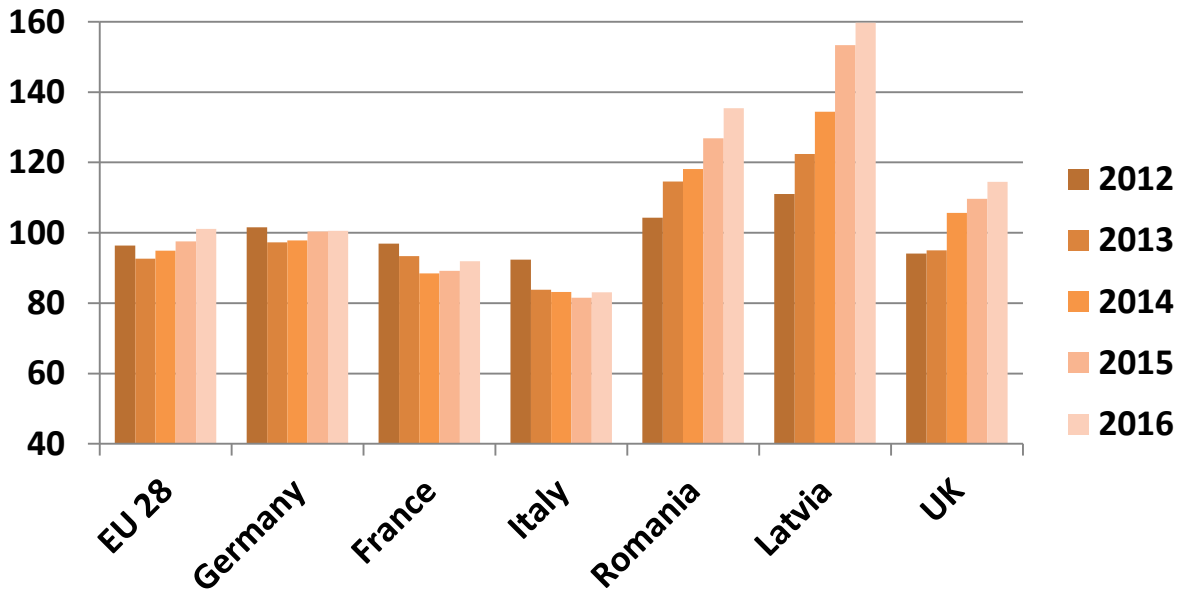
Europe	2011	2012	2013	2014	2015	2016	15/14	16/15
Production	12.609	12.989	12.953	13.159	12.984	13.190	-1,3	1,6
Imports	5.104	4.627	4.396	4.642	4.768	4.858	2,7	1,9
Exports	5.046	4.975	4.755	5.277	5.584	5.744	5,8	2,9
Net trade	-58	348	359	636	816	886		
Consumption	12.666	12.642	12.594	12.523	12.168	12.304	-2,8	1,1

Source: FAO 2016 and EOS re-elaboration, 2016 data are estimates

European production of sawn hardwood has been growing quite indifferently over the last few years with no significant trends. After a slightly negative 2015, in 2016 production is expected to reach the highest level for the last few years. The slight downward in trend was due largely to a 17% decline in production in Turkey. EU28 production increased by 2.8% to 10.3 million m^3. Despite log shortages during the year, overall sawn hardwood output in Croatia, France and Germany was higher in 2015 than in 2014. Turkey remains at any rate the largest European producer with almost 2 million m^3. An interesting development has been taking place in Croatia where production in the 5 years to 2015 has been trending consistently upward, with a combined growth of 82% in the period 2011-2015.

Consumption of sawn hardwood remains relatively subdued, but 2016, at least, should finally see an increase after 5 years of decline, which was more pronounced in 2015. However, the decline observed in 2015 was determined essentially by Turkey as the European Union recorded a very moderate increase of consumption (+0.8%). Some of the sectors that drive the demand for sawn hardwood are furniture and joinery.

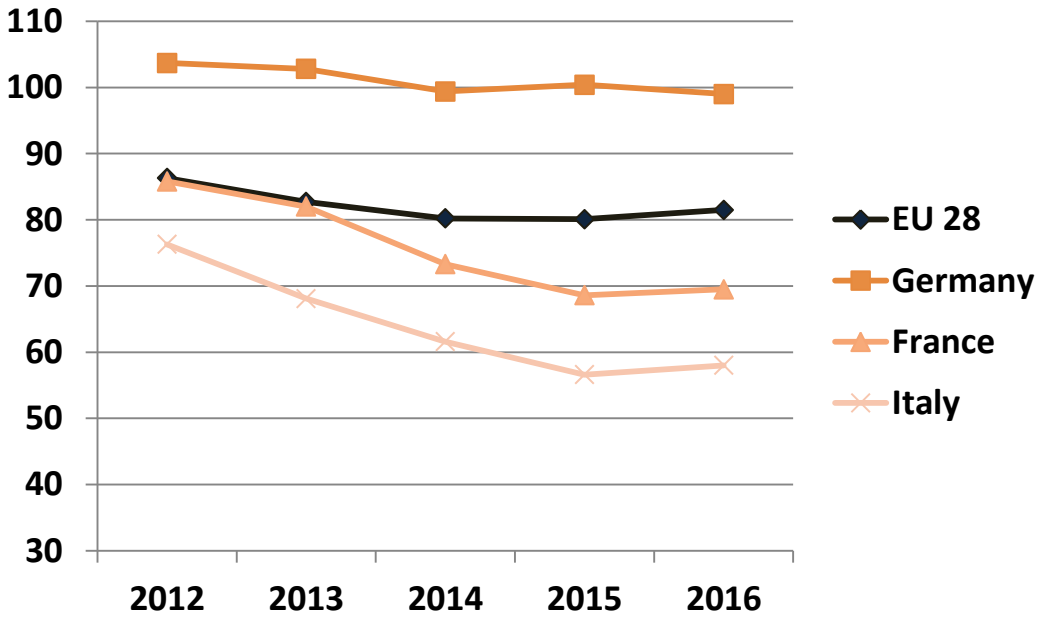
Figure 3.2: Index of Furniture Manufacturing, selected European Countries (Index 2010=100)



Source: Eurostat 2017 and EOS re-elaboration

The figure on page 47 shows the Eurostat calendar adjusted index of furniture manufacturing (index 2010=100). Overall, at EU level, the intensity of activity keeps slightly getting higher, with the 2016 level finally surpassing the base 2010 level. There are significant local differences. In Central-Eastern European countries the sector is growing while in the core EU countries on the one hand there is Germany which has a stable performance over the last few years, while on the other hand countries such as Italy and France are seeing their activity shrink. In 2016, however, both in France and in Italy the level of activity picked up to reach, respectively, 91 and 83. A large European country which is doing well is the UK, along with Poland which is a very relevant furniture manufacturer. Relevant Scandinavian markets such as Sweden and Denmark are not doing well, especially if compared to the pre-financial crisis period, i.e. before 2007.

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



Source: Eurostat 2017 and EOS re-elaboration

The figure above, which is available only for a few countries, represents the wood-joinery activity over the last few years. It depicts a similar situation to the furniture manufacturing activity: in Germany the level of activity is stable, while in France and particularly in Italy there is a remarkable decline over the last few years, which however came to an end in 2016, when both countries have experienced a modest recovery. It remains to be seen whether this will be confirmed in 2017.

As far as trade is concerned, the surplus has been constantly increasing over the last few years. Europe was a net importer in 2011 but in 2016 the surplus was expected to be around 900,000 m^3. Exports by Croatia, the leading exporter among European countries, continued to increase in 2015, rising by 4.4%, to 907,000 m^3, driven mainly by a recovery in shipments to Egypt.

Exchange-rate volatility was a major determinant of the volume and direction of sawn hardwood trade by European countries in 2015 and the first half of 2016. Overall, these changes favoured trade in European hardwoods at the expense of American hardwoods and particularly strengthened European imports from CIS countries. Having reached a low point in 2013, imports started to increase again and they were expected to reach 4.8 million m^3 in 2016. This was due essentially to relatively lively demand in consuming countries such as Belgium, France, Germany, the Netherlands and Spain but importation also grew in central-eastern European countries such as Estonia, Lithuania, Poland and Slovenia. Conversely, UK and Italy saw their imports slightly decrease.

Some recent data regarding sawn tropical hardwood are available: In 2016, EU imports of tropical sawn hardwood were 1.04 million m^3, basically unchanged from the previous year but at historically very low levels, fully 40% below the levels observed before the global financial crisis.

Cameroon accounts for 40% of total exports of sawn tropical hardwood to the EU. Exports from Cameroon increased by 19% to almost 400,000 m^3. There was a significant increase in EU imports of sawn tropical wood from two other central African countries during 2016. Imports were up 22% to 117,000 m^3 from Gabon and 13% to 62,000 m^3 from the Congo Republic. On the other hand, west African countries such as Ivory Coast (-30% to 57,000 m^3) and Ghana (-2% to 27,000 m^3) have seen their exports to the EU shrink.

The second largest supplier of sawn tropical hardwood to the EU remains Malaysia, but with a falling share as EU countries in 2016 imported around 150,000 m^3 from the Asian country (2015: more than 200,000 m^3). Imports from Brazil also fell (-16% to 100,000 m^3).

It is interesting to note that EU imports of tropical hardwood are increasingly shipped to Belgium. However, this does not seem connected to consumption patterns but rather to distribution channels: for reasons which may be associated with differences in transit times or local costs, EU tropical wood importers currently prefer the Belgian port of Antwerp over the Dutch and French ports. The wood entering Belgium is then distributed throughout North Western Europe.

Belgium imports 35% of EU sawn tropical hardwood, followed by Netherlands, France, and Italy, with shares ranging between 13% and 14%.

3.3.2 CIS region – Sawn Hardwood

Table 3.14 Sawn Hardwood main indicators, CIS Region, 2011-2016 (1.000 m^3)

CIS	2011	2012	2013	2014	2015	2016	15/14	16/15
Production	3.051	3.060	3.099	3.298	3.374	3.374	2,3	0,0
Imports	68	78	101	89	91	99	1,2	8,9
Exports	1.293	1.292	1.151	1.413	2.000	2.028	41,6	1,4
Net trade	1.225	1.214	1.050	1.324	1.910	1.930		
Consumption	1.826	1.846	2.049	1.975	1.464	1.444	-25,9	-1,4

Source: FAO 2016 and EOS re-elaboration, 2016 data are estimates

CIS sawn hardwood production has been trending slightly upward over the last few years. It has reached a figure just short of 3.4 million m^3. The most relevant trends, however, are those of exports and consumption. The sanctions which followed the alleged Russian meddling into Eastern Ukraine and the annexation of Crimea by the Russian Federation caused a protracted period of economic contraction. GDP fell in 2015 and a little less in 2016. This contributed to the sharp depreciation of the ruble, which, in turn, made Russian exports very competitive. As a result, a 50.5% increase (to 1.37 million m^3) in sawn hardwood exports by the Russian Federation in 2015, was observed. Exports to China were 1.17 million m^3, an increase of 49% over 2014 and by far the largest quantity of Russian sawn hardwood ever shipped to China. Exports also increased to Estonia, Kazakhstan, Latvia, Lithuania and Poland.

Conversely, the very political and economic trends that pushed up Russian exports depressed internal consumption in general. Consumption of sawn hardwood has therefore sharply decreased – by 29% to 1.14 million in 2015 vs 2014.

A comparable situation was observed in Ukraine, where the economic contraction was even stronger than in Russia. The weak hryvnia (the Ukrainian currency) contributed to make the Ukrainian exports very competitive, which increased to 24% to a figure slightly less than 450,000 m^3. Ukraine's sawn hardwood exports, now strongly oriented towards EU countries, increased in all the main markets, including Germany, Italy, Lithuania, Poland and Romania.

Also Belarus, which has a relatively small hardwood production (275,000 m^3 in 2015) and an economy very much connected to the trends in Russia, has seen its deliveries to foreign markets sharply increase – in the five years to 2015 by 102% to 144,000 m^3.

3.3.3 North America – Sawn Hardwood

Table 3.15 Sawn Hardwood main indicators, North America, 2011-2016 (1.000 m³)

North America	2011	2012	2013	2014	2015	2016	15/14	16/15
Production	19.163	20.004	21.453	23.490	24.323	24.256	3,5	-0,3
Imports	1.441	1.373	1.488	1.741	1.718	1.702	-1,3	-0,9
Exports	3.176	3.593	3.933	4.463	4.086	3.728	-8,5	-8,8
Net trade	1.735	2.220	2.445	2.722	2.368	2.026		
Consumption	17.428	17.784	19.008	20.768	21.955	22.231	5,7	1,3

Source: FAO 2016 and EOS re-elaboration, 2016 data are estimates

In North America both production and consumption of sawn hardwood have been trending upwards in the period 2011-2016. Over the 6 years to 2016 production grew by 26% and consumption by 27%. A marked slowdown is expected in 2016, in which production should be stable at around 24.3 million m³. Consumption is foreseen to slightly grow to 22.2 million m³. US sawn hardwood production has increased consistently in recent years; in 2015 it was at 22.6 million m³, 27.6% higher than in 2011. The annual rate of growth slowed to 2.4% in 2015, however, compared with average growth of 8% in the previous three years. Growth was curtailed in 2015 in response to a downturn in domestic demand for pallets and board roads. Indeed, demand for US sawn hardwood in the wooden pallet segment was under pressure from alternative materials, such as pine, in 2015. Demand also slowed in the board roads segment due to reduced oil and gas field construction. This may change with the new US administration, which pledged to use more fossil fuels. According to the UNECE, "US housing starts continued to rise at double-digit rates in 2015, boosting demand for millwork and furniture. The pace of growth in sawn hardwood consumption in these subsectors has been slower than the rate of construction growth overall, however, due to competition from imports and other materials."

Sawn hardwood consumption increased in Canada in 2015, boosted by an ongoing rise in residential construction in North America and by low interest rates.

Regarding trade, while imports are overall stable or slightly decreasing, exports saw a significant decline in 2015 of 8.5% which is set to be confirmed in 2016, when deliveries to foreign markets are set to shrink to 3.7 million m³. The strength of the US dollar made US exports less competitive in 2015, which caused US sawn hardwood exports to countries outside North America to decrease by 8.4% in 2015, to 3.0 million m³, following five consecutive years of growth that culminated in a 19% increase in 2014. According to the UNECE/FAO, "Exports slowed to all the leading markets, including (in descending order, by export volume) China, Vietnam, Mexico, the UK, Japan and Italy. Indonesia and Spain were the only large US export markets recording increases in 2015. Despite the overall decline, US exports in 2015 were still the second highest ever recorded. In volume terms, China accounted for 47% of US sawn hardwood exports in 2015, Canada for 15%, Southeast Asia for 13%, Europe for 10% and Mexico for 8%. Red oak was the leading export species in 2015, accounting for 25% by volume, followed by white oak (16%), tulipwood (15%) and ash (10%). (USDA, 2016)". US sawn hardwood exports were up by 8% in the first four months of 2016, year-on-year driven by higher demand in China. In the first 8 months hardwood exports from the US increased 19% to US dollar 1.082 billion. The world value of global exports of US hardwood was US$2.361 billion and China and Southeast Asia accounted for 46% and 8% of global exports respectively (Fordaq, 2017). The significant cross-border trade between US and Canada dipped in 2015, having markedly grown in the previous three years.

US imports of temperate sawn hardwood from outside North America decreased by 24% in 2015 to 144,128 m³. Imports from China and Germany, the leading suppliers to the US from outside the sub-region, were stable in 2015. Germany exported in 2015 64,000 m³ of hardwood to China, while Italy deliveries to the US sharply declined to 11,500 m³. Overall EU's shipments of sawn hardwood to the US were around 100,000 m³ (Eurostat, 2017).

Canadian exports decreased by 7% in 2015 to 520,000 m³. Canada mainly exports to the US, but overseas deliveries grew by 3% to 162,000 m³. Half of its overseas deliveries are directed to China (+9% vs 2014) and 29,000 m³ to

Europe (-12%). It remains to be seen whether the recently-negotiated Comprehensive Economic and Trade Agreement between the European Union and Canada could increase the hardwood trade flows between the two regions.

Presently Canada does not import much sawn hardwood from outside North America, and mainly it imports tropical species. Canadian imports of sawn hardwood from outside the sub-region decreased by 30% in 2015, to 53,000 m^3.

3.3.4 Global Focus and Extra Unece region – Sawn Hardwood

Table 3.16 World largest producers, exporters and importers of sawn hardwood, 2015 (m^3)

Production		Exports		Imports	
China	37.931.000	United States of America	3.565.000	China	12.411.805
United States of America	22.569.000	Thailand	3.077.590	United States of America	1.138.000
Viet Nam	6.000.000	Malaysia	1.982.126	Viet Nam	881.291
Brazil	5.997.000	Russian Federation	1.372.368	Egypt	801.340
India	4.889.000	Lao People's Democratic Republic	1.128.000	Italy	729.000
Malaysia	4.443.000	Croatia	907.000	Canada	580.000
Indonesia	4.169.000	Romania	805.697	Thailand	440.000
Thailand	2.850.000	Germany	691.387	United Kingdom	434.766
Russian Federation	2.500.000	Canada	520.642	Germany	433.350
Nigeria	2.000.000	Cameroon	459.000	Mexico	425.927
Turkey	1.951.000	Brazil	440.029	Belgium	425.000
Canada	1.754.000	Ukraine	437.000	Taiwan	381.175
Romania	1.700.000	France	424.472	India	358.617
Myanmar	1.530.400	Gabon	422.770	Netherlands	345.100
Argentina	1.472.000	Viet Nam	410.471	Poland	295.896
France	1.346.951	Indonesia	398.220	France	284.382
Lao People's Democratic Republic	1.200.000	Latvia	385.000	South Africa	261.270
Croatia	1.175.000	Belgium	353.000	Japan	242.000
Germany	1.056.370	Philippines	345.000	Philippines	219.852
Cameroon	993.000	Bosnia and Herzegovina	299.460	United Arab Emirates	190.000

Source: FAO 2016 and EOS re-elaboration, 2016 data are estimates

China is by far the world's largest hardwood producer. The combined production of the second, third, fourth, and fifth largest producers are equivalent to China's production. Chinese production grew by a negligible percentage in 2015 compared with the previous year. With the exception of the United States, the most important hardwood producers are all mainly tropical hardwood producers, notably Vietnam, Brazil, India, Malaysia, Indonesia, and Thailand.

China is also – and by far – the world's largest importer, accounting for a whopping 50% of the total hardwood imports at global level. China is so relevant that Thailand, the world's second largest exporter with 3 million m^3 virtually sends all of its foreign deliveries to China. Malaysia, the third largest exporter has a much more diversified group of shipments destinations, including European countries such as Benelux, France, and the UK.

China's major supplier of tropical sawn hardwood in 2015 was Thailand (64%), with significant volumes also imported (in descending order, by volume) from Gabon, Indonesia, Malaysia, the Philippines, Viet Nam, the Lao People's Democratic Republic and Cameroon. China's imports from Gabon and Thailand increased considerably in 2015, by 41% and 37% respectively, while supplies declined from most of the other main tropical suppliers (the exception being Cameroon).

Data taken from the FAO Database and the Forest Products Annual Market Review, unless otherwise stated.

3.4 Overview of the wood energy markets

At this writing (March 2017), the Joint Wood Energy Inquiry[1] has not been updated yet. As per the latest available data, wood energy accounts for 3.5% of the total primary energy supply (TPES) and 38.2% of the renewable energy supply (RES) in the UNECE region, making it an important source of renewable energy. 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.

The role of wood pellets in generating energy from wood is important. According to the official UNECE/FAO data released in September 2016, in 2015 global production of pellets grew by 7.7% to 28 million metric tons.

The table below shows the 20 largest world producers, importers and exporters of pellets.

Table 3.17 World largest producers, exporters and importers of pellets, 2015

Production		Exports		Imports	
United States of America	7.400.000	United States of America	4.576.000	United Kingdom	6.548.334
Germany	1.998.188	Canada	1.627.784	Denmark	2.059.386
Canada	1.900.000	Latvia	1.605.188	Italy	1.640.238
Sweden	1.663.000	Viet Nam	1.051.000	Republic of Korea	1.470.684
Latvia	1.599.835	Russian Federation	934.859	Belgium	985.617
Estonia	1.100.000	Estonia	883.294	Germany	418.072
France	1.100.000	Portugal	693.691	Austria	369.180
Viet Nam	1.060.000	Germany	687.295	Sweden	354.942
Portugal	1.034.000	Austria	555.467	Japan	232.425
Austria	1.000.000	Romania	323.325	United States of America	207.000
Russian Federation	974.023	Lithuania	310.303	Slovenia	151.592
Poland	720.000	Sweden	244.587	France	149.085
Romania	550.000	Czechia	241.900	Netherlands	146.100
China	485.000	Poland	201.314	Latvia	129.018
Italy	450.000	Croatia	200.554	Switzerland	85.211
Spain	350.000	France	199.097	Lithuania	83.204
United Kingdom	342.878	Netherlands	193.000	Portugal	61.694
Belgium	320.000	Belarus	156.860	Poland	60.718
Finland	302.000	Bulgaria	156.204	Finland	59.473
Belarus	300.000	Ukraine	150.389	Bulgaria	47.257

Source: UNECE/FAO 2016 and EOS re-elaboration

Wood heating

59% of the UK's renewable heat comes from wood fuel.

About 2 million tons of wood fuel are used annually at present. Wood fuel heating systems have been developed as an alternative to fossil fuel heating systems. They can be operated as independent boilers, or can be installed in series with fossil fuelled boilers. Most of the boilers are fully automatic and can be incorporated into building energy management systems. Wood heating systems are more expensive to install than fossil fuel heating systems, however they can offer significant cost savings when compared to fossil fuel alternatives over the life time of the system.

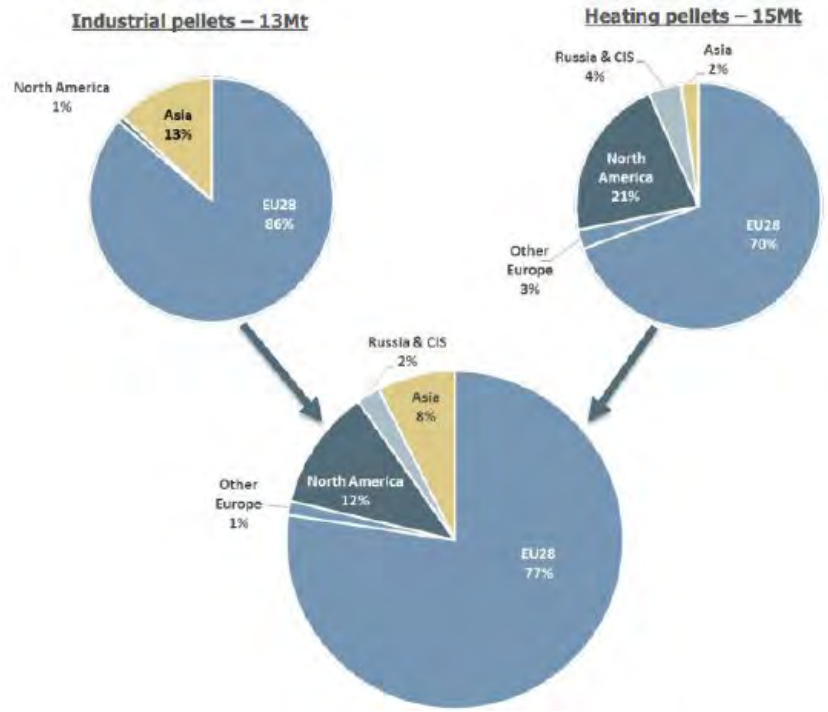
1 The UNECE/FAO Forestry and Timber Section, in collaboration with the International Energy Agency (IEA), the Food and Agriculture Organization (FAO) and the European Commission (EC) decided in June 2006 to develop and launch a Joint Wood Energy Inquiry. This enquiry aims to improve knowledge and understanding of wood energy consumption and tries to shed light on the potential and future perspective of wood energy in the region.

The US accounts for 26.5% of global production (7.4 million metric tons, +7.5% vs 2014). Germany is the second largest producer with 2 million metric tons (-3.9 % vs 2014). The third largest producer is Canada, whose output was stable in 2015 compared with 2014. Production in the Baltic States of Estonia and Latvia has grown remarkably in 2015 vs the previous year. Europe and North America remain the two most important regions in terms of production; however, an interesting development took place in China and in Vietnam, where production rose dramatically, respectively by 63% and 31%.

The US remained the largest exporter in 2015, accounting for 28% of global exports (4.6 million metric tons, +14% vs 2014), followed by Canada, with 1.6 million metric tons exported, approximately the same quantity of 2014. Russia and the Baltic States of Estonia and Latvia remain the largest European importers. As far as imports are concerned, the UK retains the lion share of pellets imports in 2015 as it accounts for 42% of global imports with 6.5 million m^3, which represents a remarkable increase compared with the previous year (more than 37%); other very relevant importers remain Denmark, Italy, and the Republic of Korea. However, they have all seen their imports decrease (respectively by 2%, 15%, and 20%).

The geographical consumption patterns of pellets are heavily impacted by their use. As the picture below shows, when it comes to industrial pellets, the EU accounts for 86% of total global use, while when it comes to heating pellets, the EU accounts for 70% of global use, and North America for 21%.

Figure 3.4: Consumption of pellets



Source: Hawkins Wright 2016

As we will see below, the long-term outlook for the pellets market is upbeat, however the past few years have been challenging for wood pellet producers. A plateau in demand growth for new co-firing or full conversion power plant projects in the industrial pellet market – which looks to be temporary – has led to an excess of production capacity (Wood Pellet Association of Canada, 2017). Moreover, the combination of a series of warm winters in Europe and low fossil fuel prices has depressed demand for pellets in the heating pellet markets.

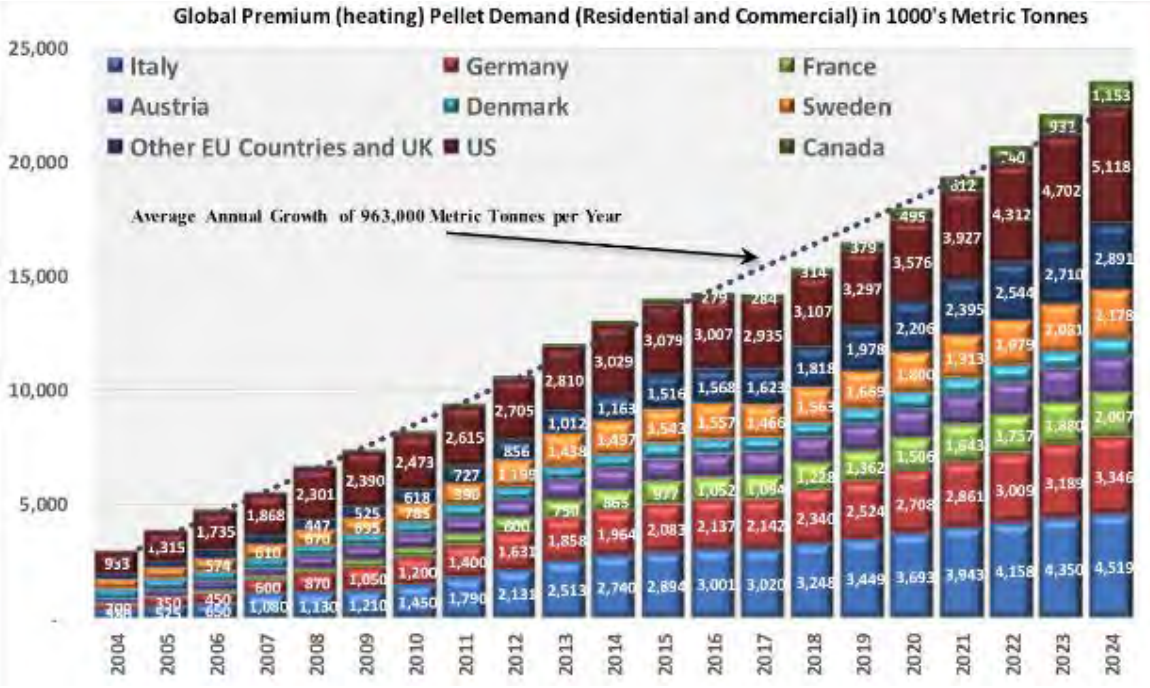
According to the wood pellet association of Canada, the outlook for the industrial wood pellet market is positive. The present oversupply, partly determined by contingent factors, will be soaked up by new demand. On the one hand, UK and EU demand is expected to plateau in the next coming years. On the other hand, it looks like rich East Asian countries such as South Korea and Japan will see a dramatic rise of consumption. Moreover, a big question mark is represented by China: if China embraces co-firing of wood pellets, even at modest ratios, there could be a significant increase of the

global demand (Wood Pellet Association of Canada, 2017). The chart below, taken from Future Metrics (historical data from Argus Direct), clearly points to a long-term increase of industrial wood pellet consumption driven by Asia. Even European countries such as UK, the Netherlands, and Belgium still have growth potential, if the policy environment is friendly and if the projected construction of some large power stations will actually take place.

Figure 3.5: Industrial Wood Pellet Demand

Source: Historical Data from Argus Direct, forecast and analysis by Future Metrics

Figure 3.6: Global Premium (heating) Pellet Demand



Source: Risi Global Pellet Demand Outlook, 2015, European Pellet Council, HPBA US and CA stove data, 2016. Analysis and forecast adjustment by Future Metrics

THE USA EXPERIENCE: WOOD AS ENERGY SOURCE AND AS PRODUCT

Last October 2017, the USDA has announced it will invest up to $7 million in grants for projects designed to expand wood products and wood energy markets that support sustainable forest management, especially in areas with high wildfire risk. The grants will be made available in through the U.S. Forest Service's Wood Innovations Program. According to the request for proposals (RFP) published to the Wood Education and Resource Center website, proposals were expected to be submitted by the 23rd January 2017.

The RFP focuses on three main priorities. The first is to reduce hazardous fuels and improve forest health on National Forest System and other forest lands. The second is to reduce the costs of forest management on all types of land, while the third is to promote the economic and environmental health of communities.

Grants will be awarded under two categories:

1. The **first category** aims to expand wood energy markets by stimulating, expanding, and supporting wood energy markets that depend on forest residues or forest by products generated from all land types. Projects can include, but are not limited to, the development of a cluster of wood energy projects in a geographic area or specific sector, or overcoming market barriers to stimulate expansion of wood energy in the commercial sector. According to the RFP, complete requirements, such as engineering designs, cost analysis and permitting, are necessary in the later stages of wood energy project development to secure financing.

2. The **second grant category** aims to expand wood products market by promoting markets that create or expand the demand for non-energy-based wood products. The RFP notes preference will be given to projects that support commercial building markets or other markets that use innovative wood products.

The RFP was announced on the 19 October, during the week President Obama has proclaimed National Forest Products Week. In his proclamation, Obama recognized USDA's work to promote the use of wood energy and wood products, stating, "The health and well-being of our forests and our communities go hand in hand. With the Department of Agriculture, we are working to strengthen markets for forest products. By allocating millions of dollars to help expand technologies that encourage the use of wood in innovative ways, we are also striving to improve forest health and generate rural jobs. And we are exploring ways to help forestland owners respond to climate change—earlier this year, we released a roadmap for implementing key building blocks to achieve this goal, such as private forest growth and retention, stewardship of Federal forests, and promotion of wood products."

Promotion of wood products is one of the ten "building blocks" in USDA's Building Blocks for Climate Smart Agriculture and Forestry, the Department's framework for helping farmers, ranchers, and forestland owners respond to climate change. Through this initiative, USDA is committing to reducing greenhouse gas emissions and increasing carbon stored in forests and soils by over 120 million metric tons of carbon dioxide equivalent per year by 2025. **That amount is equivalent of taking 25 million cars off the road, or offsetting the emissions produced by powering nearly 11 million homes**.

"Growing markets for wood products and wood energy create new uses for diseased wood that otherwise would be hazardous fuel in our nation's forests, where we are experiencing increasingly longer and more intense wildfire seasons. By getting this wood out of the forests and putting it to use as building material or a renewable energy source, we are able to sustain the health of our forests and maintain their capacity to store carbon," said Agriculture Secretary Tom Vilsack.

3.5 New revised Renewable Energy Directive

On 30th November 2016, the European Commission has proposed a new revised Renewable Energy Directive. According to the European Commission the new Renewable Energy Directive, together with the proposals on the New Electricity Market Design and governance, will set a regulatory framework that leads to investor certainty and allows a level playing field for all technologies. Renewables producers will be able to earn revenues from the market, including system service markets that are required to maintain grid stability and security. By introducing trading closer to the time of delivery well-integrated short-term electricity markets will also reward flexibility in the market both for generation, demand or storage.

Revising the Directive on promotion of RES forms part of the broader Energy Union strategy, which was proposed by the Commission (February 2015) and later endorsed by the European Council (March 2015). The revised RES Directive seeks to contribute towards the key EU goal of attaining a share of at least 27 % of EU energy from renewable sources in final consumption by 2030.

In the absence of Member States binding targets (*as it was the case in the previous renewable energy Directive*), the EU Commission considers that one of the key challenges of the post- 2020 energy framework is to ensure that the 2030 target is collectively met in a cost efficient-way. Therefore, the 2020 national targets will be established as baseline to build on the progress achieved with the current framework; Member States will not be allowed to go below their 2020 targets from 2021 onwards.

The new revised Renewable Energy Directive identifies six key areas for action:

- Creating an enabling framework for further deployment of renewables in the Electricity Sector;
- Mainstreaming renewables in the Heating and Cooling Sector;
- Decarbonising and diversifying the Transport Sector;
- Empowering and informing consumers;
- Strengthening the EU sustainability criteria for bioenergy;
- Making sure the EU level binding target is achieved on time and in a cost effective way.

In its Resolution on the Renewable energy progress report of 23 June 2016, the European Parliament highlighted the importance of increased regional cooperation, and asked for the 'implementation of a European renewables-based model of energy production, consumption and self consumption'. The EU Parliament '*calls on the Commission to present a more ambitious climate and energy package 2030, which increases the EU target for RES to at least 30 % to be implemented by means of individual national targets*', and '*stresses that the targets already agreed for 2020 must be taken as the minimum baseline when revising the Renewable Energy Directive*', while continued use of national benchmarks is necessary for effective monitoring by the Commission.

In extreme summary, reported below the most important elements of this new proposal:

RENEWABLES IN ELECTRICITY. By 2030, half of European electricity should be renewable. The share of renewable electricity has already increased up to 29%, and accounts for over 85% of Europe's generation investments. The revised directive:

- includes general principles that Member States should follow when designing support schemes. While providing visibility and certainty to investors, support schemes must be cost-effective and market oriented. The aim is to ensure their stability, bring down the costs of deploying renewables and further Europeanise renewables policy;
- simplifies administrative procedures and reinforces local acceptance of projects through:
- a one-stop-shop and a time limit for the Renewable Energy Sources (RES) permit granting process;
- a simple notification procedure to facilitate repowering of existing renewables plants and small scale projects.

HEATING AND COOLING. The proposal seeks to mainstream RES in the heating and cooling sector.
Heating and cooling accounts for 50% of total energy demand in Europe. Despite promising signals, the uptake of renewables in this sector has been slow: today 75% heating and cooling still relies on fossil fuels, and accounts for 68% of the EU's gas imports.
The revised directive:

- provides Member States with options to increase their share of renewable energy in heating and cooling supply, aiming at increasing the share of renewable energy by 1 percentage point per year in their total supply until 2030;

- opens access rights to local district heating and cooling systems for producers of renewables, under certain conditions.

➔ « Biomass combustion is a source of air pollution. According to the World Health Organisation, residential heating with solid fuels (coal or wood) is an important source of particulate matters and carcinogenic compounds in particular in Central Europe. Increasing the use of solid biomass for energy, in particular in domestic combustion and small and medium-sized installations, can therefore compromise air quality locally or regionally, particularly given the fact that most residential heating systems used today are relatively inefficient. In the EU, Ecodesign requirements will enter into force in 2020 for solid fuel boilers and local space heaters and ensure the efficiency of new devices. »

Member States are required to carry out a regular assessment of their use of RES and waste heat/cold in heating and cooling. The proposal also establishes guiding principles for district heating and cooling systems, including the right for consumers to disconnect from inefficient systems.

BIOMASS. The proposal contains detailed provisions to improve the **sustainability and greenhouse gas (GHG) emissions-saving criteria** for biofuels, bioliquids and biomass. These criteria would be aligned with the obligations of the EU and its Member States as signatories to the UNFCCC Paris Climate Change Agreement, and would reinforce the Commission's legislative proposal on land use, land use change and forestry (LULUCF) by introducing a new sustainability criterion for forest biomass. The required GHG emissions savings from biofuels and bioliquids would be increased to at least 70 % for installations starting operations from 2021 onwards, and at least 80 % for electricity, heating and cooling from biomass. The latter target would increase to 85 % for installations starting operations from 2026 onwards. However, existing or forthcoming installations would only need to meet the less stringent requirements of the existing RES Directive: at least 50 % for installations in operation before 5 October 2015; at least 60 % for installations in operation from 5 October 2015.

In particular, the Commission is committed to making sure the biomass is sustainable and:

- it delivers high greenhouse gas (GHG) savings compared to fossil fuels,

➔ "Currently, the majority of the solid biomass used for energy purposes in the EU can be considered to deliver substantial greenhouse gas benefits even when taking into account biogenic emissions. This is because the forest biomass that is used consists mostly of industrial residues (More than half of solid biomass use in the EU in 2013) as well as harvest residues (branches, tree tops) and traditional fuel wood. Studies show that these feedstocks generally deliver a beneficial greenhouse gas performance when compared to fossil fuels. However, this may change in the future if the demand for forest biomass continues to grow. In particular, the availability of industrial residues in the EU is limited and there is currently little spare capacity."

- it is produced in a way that does not cause deforestation or degradation of habitats or loss of biodiversity,
- it is converted into energy with a high efficiency, in order to promote efficient use of limited resources and avoid unintended impacts on other uses.

For this reason, the existing EU criteria for bioenergy sustainability are strengthened and extended to cover also biomass and biogas for heat and power. The Directive includes the following 4 new requirements:

- The sustainability criteria for biofuels are improved, including by requiring that (new) advanced biofuels emit at least 70% fewer GHG emissions than fossil fuels.
- A new sustainability criterion on forest biomass in introduced, in order to ensure that the production of woodfuel continues to be sustainable and that any LULUCF emissions are accounted for (in the country of biomass production).
- The EU sustainability criteria are extended to cover solid biomass and biogas used in large heat and power plants (above 20 MW fuel capacity). This means, for instance, that electricity and heat from biomass have to produce at least 80% fewer GHG emission compared to fossil fuels by 2021 and 85% less by 2026.
- Large-scale biomass electricity plants (above 20 MW) will need to use high efficient combined heat and power technology (reaching efficiencies above 80%). This requirement does not apply to power plants that are already in operation and receive state aid already approved by the Commission. In addition, this criterion does not apply in case of risks to the security of electricity supply, which need to be duly notified to and approved by the Commission.

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To ensure that, despite the growing demand for forest biomass, harvesting is carried out in a sustainable manner in forests where regeneration is ensured, that special attention is given to areas explicitly designated for the protection of biodiversity, landscapes and specific natural elements, that biodiversity resources are preserved and that carbon stocks are tracked, **woody raw material should come only from forests that are harvested in accordance with the principles of sustainable forest management** developed under international forest processes such as Forest Europe and are implemented through national laws or the best management practices at the forest holding level. Operators should take the appropriate steps in order to minimise the risk of using unsustainable forest biomass for the production of bioenergy. To that end, **operators should put in place a risk-based approach**.

The Commission impact assessment on the Sustainability of Bioenergy is available at the following link:https://ec.europa.eu/energy/sites/ener/files/documents/1_en_impact_assessment_part4_v4_418.pdf

TRANSPORT. In order to foster the decarbonisation and energy diversification of the EU transport sector, the revised renewable energy Directive:

- Introduces an obligation on European transport fuel suppliers to provide an increasing share of renewable and low-carbon fuels, including advanced biofuels, renewable transport fuels of non-biological origin (e.g. hydrogen), waste-based fuels and renewable electricity. The level of this obligation is progressively increasing from 1.5% in 2021 (in energy terms) to 6.8 % in 2030, including at least 3.6% of advanced biofuels. Preferential rules apply to advanced aviation fuels in order to support their deployment in the aviation sector (e.g. their energy content is accounted 20% more).
- To minimize the Indirect Land-Use Change (ILUC) impacts, introduces a cap on the contribution of food-based biofuels towards the EU renewable energy target, starting at 7% in 2021 and going down progressively to 3.8% in 2030.
- Introduces national databases to ensure traceability of the fuels and mitigate the risk of fraud.

The European Parliament and the Council will now have to agree on the legislative proposals by the European Commission for them to become law.

The European Parliament's lead negotiator in reforming the EU's Renewable Energy Directive is MEP José Blanco Lopez (S&D) on behalf of the Committee on Industry, Research and Energy. Nevertheless, the Committee on the Environment, Public Health and Food Safety has the exclusive competence for defying the EU Parliament position on the sustainable criteria for biomass. (Rapporteur Eickhout Bas, Greens/European Free Alliance).

The recast directive would enter into force on 1 January 2021, the date on which the existing RES Directive would be repealed. The transposition date for Member States would be 30 June 2021. The recast directive asks the Commission to publish a legislative proposal in 2026 on the regulatory framework for the promotion of RES in the post-2030 period. It also provides for a Commission report reviewing application of the recast directive in 2032. Under the proposal, the Commission would be empowered to adopt delegated acts in a range of specific areas. These would automatically enter into force provided that no objection has been expressed by the Parliament or Council within a period of two months. The power to adopt delegated acts would be conferred for a period of five years starting on 1 January 2021, and could be revoked at any time by the Parliament or the Council.

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Special Focus: the Middle East & North Africa (MENA)

Economic and Wood Market Trends 2017

COMARBOIS

May 2017
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THE MIDDLE EAST & NORTH AFRICA (MENA)

Economic and Wood Market Trends 2017

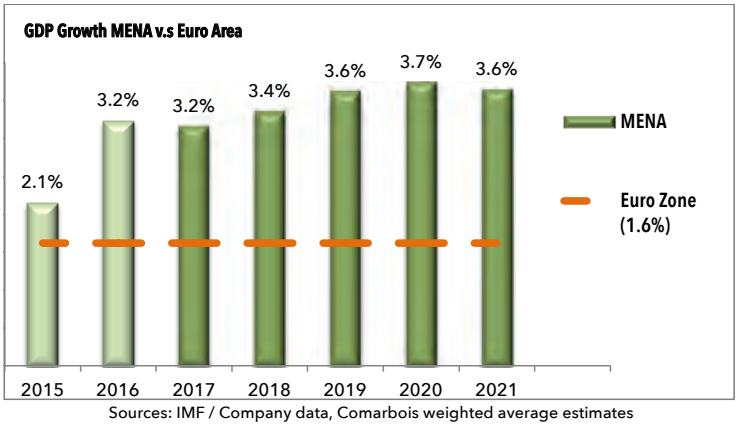
A NEW NORMAL AHEAD, TIME TO RETHINK BUSINESS & DEVELOPMENT MODELS, LESS POLITICAL VOLATILITY, AND A YOUNG & DYNAMIC POPULATION

In a Nutshell:

- Since the collapse of oil prices, actions must be taken by governments to "disrupt" the current situation and rethink their countries' growth model.
- A quite diversified economy (oil & gas, mining, tourism, agriculture, construction, and finance, etc…) with a GDP (Purchasing Power Parity) of $7,989 billion, which grew by **3.2%** in 2016.
- An excellent long-term economic outlook driven by a young population: **35%** is between 15 and 24 years old.
- Less political volatility. However, exchange rate, sovereign non-payment and supply chain disruption risks remain.
- Corruption and competition from the informal sector negatively impact the business environment.
- A lack of sustainable forests makes timber imports a necessity.
- In 2016, sawn softwood imports dropped by **12%**, decreasing to **11,624** million cubic meters.

The Catalyst: A young and growing population and a developing economy, relying almost entirely on softwood import for construction, furniture manufacturing, carpentry, and other needs.

MIDDLE EAST & NORTH AFRICA ECONOMY: THE FATE OF OIL & THE OPPORTUNITY TO DEVELOP NEW GROWTH MODELS



Sources: IMF / Company data, Comarbois weighted average estimates

The Middle East & North Africa "MENA" region gathers a group of countries, which share a similar culture, Islam as the main religion and Arabic in various dialects as a language. Regrouping such many nations *(Morocco, Algeria, Tunisia, Libya, Egypt, Lebanon, Jordan, Syria, Saudi Arabia, Iraq, Kuwait, Yemen, Qatar, UAE, Oman, Bahrain & Iran)* allows to diversify the economical landscape: oil and gas, tourism, construction, banking, agriculture, mining, telecom and various heavy industries contribute to its growth domestic product.

With 360 million inhabitants – over 1/3 below 24 years old – and a population growing at 1.7% per year, the economical outlook should be outstanding. However, in 2016 MENA's GDP, only grew by 3.2%. It is certainly not enough for a "frontier market" which needs to absorb the ever-growing numbers of young people looking for jobs.

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THE MIDDLE EAST & NORTH AFRICA (MENA)

Economic and Wood Market Trends 2017

Back in 2010, the "Arab Spring" and public dissatisfaction with incumbent politicians brought a great political instability in the area. This time is now over. The political remnants of the Arab Spring, is called ISIL, the Islamic State, or Daesh. Taking advantage of the power vacuum in countries like Libya, Syria, Iraq and Yemen, this group proliferated and gained control of local economies. This has had a highly negative impact on business trade, as it has become increasingly difficult to find a safe port and reliable partner to export goods in Syria or Libya.

The political volatility greatly influences an important source of income for MENA: tourism. Some countries such as Tunisia and Egypt have lost a significant number of foreign tourists as long as their essential cash flow.

THE FATE OF OIL

With the development of the shale drilling revolution, green/renewable energy and a slowing Chinese economy, oil prices have fallen over the last few years, triggering a new threat, not only for oil producing countries. Oil always has been "too easy money" for the Gulf Cooperation Council or GCC countries (Saudi Arabia, UAE, Qatar, Oman, Kuwait & Bahrain), Algeria, Iraq and Libya.

Algeria, for instance, has been relying almost entirely on oil and gas exports to finance an ambitious infrastructure investment program (60% of Algeria's budget is dependent on energy income). However, with WTI Crude Oil trading at $45 a barrel, the country has to pump into its foreign exchange reserve (around $116 billion in 2016, 41% down from $195 billion in 2014) to cover demand for imported goods. Oil defines Algeria's economic forecast.

The Algerian government is now taking action to reduce its budget, impose import licenses, increase VAT to 19% and promote other fiscal measures as energy revenues decrease rapidly. However, these actions seem too shy and nothing has been done yet to really disrupt the situation. The political decisions are unstable, easy to put in place, but even easier to remove. The recent import license impacting our timber trade is a perfect example: in less than a week, licenses were applied, then removed and finally put back. No bill, with long-term effects to open the country up to the World, has been engaged yet.

With oil prices at the current level, Saudi Arabia and other Gulf nations also face huge budgetary shortfalls. Plus Saudi Arabia has to finance a costly war in Yemen. But under the leadership of Saudi Deputy Crown Prince Mohammed Bin Salman, the kingdom accepts low oil prices as a new standard. A new growth model has then been introduced: opening the country to foreign investors, preparing the IPO of the State owned oil company Saudi ARAMCO, introducing a VAT in 2018 and austerity measures or announcing plan to diversify its economy, all will contribute to better develop this nation.

The volatility of this natural resource's prices reveals a systemic risk: over the years, an ecosystem surrounding oil & gas has spread around. Countries importing petroleum like Morocco or Egypt have been waiting for the money (direct investments or donations) from their wealthy neighbors (Saudi Arabia) to fill up their budget.

In 2017, oil exporters in MENA should see their budget deficits shrink as austerity measures, taxes and stable oil prices finally start to take effect. On the long run, the Middle East & North Africa economic development looks extremely promising.

Political volatility or commodities prices may have a negative effect on the possibility of growth in the region. Nevertheless, with land covered by only 2% of forest area, MENA relies entirely on timber imports for all projects.

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THE MIDDLE EAST & NORTH AFRICA (MENA)

Economic and Wood Market Trends 2017

The Use of Softwood in MENA:

While the countries constituting MENA may seem similar culturally, the use of softwood varies across the region. Each country has its own particularities with regards to how their construction companies employ softwood. We can divide softwood consumption in three different categories:

(1) **CONSTRUCTION / SHUTTERING / CONCRETE:** Construction, shuttering, and concrete forming are a prime end-use for timber. With growth in direct correlations with the construction sector - along with concrete and steel rebar - softwood is ubiquitous in the construction processes at several sites in MENA. Steel concrete forming systems and other substitutes are entering this market as well, which represent a potential threat for timber import to the region fostered by a step decrease in steel prices and the modernization of construction techniques. However, the value, ease of use, and versatility of timber is inestimable. Each country adapts their construction methods to their climate, culture, and preferred timber species. For instance, in Egypt, companies mainly consume pine (redwood), while in Algeria and Morocco, they tend to utilize green spruce and maritime pine. Meanwhile, in Saudi Arabia, KD spruce is preferred due to the extremely dry climate.

(2) **FURNITURE / DOORS / WINDOWS / INTERIOR DESIGN:** Inhabitants of MENA love to use timber as part of their home. Chairs, Arabian sofas, doors, and window frames all employ a great amount of pine in various dimensions and qualities. Egypt is a key destination for rejects grade wood, while higher quality wood has a great market in the Middle East and Algeria. The dimensions are also important components of design and style: While 75x150 (mm) center cuts are popular in Algeria, a more balanced specification with boards is prevalent in neighboring Morocco. Wood is the primary material in the creation of window and door frames, though aluminum and PVC have also crowded the market in the last couple of years.

(3) **PALLET / CABLE DRUMS / PACKING:** A niche market that is growing nonetheless, pallets, cable drums, and packing manufacturers use maritime pine, spruce, and pine in reject quality. With the development of logistics, retail chains, and manufactured products, we are confident about growth in this sector in the coming years.

OVERALL, 77% OF THE SOFTWOOD IMPORTED IN MENA IS PINE, 21% IS SPRUCE, AND 2 % IS MARITIME PINE.

What are the top softwood exporting countries to MENA in 2016?

Sweden (25%) market share, Finland (23,4%), and Russia (23,2%) are primary pine exporters to MENA. At fourth, Austrian/Slovenian softwood (principally spruce used for construction) accounts for 9% of the volume imported.

TOP EXPORTERS TO MENA IN 2016	TOP EXPORTERS TO MENA IN 2015
#1: Sweden (25%)	#1: Russia (25%)
#2: Finland (23,4%)	#2: Sweden (24%)
#3: Russia (23.2%)	#3: Finland (20%)
#4: Austria/Slovenia (9%)	#4: Austria/Slovenia (10%)

Source: WOODSTAT AB

Scandinavians have a large market share in Egypt and Algeria, while Russia caters to Iran and Egypt and Romania serves Saudi Arabia and the Emirates. In 2016, Finnish sawmills have shipped more softwood to this strategic region.

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THE MIDDLE EAST & NORTH AFRICA (MENA)

Economic and Wood Market Trends 2017

TOP EXPORTERS TO MENA (1 000 M3)

	2015	2016
Sweden	3132	2825
Finland	2553	2671
Russia	3291	2648
Germany	823	739
Romania	1158	786
Canada	278	210
Baltics	451	413
Austria-Slovenia	1265	1080
Others (Chile, New Zealand, France, Spain, Portugal, Brazil)	224	217
Total	13217	11624

Source: WOODSTAT AB/ Company data, Comarbois

WHAT MAKES CERTAIN COUNTRIES SO HOSPITABLE TO SOFTWOOD TRADE WITH MENA?

Like in any market, the presence of a brand or product depends on:

- The global demand for the goods and the willingness of the seller to strategically promote it.
- The willingness of the buyer to obtain the products based on brand recognition, quality, availability, and the price of substitutes.
- Tax or trade agreements between countries and foreign currency valuations.
- The efficiency of the supply chain and logistics that connects sellers to buyers.

This last point has become critical. Some timber exporters have developed extremely well organized logistics, which increases export volume for certain countries. They have managed to build positive momentum by developing networks from sawmills to export platforms (usually in a port), shipping large bulk vessels to decrease freight cost per unit and, in so doing, becoming competitive sellers.

For example, one of the main timber exporters to Algeria is Slovenia. Shipping more than 563,000 cubic meters of softwood in 2016, a handful of traders have leveraged the infrastructure and location of the Koper port to ship substantial volumes of timber from Slovenia and neighboring countries like Austria, Croatia, and Bosnia, to Algeria.

YESTERDAY - TODAY - TOMORROW

Historically, sawn softwood imports in MENA fluctuate at around 12 million cubic meters per year following macroeconomic and political development in the area. To track the trend, it is vital to keep a close watch on the political and economic situation in Egypt, Algeria, Saudi Arabia, and Morocco. Together, those four countries account for 73% of the total volume imported in MENA. **Out of these four countries, only one remains key: Egypt. When Egypt does well, softwood imports in MENA follow, and vice versa.**

After a record year in 2015 when MENA's softwood import reached 13.2 million cubic meter, the volume decreased by 12% to settle at 11.6 million cubic meter in 2016. Indeed, last year, softwood's export to Egypt, Algeria, and Saudi Arabia slumped respectively by 14%, 15% & 15%. Moroccan's imports remained stable.

A new trend arises in this region: Finland timber exports are getting market shares in this part of the world. Shipping primarily pine, Finland compete directly with Sweden and Russia, two countries which delivered 10% and 20% less softwood in 2016 compared to 2015. Finland has been aggressively marketing its timber to MENA, while Swedish and Russian (mainly Siberian) sawmills focus on Far East i.e China or on their local markets. Indeed, Siberian mills can efficiently convey their timber via train to China while Swedish factories opportunistically used cheap containers and interesting softwood prices to deliver their goods. However, for the last couple months, containers' price to China has been skyrocketing.

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ALGERIA, SAUDI ARABIA AND MOROCCO IN 2016 & 2017

Algeria & Saudi Arabia share the same challenge. They are both in the urgent need to diversify their economy to free it from oil prices fluctuation. And they selected two different approaches: the Algerian government decided on some heavy import limitations, projects freeze, increased taxes while Saudi Arabia combines its government spending cuts with deeper economical changes (investing massively in green energy, opening the country to foreign investors...). With regards to Algeria, softwood imports went down by 15% in 2016 at 1.7 million cubic meters.

TOP EXPORTERS TO ALGERIA (1 000 M3)

	2015	2016
Sweden	613	566
Finland	486	490
Russia	0	0
Germany	127	86
Romania	1	0
US	1	1
Canada	0	1
Baltics	21	3
Austria-Slovenia	761	563
Total	2010	1710

Source: WOODSTAT AB

To better understand, what happened in the Algerian market in 2016, we must differentiate two segments:

First, Spruce (white wood). This timber, imported mostly from Germany & Slovenia from its port of Koper, goes mainly into construction for concrete forming, meaning it is used at the early stage of a construction project.
With the current oil situation, the Algerian government has decided to cancel, or put on hold, the vast majority of the scheduled projects: social housing, hospitals, infrastructures... In 2016 there were also an "indirect" limitation quota on timber (white wood). Since March, there were licenses quotas on cars, cement & steel rebar.
For example, they have limited cement imports to 1 million ton per year while the demand is around 3 million. And local cement factories were not efficient enough to fill the gap... so if you import less cement, you will need less spruce for concrete shuttering.
Imported volume from Slovenia collapsed by 26%. There was a strong pressure on white wood prices. Timber exporters had accumulated heavy volumes in the port Koper hoping to ship it to Algeria. At the same time, Slovenian port authority put a charge (up to 1,5 Euros/m3 per day) to limit the number of days timber exporters can warehouse spruce in the port. There were a pressure to sell quickly but with no demand, prices had to be discounted.

Second, in 2016 pine (red wood) export to Algeria showed some resistance. Red wood, especially higher qualities, comes later in a project: to make joineries, windows, doorframes or furniture. So there was a positive momentum: housing & apartments which had been built over the last two or three years needed to be furnished!!
In 2017 in Algeria, this momentum is gone. Softwood exports to this country should decrease by more than 17%! Not only spruce but also pine volume should tumble. Fewer new dwellings in 2016 translate into fewer carpentry projects, which has a direct impact on red wood demand. On top of that, the Algerian government generalized the import licenses even on timber. They first applied it to importers who wholesale the goods; but they then extended it to industrial firms... took it off and put it back again in less than a week. As always in Algeria, political decisions are unpredictable and may change from one day to the next.

TOP EXPORTERS TO SAUDI ARABIA (1 000 M3)

	2015	2016
Sweden	404	333
Finland	389	448
Russia	37	40
Germany	217	179
Romania	272	164
US	3	2
Canada	142	91
Baltics	51	67
Austria-Slovenia	168	105
Total	1682	1429

Source: WOODSTAT AB

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Saudi Arabia softwood import is also difficult. To limit its budget spending, the government has introduced austerity measures, soared municipality licenses price and will impose a value added tax on selected items in 2018. As a consequence, the construction sector is quite slow.
In 2016, timber export to Saudi Arabia fell at 1.4 million cubic meters, down 15% compared to 2015. Finland became the main Saudi softwood supplier (448 000 m3 vs. 333 000 m3 for Sweden). In 2017, the difficulties to find containers to ship timbers to Saudi, and the ongoing economic downturn will weight on pine and spruce imports. We expect timber imports to decrease by minimum 5% this year and start growing again in 2018.

The Moroccan case is different. Ten years ago, the country understood it had to diversify its economy and started to launch programs to attract investments in various sectors: tourism, mining, car industry, logistics... Morocco is now the world's largest producer and exporter of phosphate, Renault set a gigantic factory and Peugeot is now building one. In addition, the country has one of the largest solar plants in the world. Nevertheless, a major part of the economy is still correlated to agriculture and in 2016 with little rain, the harvest season has been weak. A reason why the GDP is grew by only 1.8% that year.

Morocco has difficulties to find the money to finance its ambitions. And the ongoing liquidity crisis started in 2012 is still here. The State doesn't pay on time, banks restrain credits so construction is slowing down and it has become a custom habit to pay softwood importers after 150 days on average. 2016 was an election year, which means some projects got delayed waiting for the new government to be elected. And on top of all that, the Moroccan Dirham may devaluate in 2017 following a new law making it freely convertible. At the end of 2016, the overall stock level in the country was high and while Scandinavians imports are slightly on the downside, two countries have been delivering more spruce to the kingdom: Austria/Slovenia & Germany (a correlation of the spruce situation in Algeria). This year in Morocco, softwood imports should slide by 5%.

TIMBER MARKET – Sawn Softwood Import in the MENA Region (1 000 M3)

	2013	2014	2015	2016	Est. 2017	Est. 2018	Est. 2019
EGYPT	3 742	4 610	5 113	**4 390**	3 658	3 878	4 071
ALGERIA	1 885	2 036	2 010	**1 710**	1 425	1 539	1 582
SAUDIA ARABIA	1 657	1 531	1 682	**1 429**	1 361	1 429	1 481
MOROCCO	955	960	995	**996**	949	996	1 028
UAE	612	744	696	**699**	659	680	703
IRAN	747	658	780	**714**	800	833	868
TUNISIA	300	400	369	**345**	319	335	349
LEBANON	260	335	264	**204**	216	222	230
JORDAN	326	326	244	**217**	207	214	223
IRAQ	243	301	257	**243**	413	434	455
OTHERS (SYRIA, BAHRAIN, SUDAN, YEMEN, KUWAIT, QATAR, LIBYA)	1 075	1 031	807	**677**	636	689	730
TOTAL	11 802	12 932	13 217	**11 624**	10 644	11 249	11 719
% CHANGE		10%	2%	**-12%**	-8%	6%	4%

Sources: WOODSTAT AB / Company data, Comarbois estimates

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A SPECIAL CASE: THE EGYPTIAN MARKET IN 2016 AND 2017

Egypt is the most populated country in the Middle East & North Africa region with around 93 millions inhabitants. With a young population, a quite diversified economy, many different industries and a strategic location on the Suez Canal, it is no wonder why the country is one of the largest timber importers in the world. Egypt posses a real ecosystem and tradition around wood with many small and medium companies are working with this material.

Over the years, the Egyptian's softwood imports have been fluctuating following the country's political and macro economical decisions. In 2015, the Egyptian Central Bank (ECB) decided to impose tight restrictions on the amount of US Dollars that can be deposited in cash at banks. With these new regulations, intended to fight the illegal currency exchange black market, one could only deposit a maximum of $50,000 per month, per bank. On top of that, terrorist attacks have a deep negative impact on the revenue coming from tourism. International currencies (especially US Dollars) have become scarce in the banking system. Many timber exporters based in Scandinavia or Russia who financed their Egyptian customers selling them on credit, had difficulties to collect the money. However, in 2015, Egyptian timber importers filled up their yards and vessels continued to flock into Alexandria Port. That year, softwood exports to Egypt reached 5.1 million m3 (11% boost compared to 2014) for mainly two reasons:

(1) the year started with a lack of timber.
(2) some rumors about a possible Egyptian Pound devaluation encouraged companies to "gamble" and buy much more than the market needs.

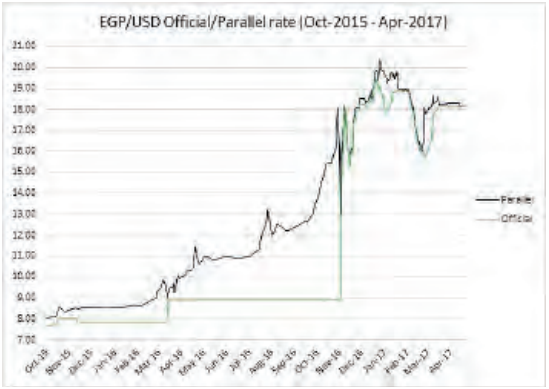
And this trend, primarily based on uncertainties, kept going in 2016… at least for the first half of the year. Until June, timber exports were shifting up. But in August 2016, the government scraped the usual 5% Sales Tax to establish a Value Added Tax for sawn timber: a 13% VAT has been applied temporarily. It will be set at 14% in August 2017.

TOP EXPORTERS TO EGYPT (1 000 M3)

	2015	2016
Sweden	1327	1136
Finland	1254	1339
Russia	2061	1577
Germany	15	3
Romania	91	24
US	18	24
Canada	14	9
Baltics	333	275
Austria-Slovenia	0	3
Total	5113	4390

Source: WOODSTAT AB

Egypt also took the spectacular step of allowing its currency to trade freely as it was supposed to be a way of stabilizing an economy paralyzed by a dollar shortage. In November 2016, the Egyptian Pound (EGP) depreciated immediately going from 9 EGP for 1 USD to 18 EGP and soon 20 EGP. Over 100% drop in value. It shows how determined the government is about reforming the country and tightening the gap between official and parallel exchange rate.



Source: ELSHAL TIMBER, Company data

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Costs to build housings and infrastructures double, people are looking for smaller surfaces and naturally many real estate projects got cancelled. Finally in 2016, we saw a 14% drop in Egyptian softwood imports.

Earlier in 2017, Egypt decided to lift the $50,000 restriction that could be deposited in cash at banks. The ECB canceled the limitation for "necessity goods" or "raw materials manufactured in Egypt": food, pharmaceuticals and sawn timbers fall into those categories! This should allow Egyptian softwood dealers to have fewer difficulties to pay for the goods.

This year, there are less "barriers" to ship wood to Alexandria; nevertheless we expect a serious drop in Egyptian timber imports again. The construction industry is still weak. For instance, an interesting dimension to monitor is the 25*100 VI and Schaalboards.

"This size is primarily used for concrete forming, scaffolding and represents the most efficient thermometer of the Egyptian building sector."

Over the last nine month, Egypt put a break on this item buying-spree, which can be found available all around Scandinavia. Egyptians' warehouses stocks are now at the "right" level reflecting the real demand in the country. The EGP decline still puts pressure on imports and local clients need to get familiar with new prices. Within the next two months the situation should stabilize. Unlike what used to happen in the past, Egyptian timber merchants avoid to "gamble", buying more than what they could sell based on expected rumors. The business seems to have become healthier.

To satisfy the local demand, we expect Egypt to finally import 325,000m3 softwood per month. Overall, in 2017, softwood export to Egypt should fall approximately by 20% to settle at 3.6 million cubic meters.

RUSSIA, SCANDINAVIA AND CHINA

Historically, Russian softwood (mainly pine from Siberia), has been highly available in Egypt. However, in 2017, timber imports from Russia are at a really low level. Russian sawmills prefer to use a cheap and efficient logistic, shipping sawn timber to China via train.

Since the beginning of the year, Russia is no longer the main Egyptian softwood supplier... Finland is now leading the way! Over the last two years, Finish firms have looked to boost their presence in MENA. They also dramatically increased their exports to China but with the recent shortage of containers (and sharp price inflation) to China, the trend may soon reverse.

WHAT TO LOOK FOR IN 2018 AND BEYOND

The geo-political situation in Middle East & North Africa has been challenging over the last few years. The governments finally understood the urgent need to find new revenue streams and disrupt their old business model relying almost entirely on oil or raw material exports. It may still take some time but MENA is headed toward the right direction. Opening the region to the World, making it easier to do business, fighting corruption and diversifying the economy will guaranty a better future. The softwood business in this strategic area with no forest will follow!

Based on the GDP and population growth in MENA, we do expect this market to grow by an average of 6% annually in 2018 and afterward. The "big four," Egypt, Algeria, Saudi Arabia and Morocco - will continue to import in great volumes. With the end of certain sanctions in Iran, the softwood trade should begin to grow as well.

The most interesting surprise (a drastic increase of softwood imports) could come from countries such as Libya, Iraq or Yemen though this is contingent on the peace and stability in the region.

4. Main results from the EOS market survey – April 2017

4.1 General information about the timber market

Country	Year	Production (l.000 m³)		Imports (l.000 m³)		Exports (l.000 m³)		Consumption (l.000 m³)	
		softwood	hardwood	softwood	hardwood	softwood	hardwood	softwood	hardwood
Austria	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	8.605	126	1.641	155	5.059	124	5.268	158
	2016	9.062	153	1.807	181	5.301	133	5.568	201
	2017	9.300	160	1.750	185	5.350	140	5.700	205
Belgium	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	295	1.400	370	900	220	1.850	445
	2017	1.350	295	1.400	370	900	220	1.850	445
Denmark	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	80	1.500	200	120	100	1.700	180
	2017	340	80	1.500	200	150	100	1.690	180
Germany	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	20.434	1.032	4.579	411	6.529	695	18.483	748
	2016	21.109	1.068	4.829	385	7.265	700	18.673	752
	2017	21.700	1.080	4.800	400	7.700	700	18.800	780
Finland	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	360	27	7.500	13	3.400	54
	2015	10.500	40	440	20	7.900	14	3.300	47
	2016	11.400	40	490	18	8.600	16	3.200	42
	2017	12.000	40	500	18	9.000	16	3.200	42

Country	Year	Production (l.000 m³)		Imports (l.000 m³)		Exports (l.000 m³)		Consumption (l.000 m³)	
		softwood	hardwood	softwood	hardwood	softwood	hardwood	softwood	hardwood
France	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	6.360	1.542	2.200	220	600	400	7.960	1.362
	2015	6.230	1.479	2.100	200	760	430	7.570	1.249
	2016	6.400	1.500	2.000	200	810	450	7.590	1.250
	2017	6.600	1.550	2.000	200	900	450	7.700	1.300
Italy *	2011	850	550	5.002	765	123	99	5.729	1.216
	2012	850	520	4.156	612	146	99	4.860	1.033
	2013	860	500	3.936	622	120	115	4.676	1.007
	2014	910	520	3.904	593	140	135	4.674	978
	2015	920	550	3.873	601	150	154	4.643	997
	2016	950	550	3.981	590	178	161	4.753	979
	2017	950	550	4.000	600	160	160	4.790	990
Latvia	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	9	2.069	428	783	240
	2014	2.620	717	439	21	2.258	498	801	240
	2015	2.690	810	570	30	2.440	590	820	250
	2016	2.792	690	754	29	2.714	466	832	253
	2017	2.790	750	750	29	2.700	500	840	279
Norway	2011	2.270	0	900	35	470	1	2.700	34
	2012	2.280	0	980	35	500	1	2.760	34
	2013	2.200	0	960	35	515	1	2.645	34
	2014	2.400	0	970	23	512	0	2.858	23
	2015	2.444	0	979	24	560	0	2.863	24
	2016	2.533	0	991	24	600	0	2.924	24
	2017	2.550	0	1.000	24	620	0	2.950	24
Romania	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	29	2.296	712	1.188	918
	2015	4.317	1.795	29	29	1.759	726	2.529	1.179
	2016	3.900	1.700	283	125	1.800	800	2.383	1.025
	2017	3.900	1.600	250	25	1.800	800	2.350	825
Sweden	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	100	150	28	12.300	9	4.800	120
	2015	18.100	100	170	28	12.820	4	5.450	124
	2016	17.855	100	160	25	13.000	4	5.400	121
	2017	18.200	100	160	25	13.000	4	5.500	121

Country	Year	Production (l.000 m³)		Imports (l.000 m³)		Exports (l.000 m³)		Consumption (l.000 m³)	
		softwood	hardwood	softwood	hardwood	softwood	hardwood	softwood	hardwood
Switzer-land	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	1.045	55	323	35	194	10	1.174	80
	2017	1.030	55	330	35	195	10	1.165	80
United Kingdom	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	3.449	44	5.888	338	167	17	9.170	365
	2016	3.580	40	6.040	330	170	20	9.450	350
	2017	3.720	40	6.080	330	170	20	9.630	350
EOS TOTAL	**2011**	**79.445**	**5.901**	**23.181**	**2.979**	**36.565**	**2.524**	**65.792**	**6.196**
	2012	**76.547**	**6.093**	**21.813**	**2.752**	**36.700**	**2.670**	**61.800**	**5.988**
	2013	**77.812**	**6.073**	**21.518**	**2.626**	**37.029**	**3.042**	**62.065**	**5.717**
	2014	**79.939**	**6.238**	**22.298**	**2.519**	**38.770**	**2.951**	**62.407**	**5.763**
	2015	**80.459**	**6.402**	**23.378**	**2.441**	**39.305**	**3.089**	**64.815**	**5.837**
	2016	**82.296**	**6.271**	**24.558**	**2.512**	**41.652**	**3.080**	**65.497**	**5.702**
	2017	**84.430**	**6.300**	**24.520**	**2.441**	**42.645**	**3.120**	**66.165**	**5.621**

*Italy contributes to the data collection but is not an EOS Country

4.2 Sawn softwood

4.2.1 Overview of EOS Sawn Softwood Production

Table 4.1: Overview of the EOS sawn softwood production 2012-2017 in 1.000 m³

	2012	2013	2014	2015	2016	2017 *	16/15 % var.	17/16 % var.*	Share % 2016
AT	8.793	8.385	8.326	8.605	9.062	9.300	5,3%	2,6%	11,0%
BE	1.530	1.460	1.520	1.400	1.350	1.350	-3,6%	0,0%	1,6%
CH	1.079	986	1.080	1.060	1.045	1.030	-1,4%	-1,4%	1,3%
DE	20.032	20.428	20.757	20.434	21.109	21.700	3,3%	2,8%	25,6%
DK	500	295	290	310	320	340	3,2%	6,3%	0,4%
FI	9.300	10.400	10.800	10.500	11.400	12.000	8,6%	5,3%	13,9%
FR	6.750	6.800	6.360	6.230	6.400	6.600	2,7%	3,1%	7,8%
IT	850	860	910	920	950	950	3,3%	0,0%	1,2%
LV	2.582	2.600	2.620	2.690	2.792	2.790	3,8%	-0,1%	3,4%
NO	2.280	2.200	2.400	2.444	2.533	2.550	3,6%	0,7%	3,1%
RO	3.390	3.762	3.500	4.317	3.900	3.900	-9,7%	0,0%	4,7%
SE	16.100	16.100	17.660	18.100	17.855	18.200	-1,4%	1,9%	21,7%
UK	3.361	3.536	3.716	3.449	3.580	3.720	3,8%	3,9%	4,4%
EOS	**76.547**	**77.812**	**79.939**	**80.459**	**82.296**	**84.430**	**2,3%**	**2,6%**	**100,0%**

*Estimates

The recovery of sawn softwood production that started in 2013 continued at a lively pace during 2016. In the EOS member countries, total production of sawn softwood increased by 2.3% reaching a volume of 82.3 million m^3 in 2016. The recovery seems to continue this year at a similar pace, as sawn softwood production is projected to reach 84.4 million m3 in 2017 (+2.6%), still far from the production peak of 89.5 million m^3 which was observed in 2007. Developments in 2016 were not equal among the EOS member countries. While in most countries production grew (particularly in Finland and in Austria), a decline was observed in Romania and Belgium, and a slight drop also in Sweden and Switzerland.

With a production of 21.1 million m^3 and a share of 25.6% (25.4% in 2015), Germany remained in 2016 the largest sawn softwood producer within the EOS community. Sweden ranks second with 17.9 million m^3 (21.7% vs 22.5% in 2015). Finland remains the third largest producer with 11.4 million m^3 (13.9% vs 13.0% in 2015) ahead of Austria with 9.1 million m^3 (11.0% vs 10.7% in 2015). France remains the fifth largest producer within EOS with a share of 7.8%.

Figure 4.1: Sawn softwood production volumes in the EOS member countries 2007-2017 (000 m^3)

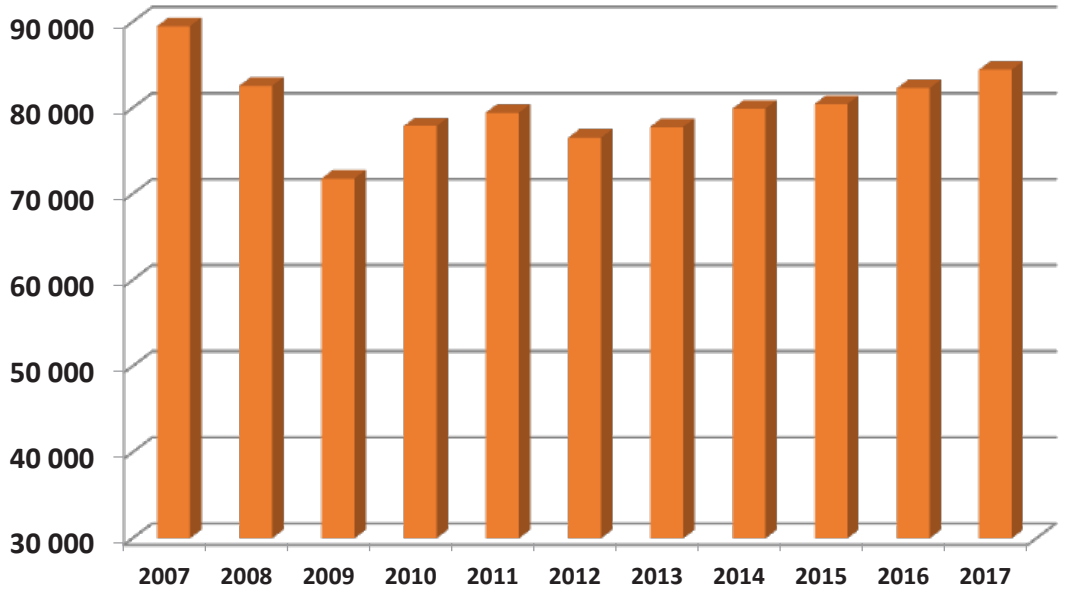
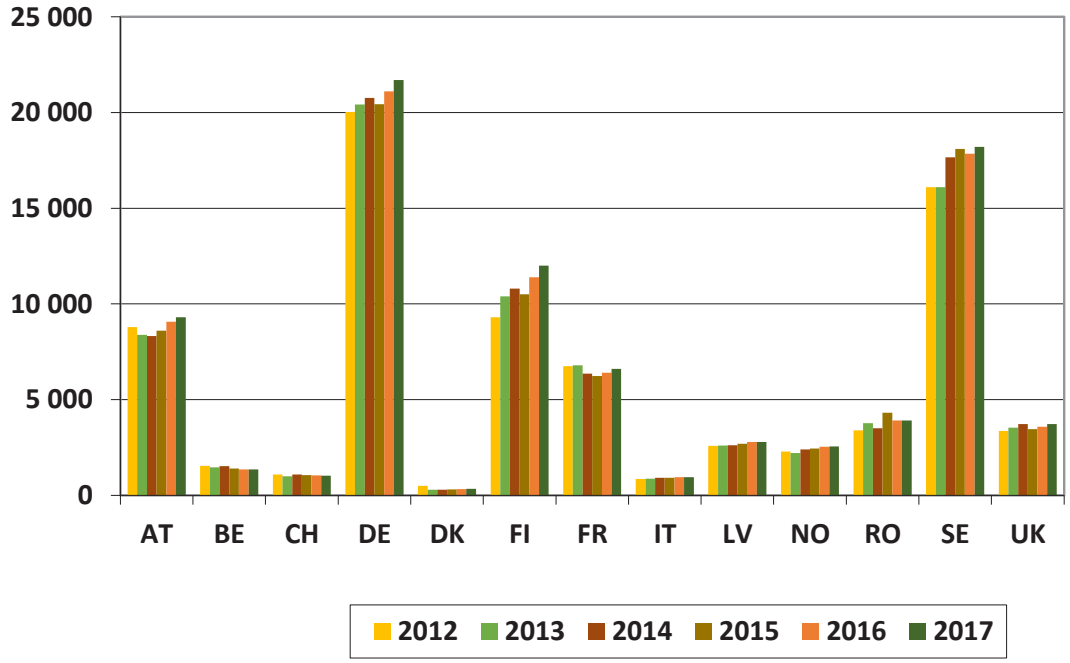


Figure: 4.2 Sawn softwood production volumes in the EOS member countries 2012-2017 (000 m^3)



4.2.2. Overview of the EOS Sawn Softwood Consumption

Table 4.2: Overview of the EOS sawn softwood consumption 2012-2017 in 1.000 m^3

	2012	2013	2014	2015	2016	2017 *	16/15 % var.	17/16 % var.*	Share % 2016
AT	5.478	5.189	5.056	5.268	5.568	5.700	5,7%	2,4%	8,5%
BE	2.030	1.880	1.930	1.930	1.850	1.850	-4,1%	0,0%	2,8%
CH	1.233	1.131	1.230	1.190	1.174	1.165	-1,3%	-0,8%	1,8%
DE	17.678	18.159	18.170	18.483	18.673	18.800	1,0%	0,7%	28,5%
DK	1.519	1.240	1.470	1.599	1.700	1.690	6,3%	-0,6%	2,6%
FI	3.300	3.700	3.400	3.300	3.200	3.200	-3,0%	0,0%	4,9%
FR	8.643	8.400	7.960	7.570	7.590	7.700	0,3%	1,4%	11,6%
IT	4.860	4.676	4.674	4.643	4.753	4.790	2,4%	0,8%	7,3%
LV	843	783	801	820	832	840	1,5%	1,0%	1,3%
NO	2.760	2.645	2.858	2.863	2.924	2.950	2,1%	0,9%	4,5%
RO	954	1.171	1.188	2.529	2.383	2.350	-5,8%	-1,4%	3,6%
SE	4.500	4.600	4.800	5.450	5.400	5.500	-0,9%	1,9%	8,2%
UK	8.002	8.491	8.870	9.170	9.450	9.630	3,0%	1,9%	14,4%
EOS	**61.800**	**62.065**	**62.407**	**64.815**	**65.497**	**66.165**	**1,1%**	**1,0%**	**100,0%**

*Estimates

In 2016, total demand grew by 1.1% - at a somewhat slower pace than production - and reached almost 65.5 million m^3. Consumption is expected to further increase this year at a similar pace but the peak of 2007 of 78.6 m^3 will not be reached in the near future. Demand sharply grew in Austria and Denmark, while also UK, Italy, Norway and Latvia have also seen a moderate rise. Some large producer countries such as Finland and Sweden have seen their consumption somewhat decrease, while a more consistent drop was observed in Romania.

In 2016 Germany was the largest market for sawn softwood products with a volume of 18.7 million m^3 (28.5%, same share of 2015) followed by the UK with 9.45 million m^3 (14.4% vs 14.1% in 2015). France ranks third with a share of 11.6% (11.7% in 2015) and a demand of 7.6 million m^3. Austria is in fourth position, just ahead of Sweden.

Figure 4.3: Sawn softwood consumption volumes in the EOS member countries 2007-2017 (000 m^3)

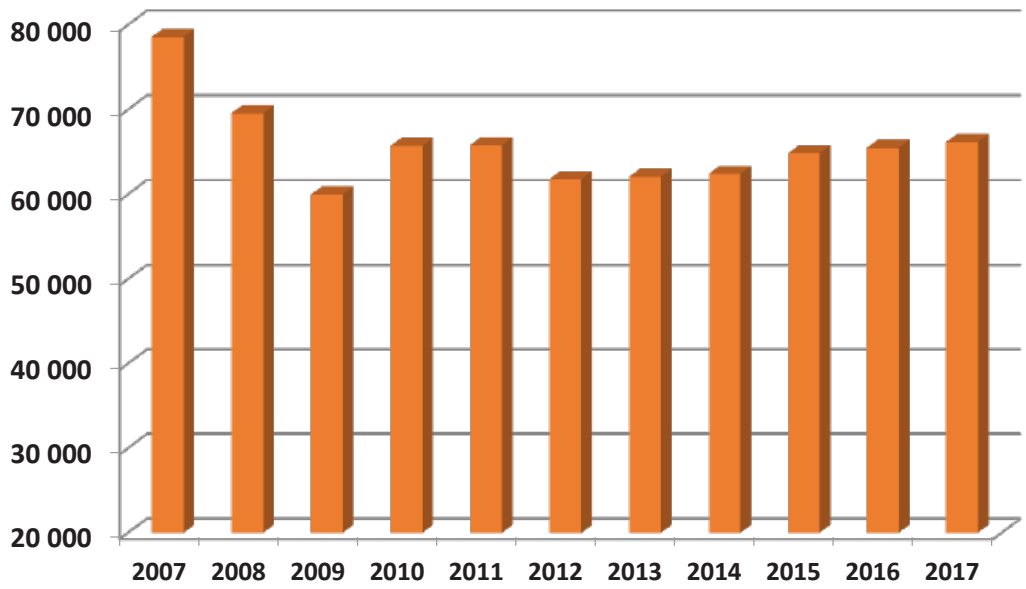
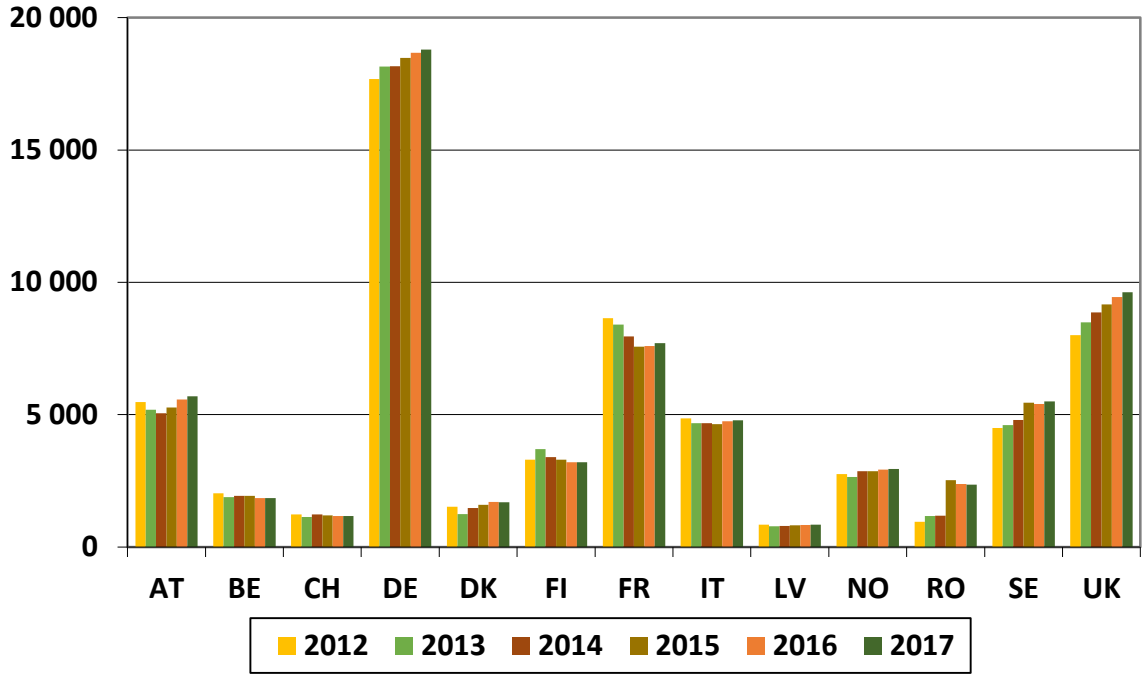


Figure 4.4: Sawn softwood consumption volumes in the EOS member countries 2012-2017 (000 m³)



4.3 Sawn hardwood

4.3.1 Overview of EOS Sawn Hardwood Production

Table 4.3: Overview of the EOS sawn hardwood production 2012-2017 in 1.000 m³

	2012	2013	2014	2015	2016	2017 *	16/15 % var.	17/16 % var.*	Share % 2016
AT	159	149	134	126	153	160	21,4%	4,6%	2,4%
BE	300	285	285	290	295	295	1,7%	0,0%	4,7%
CH	50	58	65	60	55	55	-8,3%	0,0%	0,9%
DE	983	1.031	1.015	1.032	1.068	1.080	3,5%	1,1%	17,0%
DK	125	69	73	76	80	80	5,3%	0,0%	1,3%
FI	50	50	40	40	40	40	0,0%	0,0%	0,6%
FR	1.430	1.380	1.542	1.479	1.500	1.550	1,4%	3,3%	23,9%
IT	520	500	520	550	550	550	0,0%	0,0%	8,8%
LV	570	659	717	810	690	750	-14,8%	8,7%	11,0%
NO	0	0	0	0	0	0	-	-	0,0%
RO	1.758	1.756	1.700	1.795	1.700	1.600	-5,3%	-5,9%	27,1%
SE	100	90	100	100	100	100	0,0%	0,0%	1,6%
UK	48	46	47	44	40	40	-9,1%	0,0%	0,6%
EOS	**6.093**	**6.073**	**6.238**	**6.402**	**6.271**	**6.300**	**-2,0%**	**0,5%**	**100,0%**

*Estimates

The hardwood sector reported in 2016 a production decline of 2% compared to 2015. This year, however, production is projected to somewhat increase to 6.3 million m3, still far from the peak of 7.8 million observed in 2007. Developments differed strongly from country to country. Among the largest producers, France and Germany saw their production moderately grow, while Latvia and, particularly, Romania reported consistent drops. Italy's decline has apparently

bottomed out in 2013, registering a stable production over the last two years.

In 2016, Romania and France remain the biggest sawn hardwood producers within the EOS community, with 27.1% (28.0% in 2015) and 23.9% (23.1% in 2015) respectively, covering more than half of the entire production followed by Germany (17.0% vs 16.1% in 2015) and Latvia (11.0% vs 12.6% in 2015).

Figure 4.5: Sawn hardwood production volumes in the EOS member countries 2007-2017 (000 m^3)

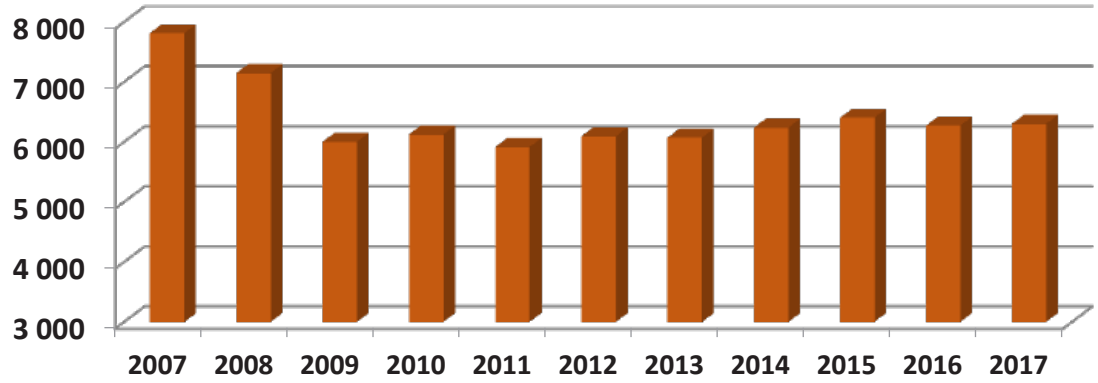
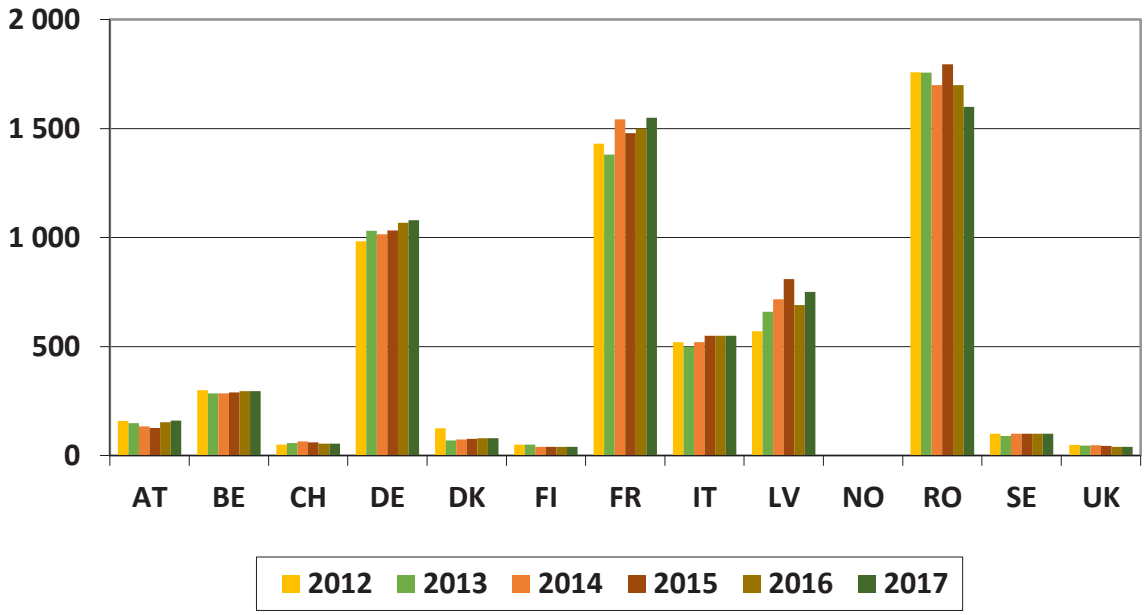


Figure 4.6: Sawn hardwood production volumes in the EOS member countries 2012-2017 (000 m^3)



4.3.2 Overview of EOS Sawn Hardwood consumption

Table 4.4: Overview of the EOS sawn hardwood consumption 2012-2017 in 1.000 m^3

	2012	2013	2014	2015	2016	2017 *	16/15 % var.	17/16 % var.*	Share % 2016
AT	236	202	152	158	201	205	27,2%	2,0%	3,5%
BE	480	445	435	440	445	445	1,1%	0,0%	7,8%
CH	70	78	85	80	80	80	0,0%	0,0%	1,4%
DE	835	793	741	748	752	780	0,6%	3,7%	13,2%
DK	225	225	225	176	180	180	2,3%	0,0%	3,2%
FI	63	63	54	47	42	42	-10,6%	0,0%	0,7%
FR	1.148	1.243	1.362	1.249	1.250	1.300	0,1%	4,0%	21,9%
IT	1.033	1.007	978	997	979	990	-1,8%	1,1%	17,2%
LV	239	240	240	250	253	279	1,2%	10,3%	4,4%
NO	35	35	23	24	24	24	0,0%	0,0%	0,4%
RO	1.040	856	918	1.179	1.025	825	-13,1%	-19,5%	18,0%
SE	138	120	120	124	121	121	-2,8%	0,0%	2,1%
UK	446	410	430	365	350	350	-4,1%	0,0%	6,1%
EOS	**5.988**	**5.717**	**5.763**	**5.838**	**5.702**	**5.621**	**-2,3%**	**-1,4%**	**100,0%**

*Estimates

In 2016, sawn hardwood consumption in the EOS countries was 5.7 million m^3, which is 2.3% less than in 2015. Hardwood consumption remains subdued when compared to the pre-global economic crisis period (it peaked in 2007 when it reached 9.3 million m^3) and, unlike softwood, it is not recovering. Consumption is expected to drop even in 2017. The decline was driven mainly by Romania, which had a -13.1% fall. Other large consumer countries which reported a decline include Italy, and the UK, while consumption was overall stable in France ad Germany.

France remains the largest consumer within the EOS community with a share of 21.9% (up from 21.4% in 2015), followed by Romania, which has a share of 18.0 % (down from 20.2% in 2015).

Figure 4.7: Sawn hardwood consumption volumes in the EOS member countries 2007-2017 (000 m^3)

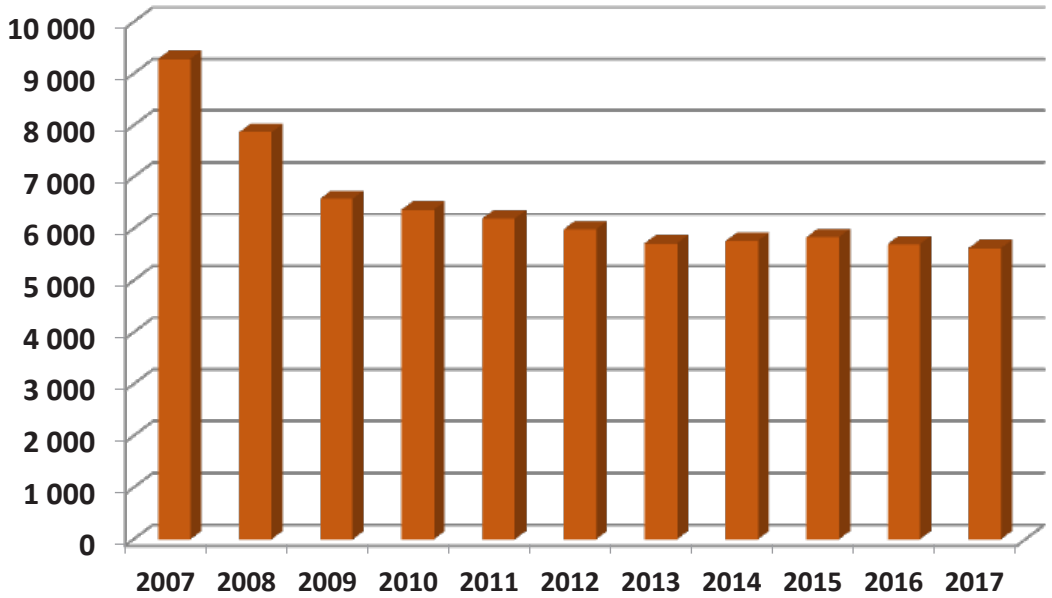
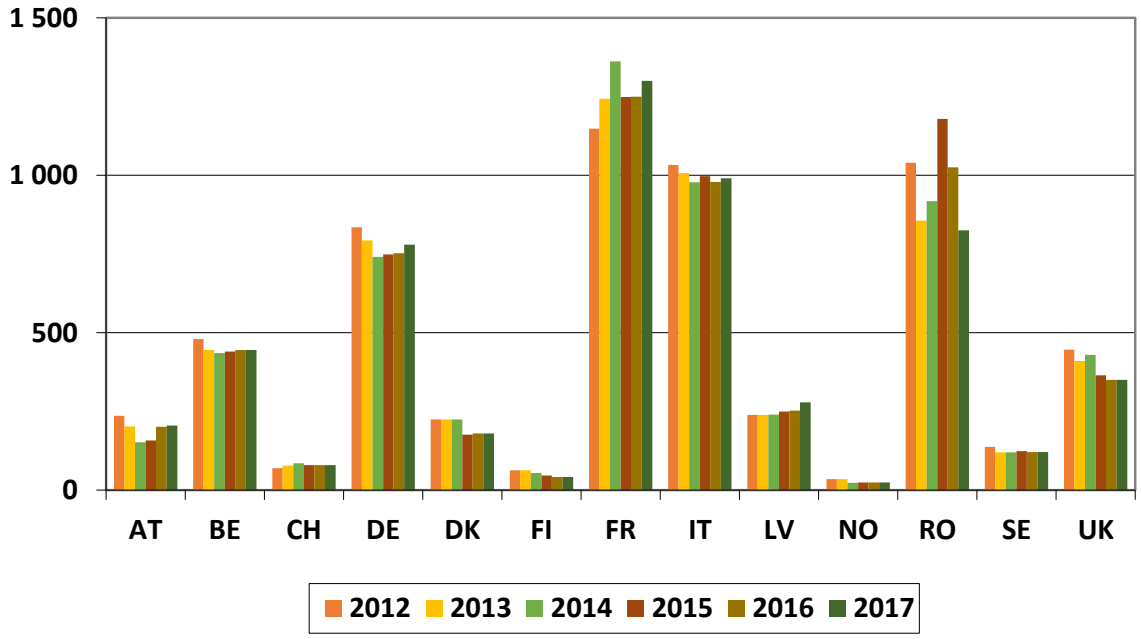


Figure 4.8: Sawn hardwood consumption volumes in the EOS member countries 2012-2017 (000 m^3)



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4.4 Focus on by-products

Most EOS countries have shared data on sawmill by-products, which are reported below.

Figure 4.9: Sawdust production volumes in the EOS member countries 2014-2017 (000 m^3)

	2014	2015	2016	2017 *	16/15 % var.	17/16 % var.*
AT	2.300	2.403	2.724	2.800	13,4	2,8
BE	255	237	238	238	0,2	0,0
CH	220	215	210	205	-2,3	-2,4
DE	4.612	4.547	4.719	4.900	3,8	3,8
FI	3.300	3.150	3.400	3.600	7,9	5,9
LV	534	560	557	566	-0,5	1,6
NO	240	244	250	252	2,5	0,8
RO	220	215	195	200	-9,3	2,6
SE	5.124	5.240	5.161	5.260	-1,5	1,9

Figure 4.10: Chips production volumes in the EOS member countries 2014-2017 (000 m^3)

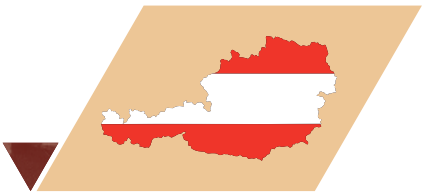
	2014	2015	2016	2017 *	16/15 % var.	17/16 % var.*
AT	3.250	3.300	3.500	3.600	6,1	2,9
BE	1.021	965	941	941	-2,5	0,0
CH	540	530	520	510	-1,9	-1,9
DE	9.628	9.486	9.844	10.200	3,8	3,6
FI	7.200	7.050	7.600	8.000	7,8	5,3
LV	2.803	3.158	3.141	3.194	-0,5	1,7
NO	1.460	1.495	1.500	1.500	0,3	0,0
RO	343	330	350	350	6,1	0,0
SE	11.000	11.250	11.080	11.300	-1,5	2,0

Figure 4.11: Bark production volumes in the EOS member countries 2014-2017 (000 m^3)

	2014	2015	2016	2017 *	16/15 % var.	17/16 % var.*
AT	970	1.000	1.100	1.150	10,0	4,5
BE	332	311	302	302	-2,8	0,0
CH	200	195	190	185	-2,6	-2,6
DE	unav.	unav.	unav.	unav.		
FI	2.200	2.100	2.300	2.400	9,5	4,3
LV	419	430	428	435	-0,6	1,6
NO	485	495	500	500	1,0	0,0
RO	1.870	1.992	1.700	1.750	-14,7	2,9
SE	3.800	3.900	3.840	3.980	-1,5	3,6

4.5 Country Reports

AUSTRIA



Source: Fachverband der Holzindustrie Österreichs and European Commission

General economic information

	2014	2015	2016	2017
Population *(million)*	8.5	8.6	8.7	8.7
GDP (%)	0.6	1.0	1.5	1.6
Inflation rate *(%)*	1.5	0.8	1.0	1.9
Unemployment rate *(%)*	5.6	6.0	6.0	6.1
Construction industry				
Buildings permits (units)	47 700	50 200	55 300	57 000
Housing starts (units)	44 700	46 500	50 100	53 300
Housing completions (units)	43 000	45 200	47 300	50 400
Wage Development *(%)*	2.3	1.1	0.3	0.3
Average working time in sawmilling *(h/week)*	38.5	38.5	38.5	38.5

2017 data are estimates

Sawn Softwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	8 326	8 605	9 062	9 300
Imports	1 614	1 641	1 807	1 750
Exports	4 884	5 059	5 301	5 350
Consumption	5 056	5 268	5 568	5 700

2017 data are estimates

Sawn Hardwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	134	126	153	160
Imports	145	155	181	185
Exports	127	124	133	140
Consumption	152	158	201	205

2017 data are estimates

Availability of logs (in 1,000 m^3)

	2014	2015	2016	2017
Softwood	1	3	2	3
Hardwood	3	3	3	5

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) – 2017 data are estimates

Market statement

Raw material as area of competence

The timber markets showed in almost all markets a positive trend in 2016 and early 2017. With a growth in production 2016 and in exports of approx. 5% compared to 2015, the Austrian sawmills were also able to increase their shares in international markets. Thanks to the continuous increase in efficiency and strong innovative power, for the Austrian enterprises it is possible to compensate the disadvantages in a highly competitive international market characterized by elevated raw material costs.

Germany is constantly an important driver for the European market. In the year 2016, Italy remains our most important export market with exports having a slightly positive trend. In relative terms, China shows the biggest export increase. Glue-laminated and prefabricated timber products for construction are increasing. The development of the domestic market is positive in all product ranges. The activities of the PR and marketing organization pro:Holz Austria show positive results in all areas. Additional international demand for European standards in high-quality timber for use in modern wood-construction is confirmed.

Results 2016

While the demand for sawn timber increased by approx. five percent on the national and international markets, in early 2016 and in the later summer months there was a lack of necessary raw material.

Due to a higher rate of softwood logs imports of 9.1 M solid cubic metres (scm) (+14%) in 2016 from the adjacent countries the lack of raw material was partially compensated. The import share of sawlogs was 6.4 M scm (+13%), the share of industrial timber 2.75 M scm (+18%).

In 2016, good quality for all construction timber and CLT production was missing on the domestic market. Productions in that area increased as well enormous as CE marked construction timber.

Overall, in 2016, imports of high quality sawn softwood increased by 10% to a high level of 1.8 M scm of softwood sawn timber. That share could have been well produced by own capacity of the domestic sawmill industry.

Good demand for sawn timber also for 2017

The slow but continuous upward trend of the economy in Austria continues from 2015 after some years of decline. Accordingly, the sawmill industry is looking at the first half of 2017 with optimism. The first months of 2017 show even an upward trend with regards to 2016.

In 2016, a total of 15.3 M scm of sawlogs were cut. The timber production (soft- and hardwood) was at approx. 9.2 M m^3, ranging slightly above the average level of the eight recent weaker years.

Fig. 1: Statistic on sawmill production in Austria, * preliminary, ** forecast, red line = average 2009-2016

The Austrian sawmill industry is a large and very successful industry sector with more than 1,000 active enterprises which employ approximately 8,400 employees. About 80% of the solid biomass wood that is processed in Austria goes through the sawmill industry, which therefore represents the backbone of the wood industry. Many sawmills have achieved an increase of their added value and an expansion of their product portfolio. The Austrian sawmill industry is made up almost exclusively of 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 sales

About 60% of the domestic timber production is exported, so the development of the global markets is of particular importance. The softwood timber export (NSH) was at approx. 5.3 M m^3 in 2016, an increase by approx. 5% (2015: 5.06 M m^3). The export value also increased of 3% to approx. 1.2 Bn. Euro in the softwood timber area.

The main market, Italy, developed better than in the previous years. In absolute (preliminary) figures as much as 2.4 M m^3 was exported to Italy, corresponding to 45% of the total export.

The increase of the export to Germany by approx. 23% to 910,000 m^3 (2015: 740,236 m^3) was once again remarkable 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 for high-quality products.

The still-insecure political situation in the Levant states leads to difficulties in exports. But still there is a slight increase by approx. 3% to 942,818 m^3 (2015: 918,653 m^3) in 2016.

Hardwood timber

Hardwood sawmills' production increased to 153,000 m^3 in the 2016, having experienced a reduction in 2014 (134,000 m^3) and 2015 (126,000 m^3). Exports of hardwood timber increased approximately by 6 % in 2016; more than 133,000 m^3 crossed Austria's borders into other countries in total. This corresponds to a value in excess of 87 M Euro (2015: 75 M Euro). The demand for oak timber has continuously increased in the last few years. At the moment, the round timber supply in this wood type is good in Central Europe. The sawmill industry is satisfied with the increasing demand in the first half of 2017. Shared research and development projects shall continuously help to boost the area "Living with wood".

Softwood sawn logs – imports increased

In the overall year of 2016, approx. 6.2 M scm of softwood logs have been imported (2015: approx. 5.3 M scm). The deliveries from the largest import country, the Czech Republic, increased by 35.8% (2.6 M scm). Imports from Slovenia also increased by 44% to 1.3 M scm.

The raw material supply remains the key

From the industry's point of view, there is hope that, thanks to good demand for wood, wood from small forests can also be mobilised. The state forest and the large forest operations deliver almost constantly, 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 high level for the forestry operations for decades.

Logistics

In 2016, there was a strong trend to electronic support with regards to timber supply. The timber industry and the forest management as a partner communicate electronically with the freight companies. These operations will be further developed together with the cooperation platform Forst Holz Papier (FHP).

"Climate–fit forests"

The Austrian Federal Ministry of Agriculture, Forestry, Environment and the cooperation platform Forst Holz Papier (FHP) have initiated a project "Using wood is good for the climate – we make our forests climate-fit". Within that initiative, forest owners shall be supported and the general public shall be motivated to a higher timber use.

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 CE-marked products "Uso fiume", "Uso trieste" and MH Massivholz are shared with the Italian partners. Many further training measures for all sawmills in Austria have been prepared and processed with the experts and officials of the industry.

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Austrian Timber Trade Guidelines (ÖHU)

Up from 2017, the Association of the Austrian Wood Industries (Fachverband der Holzindustrie Österreichs) offers an English version of the Austrian Timber Trade Guidelines 2006 providing legal and economic safety on the national and international timber market.

New guidelines for profiled timber indoor and outdoor

The Association of the European Planing Industries (Verband der Europäischen Hobelindustrie-VEH) has developed over the last years into an international platform for exchange in the timber planing industries. In 2016 the association celebrated its 40th anniversary in Vienna. Many publications and the "Quality guideline for planing products" give support to good technical solutions and create legal certainty. The positive trend towards wood for indoor and outdoor use is unceasing.

Focus on certification

According to legally binding CE certification obligations for construction products the need for optional sustainability certificates is increasing. From 2017 the working group "Certification" with representatives of the pulp and paper, board manufacturing and sawmill industry focus on agendas of sustainable certifications on national and international level. The Association of the Austrian Wood Industries maintains close and effective relations to other international associations.

New research project "Long Life Decking" approved by FFG

The 3-years project started in February 2017. Companies and 3 associations are the partners of the project. The Association of the Austrian Wood Industries is one of the initiators. In Tulln, in Lower Austria, the research association – "Holzforschung Austria" studies the use of different materials in the outdoor area.

BELGIUM

Source: Fédération Nationale des Scieries and European Commission

General economic information

	2014	2015	2016	2017
Population *(million)*	11.1	11.2	11.3	11.4
GDP *(%)*	1.7	1.5	1.2	1.4
Inflation rate *(%)*	0.5	0.6	2.0	2.2
Unemployment rate *(%)*	8.5	8.7	7.9	7.6
Construction industry				
Buildings permits (units)	54 896	52 500	50 163	49 500
Housing starts (units)	48 300	47 800	47 000	46 800
Housing completions (units)	46 200	46 500	46 000	45 900
Wage development *(%)*	1.2	0.0	1.1	1.1
Average working time in sawmilling *(h/week)*	38	38	38	38

2017 data are estimates

Sawn Softwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	1 520	1 400	1 350	1 350
Imports	1 330	1 400	1 400	1 400
Exports	920	870	900	900
Consumption	1 930	1 930	1 850	1 850

2017 data are estimates

Sawn Hardwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	285	290	295	295
Imports	380	370	370	370
Exports	230	220	220	220
Consumption	435	440	445	445

2017 data are estimates

Availability of logs (in 1,000 m^3)

	2014	2015	2016	2017
Softwood	1-2	1	1	1
Hardwood	1	2	1	1
Oak	3	1	1	1
Beech	1	3	3	3

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) – 2017 data are estimates

Market statement

As far as the softwoods sector is concerned, the major wood species sawn in Belgium remains the spruce. Unfortunately, the supply of spruce remains very difficult due to a decline in land areas in favor of environmental projects as well as a lack of replanting after the fields have been cleared. Due to the rarefaction of the species, a high pressure on prices can be observed. The increase in logs prices reduces the competitiveness of the Belgian sawmills with the neighboring countries.

With regard to hardwood species, the situation is not better and actually similar. The demand, mainly for oak, is more and more important but unfortunately cannot be met by our sawmills because of the decline in supply. The only logs available are very expensive and nevertheless, probably due to the pressure on the export market, the competition for purchase by foreign buyers (also coming from neighboring countries) remains important. All necessary means are available in order to encourage the municipalities to develop private sales.

With regard to wood energy (all products together), it has really collapsed. The stocks at users and vendors are full and the last couple of winters, having been relatively mild, do not allow their selling.

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DENMARK

Source: Dansk Traeindustrier and European Commission

General economic information

	2014	2015	2016	2017
Population *(million)*	5.6	5.6	5.6	5.6
GDP *(%)*	1.7	1.6	1.0	1.5
Inflation rate *(%)*	0.4	0.2	0.0	1.4
Unemployment rate *(%)*	6.6	6.2	6.2	5.9
Construction industry				
Buildings permits (units)	12 500	11 800	12 500	13 000
Housing starts (units)	11 000	9 000	11 000	12 000
Housing completions (units)	10 500	13 000	14 000	15 000
Wage Development *(%)*	1.7	2.0	2.0	2.0
Average working time in sawmilling *(h/week)*	37	37	37	37

2017 data are estimates

Sawn Softwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	290	310	320	340
Imports	1 285	1 400	1 500	1 500
Exports	105	111	120	150
Consumption	1 470	1 599	1 700	1 690

2017 data are estimates

Sawn Hardwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	73	76	80	80
Imports	200	200	200	200
Exports	100	100	100	100
Consumption	225	176	180	180

2017 data are estimates

Availability of logs (in 1,000 m^3)

	2014	2015	2016	2017
Softwood	5	4	3	3
Hardwood	5	3	3	3

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2017 data are estimates

FINLAND

Source: Suomen Sahat ry, FAO and European Commission

General economic information

	2014	2015	2016	2017
Population *(million)*	5.4	5.4	5.5	5.5
GDP *(%)*	-0.6	0.3	1.5	1.2
Inflation rate *(%)*	1.2	-0.1	0.4	1.4
Unemployment rate *(%)*	8.7	9.4	8.8	8.5
Construction industry				
Buildings permits (units)	29 626	32 229	39 415	40 000
Housing starts (units)	25 281	33 064	37 640	38 000
Housing completions (units)	29 254	28 518	30 195	32 000
Wage Development *(%)*	1.4	1.2	0.0	0.0
Average working time in sawmilling *(h/week)*	40	40	40	40

2017 data are estimates

Sawn Softwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	10 800	10 500	11 400	12 000
Imports	360	440	490	500
Exports	7 500	7 900	8 600	9 000
Consumption	3 400	3 300	3 200	3 200

2017 data are estimates

Sawn Hardwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	40	40	40	40
Imports	27	20	18	18
Exports	13	14	16	16
Consumption	54	47	42	42

2017 data are estimates

Availability of logs (in 1,000 m^3)

	2014	2015	2016	2017
Softwood	3	3	3	3
Hardwood	-	-	-	-

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2017 data are estimates

Market statement

Roundwood and consumption of wood

Roundwood harvesting hit all-time records in Finland in 2016. Consumption of wood increased, but remained far away from records. The explaining factor is the shrinkage of imported roundwood volume. Thus, the Finnish forest industry leans more on domestic roundwood. Both pulp- and log prices increased year-on-year by 1% in real terms, and ended up higher than during the previous five-year period. The increase in roundwood consumption was driven by several bottleneck-opening investments as well as product portfolio changes. Investments at sawmills focused mainly on replacement, while some mills increased production by opening bottlenecks and increasing kilning capacity. A new LVL-line started production in the autumn. It is expected that the output of pulp and sawn softwood will increase in 2017.

Sawn softwood

The sawmills increased output of sawn softwood from 10.5 million (2015) to 11.4 million (2016) cubic meters. The Finnish sawn softwood production record was achieved in 2003 when the output reached 13.5 million cubic meters, partly based on imported logs. In 2016, the imports of logs played practically no role.

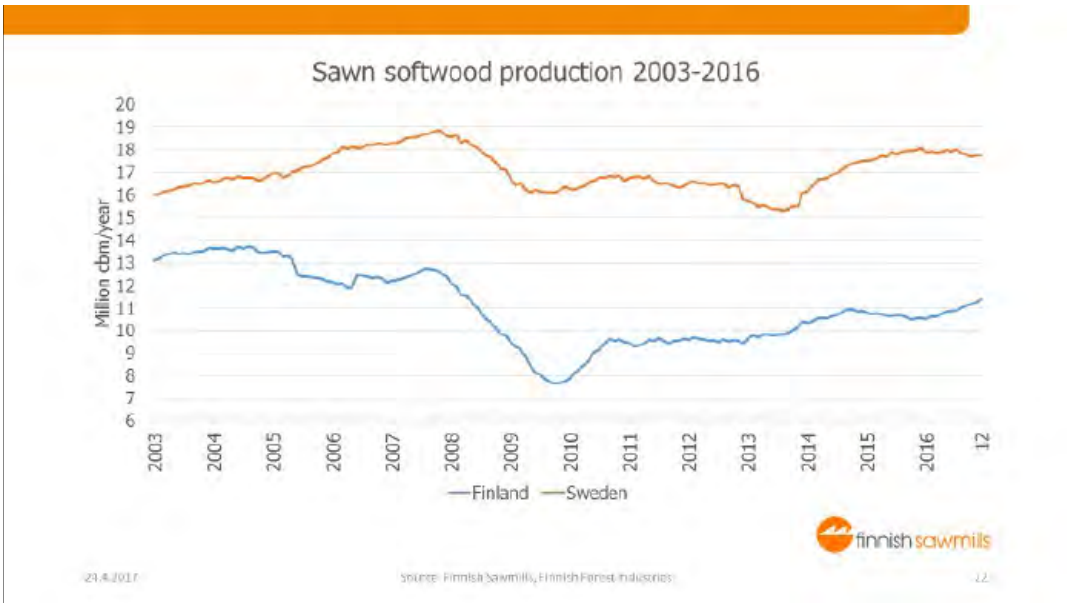
The exports of sawn softwood hit all time high in 2016; 3.9 million cubic meters (+15% compared to 2015) of white and 4.2 million cubic meters (+6%) of redwood was exported, totalling 8.1 million cubic meters (+10%). The biggest export markets were Egypt, China and Japan followed by Great Britain. Whitewood prices remained stable compared to 2015 while redwood prices contracted by more than 7%, mainly due to the Challenges in the MENA region. The increase in volume was mainly driven by brisk exports to China. The domestic market remained dull but some signs of accelerating economic growth could be seen. The construction industry was busy in biggest cities but focused on concrete buildings.

The sawmill residue market was very tight in 2016. Piles of dust and bark accumulated at sawmill sites. The demand was sluggish due to mild winter, low fossile fuel and electricity prices and oversupply of forest chips – which are subsidised in case used for electricity generation.

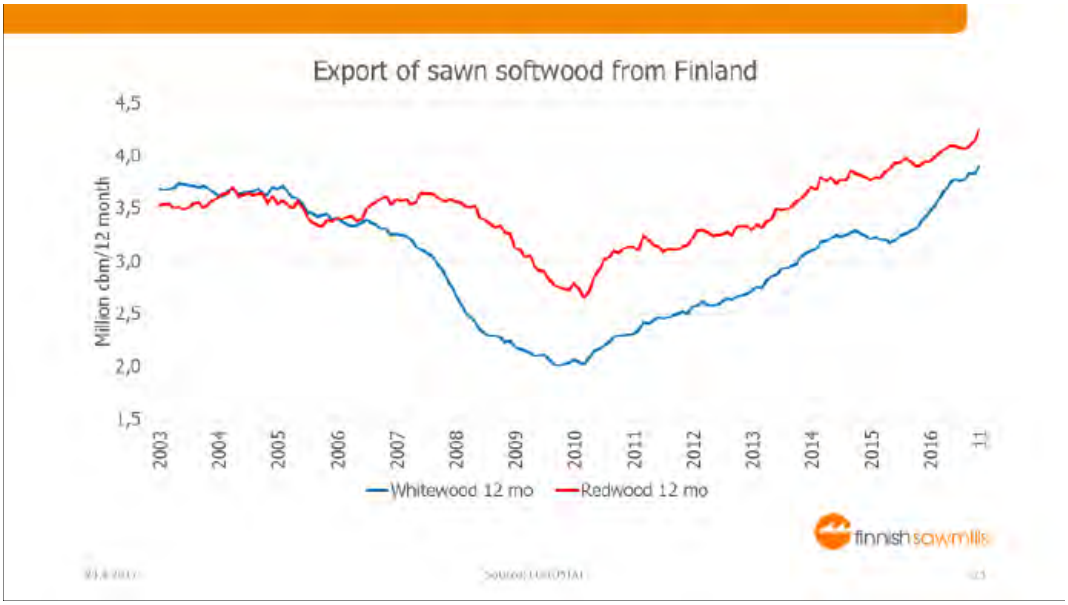
Table 1. Exports of Finnish sawn softwood

Whitewood		01-12/16	01-12/15	2015	
		m^3	**m^3**	**m^3**	***change***
CN	China	893	551	551	*62,0 %*
DE	Germany	431	419	419	*2,9 %*
FR	France	425	401	401	*5,9 %*
JP	Japan	373	358	358	*4,3 %*
SA	Saudi-Arabia	302	265	265	*13,8 %*
GB	Great Britain	248	225	225	*10,2 %*
IL	Israel	217	228	228	*-5,0 %*
NL	Netherlands	204	187	187	*9,1 %*
EG	Egypt	163	164	164	*-0,6 %*
EE	Estonia	109	101	101	*8,4 %*
	Total	**3914**	**3416**	**3416**	***14,6 %***
Redwood		01-12/16	01-12/15	2015	
		m^3	**m^3**	**m^3**	***change***
EG	Egypt	1175	1091	1091	*7,8 %*
DZ	Algeria	488	482	482	*1,4 %*
JP	Japan	456	436	436	*4,5 %*
GB	Great Britain	392	373	373	*5,0 %*
MA	Morocco	248	249	249	*-0,2 %*
IL	Israel	244	222	222	*9,8 %*
EE	Estonia	158	159	159	*-0,3 %*
CN	China	155	76	76	*103,9 %*
SA	Saudi-Arabia	146	126	126	*16,0 %*
TN	Tunisia	84	103	103	*-18,2 %*
	Total	**4171**	**3940**	**3940**	***5,9 %***
	TOTAL	**8085**	**7356**	**7356**	***9,9 %***

Picture 1. Production volume of sawn softwood



Picture 2. Export volume of sawn softwood



In spite of the increased production and export volume, the profitability of the sawmill industry remained unsatisfactory especially in redwood, mainly due to the combination of stable or increasing costs and eroding sawnwood export prices.

The demand of sawn softwood is expected to increase in 2017 globally. However, there are several uncertainties. The economic and geopolitical risks remain in Middle-East and North Africa. Trade politics between China and the US may have a negative impact on Chinese woodworking industry's exports and thus shadow the demand of imported softwood. The lumber dispute between Canada and the US will probably increase prices in the US but steers Canadian supply elsewhere. Russian supply to China will increase but potential export tariffs on green lumber may lure behind the corner. Very volatile freight market will cause imbalances in trade flows between Europe and Asia.

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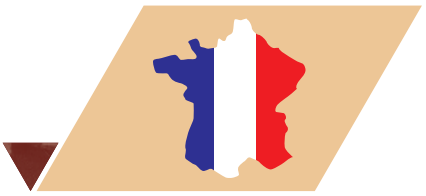
FRANCE

Source: Fédération Nationale du Bois and European Commission



General economic information

	2014	2015	2016	2017
Population *(million)*	66.1	66.3	66.7	67.0
GDP *(%)*	0.6	1.3	1.3	1.4
Inflation rate *(%)*	0.6	0.0	0.2	0.4
Unemployment rate *(%)*	10.3	10.3	10.0	9.8
Construction industry				
Buildings permits (units)	377 000	379 000	453 700	470 000
Housing starts (units)	350 000	350 700	378 900	390 000
Housing completions (units)	315 000	320 000	350 000	370 000
Wage Development *(%)*	1.2	0.5	1.0	1.2
Average working time in sawmilling *(h/week)*	39	39	39	39

2017 data are estimates

Sawn Softwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	6 360	6 230	6 400	6 600
Imports	2 200	2 100	2 000	2 000
Exports	600	760	810	900
Consumption	7 960	7 570	7 590	7 700

2017 data are estimates

Sawn Hardwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	1 542	1 479	1 500	1 550
Imports	220	200	200	200
Exports	400	430	450	450
Consumption	1 362	1 249	1 250	1 300

2017 data are estimates

Availability of logs (in 1,000 m^3)

	2014	2015	2016	2017
Softwood	2	3	3	3
Hardwood	1	1	1	1

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2017 data are estimates

Market statement

In all likelihood, the year 2016 is the year of recovery of the construction market in France, which was particularly affected by the economic crisis as it shrunk by 30% in 5 years. This decline has also affected the wood sector, which in five years has decreased by 25% thanks to a decent renovation market.

The construction sector has been slowly finding a growth path, but it will take time to make up for the ground lost during the crisis. Growth, albeit moderate, is real.

The softwood sector has started to recover in the last quarter of the year, while the first three quarters were quite dull. In such conditions of subdued production, prices of sawnwood could not be as lively as elsewhere in Europe. Simultaneously another mild winter has caused a decrease of byproducts' prices; these combined effects determined a massive reduction of operating margins of sawmills. Overall, as far as the softwood sector is concerned, 2016 is the sixth year in a row of crisis in France; from the point of view of profits, it was an average year, but the fourth quarter gives a bit of hope for 2017. Exports were definitely a bright spot: abroad deliveries were on the rise both to Europe and to the rest of the world, which could compensate the volumes lost in the internal market.

The hardwood sector had also a difficult 2016 but for completely distinct reasons. Demand in this sector was very good for all markets and all geographic areas. The main difficulty consists in the availability of raw materials for the mills, which remains very problematic. The measures which were implemented to slow down the exports of logs (particularly of oak) towards China have had a good effect but, in spite of this, supply of raw material cannot meet demand. Logs prices are on the rise; because of that, sawnwood prices also grew, but not as much as logs prices, which complicated the financial picture of many sawmills. Moreover, at the end of the year, a consistent price increase of overseas freights has been observed, which complicates trade relations with faraway markets.

In sum, the year 2016 will not be remembered as a particularly good year, but hopefully it will mark the beginning of a period of growth for the French sawnwood sector. The mood in France is upbeat since the end of 2016.

Original text

L'année 2016 sera vraisemblablement l'année de la reprise du marché de la construction neuve en France. Très affecté par la crise, le marché de la construction en France a perdu près de 30% en 5 ans. Cette baisse n'a pas épargné le bois qui a connu dans la même période une baisse de 25% grâce au maintien d'un niveau de rénovation.

Le secteur du bâtiment retrouve progressivement le chemin de la croissance, sans pour autant retrouver les niveaux d'avant crise. La croissance est modérée mais réelle.

Les scieries de résineux n'ont perçu les effets de ce redressement qu'au cours du 4ème trimestre 2016. Les 3 premiers trimestres ont été assez moroses.
Dans ces conditions de manque de volumes, les prix n'ont pas réussi à décoller comme ailleurs en Europe. Dans le même temps, suite à un hiver très doux, le prix des connexes de scieries a baissé fortement, entrainant une très forte dégradation des marges opérationnelles des entreprises.
Au global, l'année 2016 constitue pour les scieries résineuses françaises une 6ème année de crise avec des résultats économiques médiocres. Le 4ème trimestre laisse espérer un redressement en 2017.
Le point le plus positif réside dans le développement des exportations, en Europe, comme dans le reste du monde, pour compenser les volumes perdus par le marché français.

Le secteur des scieries feuillus a connu aussi une année 2016 difficile mais pour des raisons tout autres que pour le secteur des résineux. La demande dans ce secteur d'activité est bonne, voire très bonne et ce pour l'ensemble des débouchés et zones géographiques. La principale difficulté réside dans l'approvisionnement des entreprises qui reste extrêmement problématique. Les mesures mises en place pour les ventes de chêne ont permis de faire baisser les exportations de grumes vers la Chine, mais malgré tout, l'offre reste inférieure à la demande. Les prix des grumes continuent de progresser fortement. Les prix des sciages ont été réajustés à la hausse sans pour autant suivre celui des grumes, compliquant l'équation économique de nombreuses scieries. En fin d'année, on observe une remontée du prix du fret maritime vers l'Asie, compliquant les négociations commerciales.

L'année 2016 ne figurera donc pas dans les annales des scieries françaises même si un vent d'optimisme souffle sur le marché français depuis la fin 2016.

GERMANY

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

General economic information

	2014	2015	2016	2017
Population *(million)*	81.2	81.5	82.2	82.3
GDP *(%)*	1.6	1.7	1.9	1.7
Inflation rate *(%)*	0.9	0.3	0.4	1.0
Unemployment rate *(%)*	5.0	4.6	4.6	4.7
Construction industry				
Buildings permits (units)	245 325	252 000	300 000	315 000
Housing starts (units)	n.a.	n.a	n.a.	n.a.
Housing completions (units)	188 400	215 000	260 000	275 000
Wage Development *(%)*	2.7	2.9	2.6	2.6
Average working time in sawmilling *(h/week)*	40	40	40	40

2017 data are estimates

Sawn Softwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	20 757	20 434	21 109	21 700
Imports	4 348	4 579	4 829	4 800
Exports	6 935	6 529	7 265	7 700
Consumption	18 170	18 483	18 673	18 800

2017 data are estimates

Sawn Hardwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	1 015	1 032	1 068	1 080
Imports	418	411	385	400
Exports	692	695	700	700
Consumption	741	748	752	780

2017 data are estimates

Availability of logs (in 1,000 m^3)

	2014	2015	2016	2017
Softwood	1	2	2	2
Hardwood	3	3	3	3

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2017 data are estimates

Market statement

2016 was mostly a satisfactory year for companies

The business environment for sawmills in 2016 slightly improved. Overall demand rose slightly, particularly regarding exports to countries outside the Eurozone, while the domestic market experienced modest growth, despite a marked rise in housing permits granted.

Regarding softwood companies, raw material was in sufficient supply, even if it did not lead to the highly-feared beetle attack as a late-stage follow-on from storm damage in 2015. However, on the regional side, the supply did not remain so constant and there were local challenges.

A slight relaxation in price of raw timber was observed against a less-than-satisfactory development in the price of sawn timber. Depending on the product range, sawn timber tended to be somewhat higher or even slightly below figures for the previous year, at a drastically low revenue level for sawn products.

Overall, there have been only marginal improvements for what has been a very tense revenue situation in the industry, with notable variations from company to company, depending on regional raw timber supplies and price trends.

Prospects for 2017

The continuation of positive overall economic development in Germany bodes well for 2017 as well as a stable housing construction market and a buoyant export economy. A prerequisite for a good year is a sufficient supply of competitively priced raw wood.

Slightly improved framework conditions

The total economic environment helped the German timber industry slightly throughout the course of 2016. In Quarter 4, the German economy was strengthened by 0.4% against the previous quarter, and was slightly stronger than in the quarters before it (Quarter 1 +0.7%, Quarter 2 +0.5%, Quarter 3 +0.1%).

For the entire year in 2016 there was growth of +1.9%, compared with 1.5% in 2015.

Economic growth will remain modest in 2017

Economists expect that global market uncertainty, resulting from the Brexit referendum and the election of Donald Trump, will have a negative effect on the German economy. Economic research institutes estimate a growth of 1.1 to 1.7 per cent for 2017. In 2016 GDP was at 1.8 to 1.9 per cent. As in previous years, it was largely driven by private and public consumption. Low credit costs and minor savings incentives (due to low interest rates) further contributed to an increase in private consumption, which was also helped by a lively labour market.

Domestic construction more positive – further development for 1- and 2-family home construction

The construction sector is still the sawmill industry's most important customer for sawn timber products. Housing construction, and particularly timber construction, influences the level of demand experienced by timber sawmills. In 2015, the number of housing construction permits increased significantly. Growth continued into 2016, with housing construction permits having increased by 21.6% by the end of 2016. An increase in one- and two-family houses, which particularly affected demand for the sawmills, once again fell behind an increase in multi-family home construction, and had weakened to just +2.2% by the end of 2016.

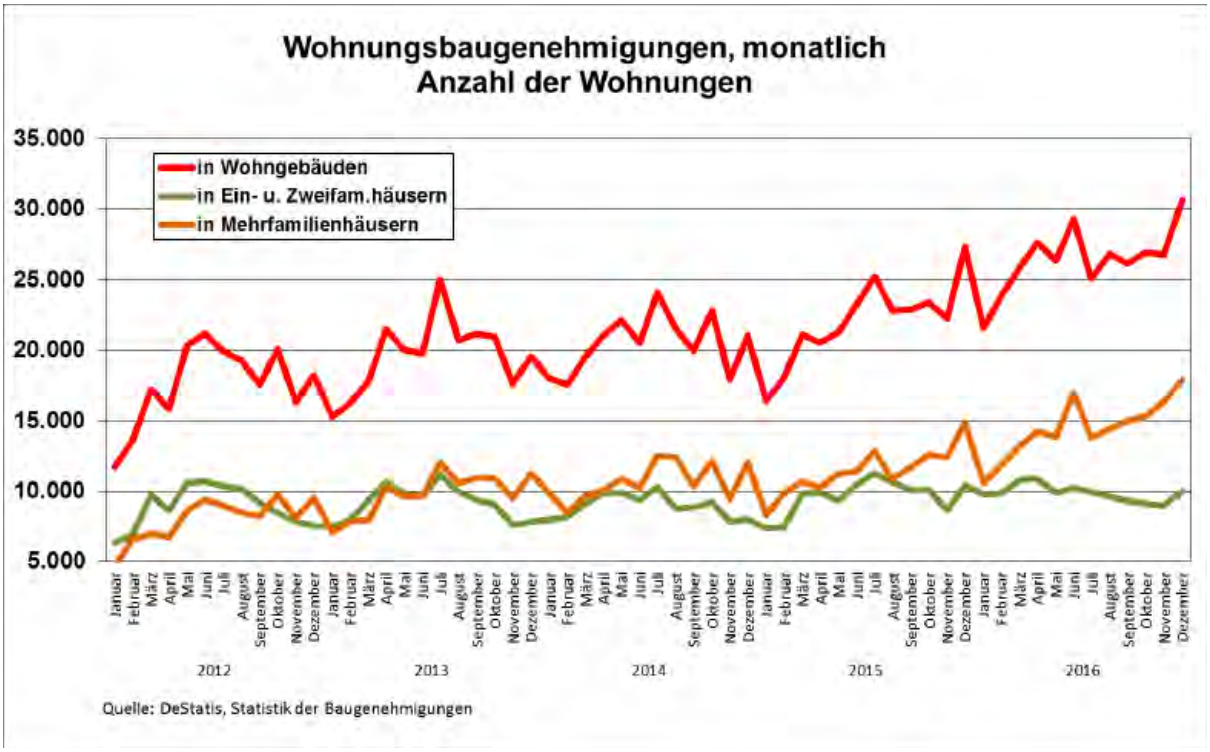
Only moderate growth in customer areas

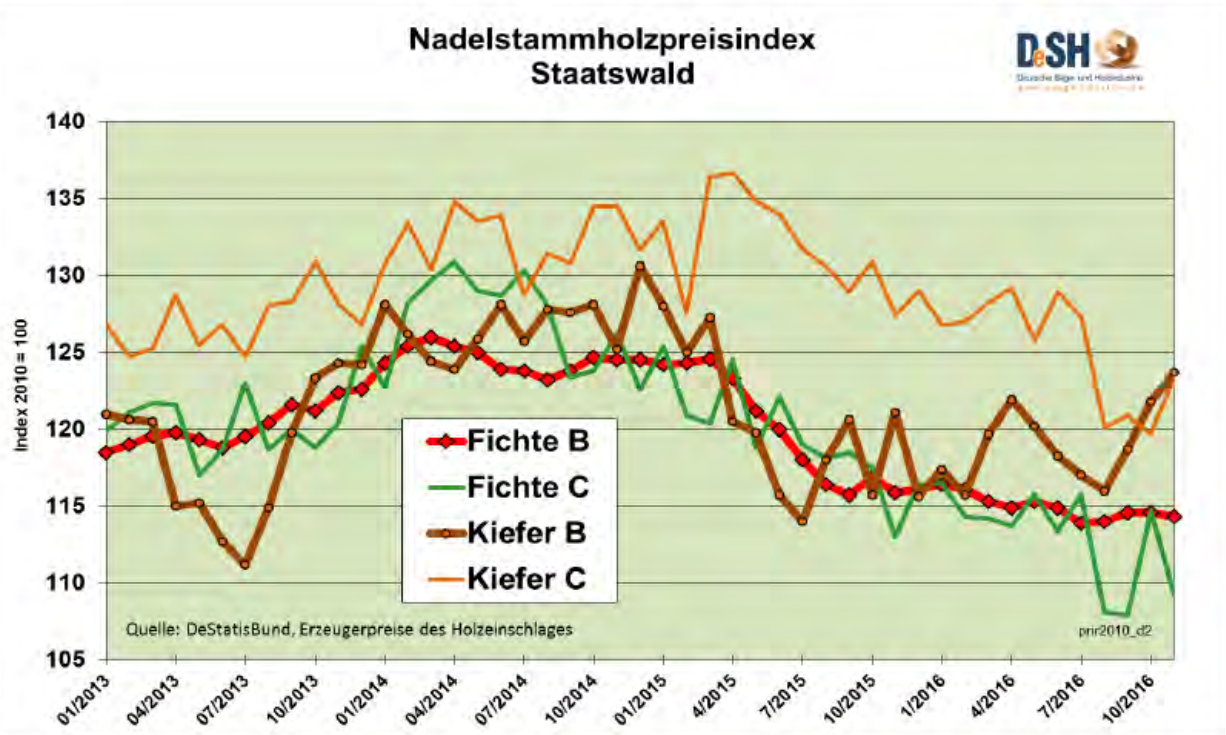
In 2016, sawmill production (production index) was at +3.9% over the previous year. The important packaging customers did not maintain the growth rate observed in 2015, while the construction sector actually suffered a slight decline.

Raw timber supply: sufficient, to regionally scarce

At the time of writing (April 2017) there is no data on wood chips for the year 2016. However, it should be assumed that the fresh wood logging in the south was slightly reduced due to the severity of incidents in the previous year. In the storm areas, in particular, the bark beetle was not affected by the severe attack by termites. The fall of the beetle remained limited. In the north, logs remained in scarce supply in 2016.

The new 2016/2017 logging period showed a constant to fixed demand for softwood. The strong sawn timber market and the positive growth of the woodchip market led to a good uptake of softwood logs in the sawmill industry.



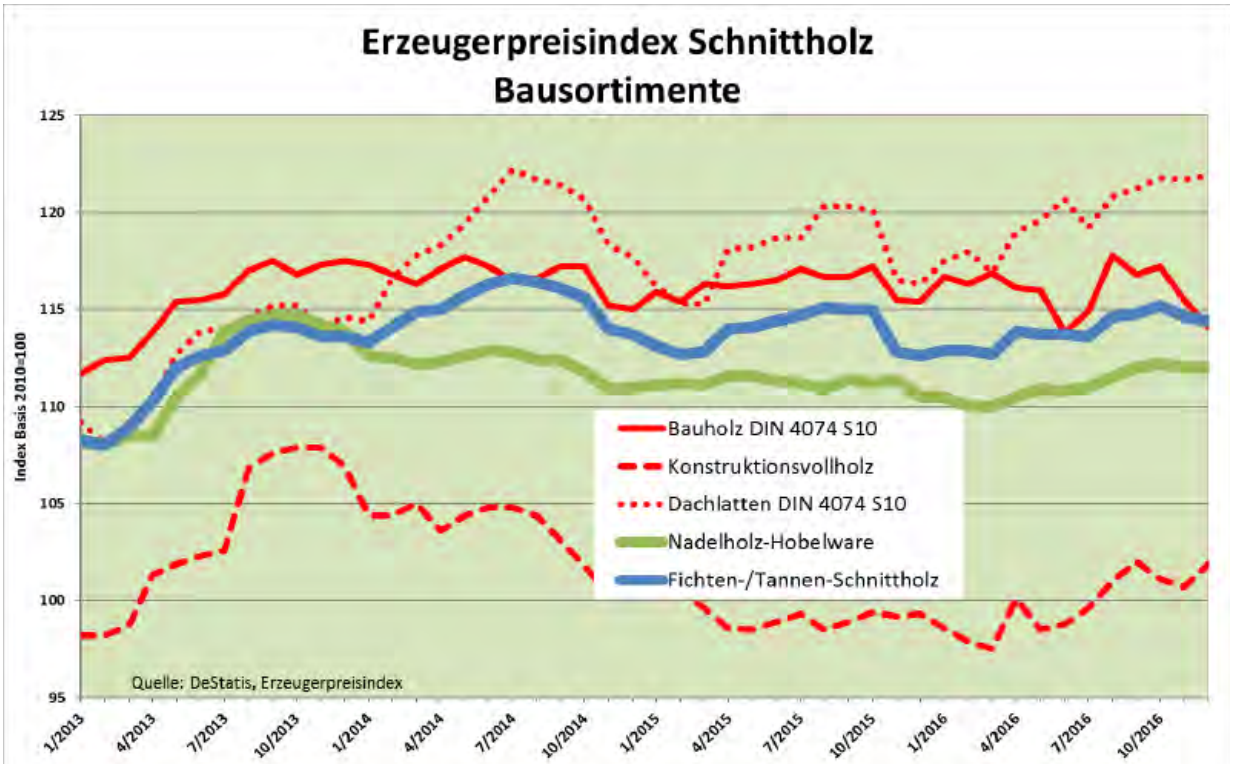


Raw softwood is again expensive

At the end of November 2016, data from the Federal Statistics Office showed a boom in softwood log prices at the beginning of the new logging season at the Fichte B and Kiefer B control centres. The fixed price increase continued into the first months of 2017.

Sawn softwood: Domestic market constant, export significantly improved

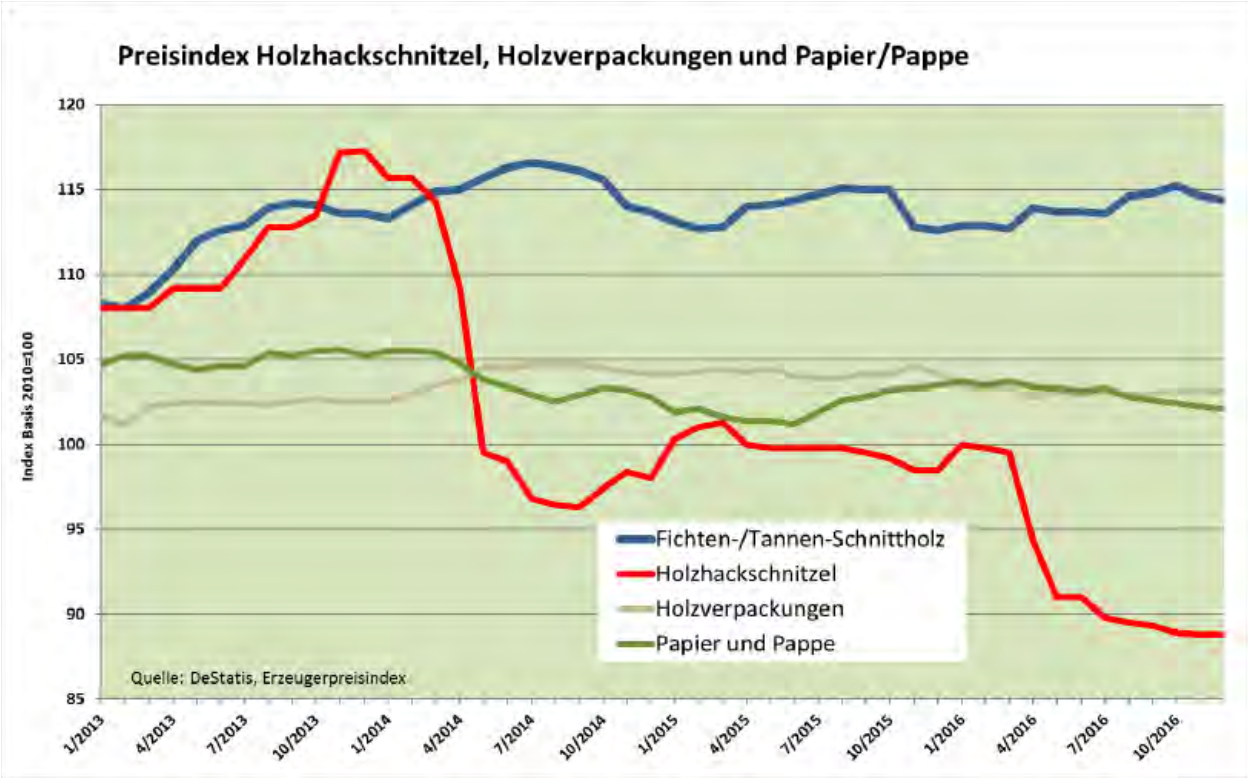
In 2016 the domestic demand for sawn softwood remained constant. The rising home construction permits did not lead to extra demand for construction wood, against previous expectations. The boom in building permits was predominantly for multi-family homes, which have lower wood requirements.



The packaging sector was also once again a constant source of demand for sawn softwood. Exports of sawnwood increased.

Rising sawn softwood production, increase mainly in first half of the year

Sawn softwood production rose in 2016, mainly due to improved demand and significantly improved export opportunities. It was a sharp rise, particularly until the middle of the year, after which time it weakened again slightly in the course of the year. In particular, the production of planed products rose largely due to an improved export situation.



Sawn softwood revenue tended to be slightly lower in 2016

In 2016, the revenue level almost reached the previous year's level by the end of the year.

Varied growth within product lines continued, and bulk lines were also noticeably down on the previous year.

Revenue for sawmill by-products sees a further strong reduction

Revenue for sawmill by-products (sawdust, woodchips) had already fallen drastically in 2014.

In 2016 demand for sawmill by-products again decreased. The insolvency of a large pellet maker caused additional temporary disturbances to the market. It has only been in the last few months that revenue has stabilised at a low level.

This sharp drop in prices is especially concerning for farms and puts a strain on earning potential. Approximately 40% of the raw material goes to sawmill by-products. The reduction in revenue for sawmill by-products was ultimately also a reason for guarded purchasing behaviour regarding the raw material.

The domestic price for sawn softwood changed in parallel with rising import prices, which have, however, been slightly stronger in the past months.

Sawn softwood export significantly rose by +11.3%

The difficult situation of the 2015 export market for sawn softwood changed significantly in 2016. The sawmills have seen a turnaround and increased exports by +11.3% and a strong 700,000 m^3 respectively.

Exports to the seven most important customer nations – European neighbours – have risen significantly in 2016, and remain largely constant.

Austria remained the most important importer of German sawn softwood in 2016 and has continued to expand upon this by increasing its volume to over 900,000 m^3. The Netherlands also significantly increased its intake in 2016, with a two-digit increase as the volume rose to more than 660,000 m^3. While just below the volume for the previous year, deliveries to France still remained above 620,000 m^3. Other major customers include Belgium and Italy. Among other customers, it is noticeable that United Arab Emirates has increased to just under 200,000 m^3. Deliveries to China are also strongly rising.

NADELSCHNITTHOLZ (cbm)								
	Jahr 2010	Jahr 2011	Jahr 2012	Jahr 2013	Jahr 2014	Jahr 2015	Jahr 2016	Ver.% 2016 / 2015
Inlandsproduktion	17.630.415	18.344.731	17.022.235	17.454.801	17.860.549	17.422.407	17.499.772	+0,4
Prod. Hobelware	3.561.728	3.264.210	3.010.018	2.973.565	2.896.367	3.011.072	3.608.854	+19,9
Nadelholz gesamt	**21.192.143**	**21.608.941**	**20.032.253**	**20.428.366**	**20.756.916**	**20.433.479**	**21.108.626**	**+3,3**
							(vorläufig)	
Einfuhr Schnittholz	3.317.293	3.472.380	3.273.473	3.421.664	3.518.686	3.706.853	3.883.319	+4,8
Einfuhr Hobelware	724.162	764.679	803.636	820.970	828.884	871.648	945.436	+8,5
Einfuhr gesamt	**4.041.455**	**4.237.059**	**4.077.109**	**4.242.634**	**4.347.570**	**4.578.501**	**4.828.755**	**+5,5**
Ausfuhr Schnittholz	5.615.487	5.618.208	5.202.289	5.185.732	5.545.954	5.227.911	5.787.564	+10,7
Ausfuhr Hobelware	1.337.823	1.483.112	1.228.265	1.326.661	1.388.499	1.301.594	1.476.950	+13,5
Ausfuhr gesamt	**6.953.310**	**7.101.320**	**6.430.554**	**6.512.393**	**6.934.453**	**6.529.505**	**7.264.514**	**+11,3**
Rechn.Verbrauch	**18.280.288**	**18.744.680**	**17.678.808**	**18.158.607**	**18.170.033**	**18.482.475**	**18.672.867**	**+1,0**
DeStatis Außenhandel ab 1991 Gebietsstand n. 3.10.1990 -- rechn. Verbrauch ab 1991 einschl. neue Bundesländer								
Inlandsprod: erfaßt sind Sägewerke ab 1.000 fm Jahreseinschnitt, ab 1993 ab 5.000 fm Jahreseinschnitt, ab 1995 geänd. Systematik								
Intrahandel Anmeldeschwelle ab 1996: Warenwert 200.000 DM im Vorjahr bzw. lfd. Jahr, ab 1999 200.000 ECU/EURO, ab 2005 300.000 EURO, ab 2009 400.000 Euro								
*) ab 2000 inclusive Hobelware								

Sawn softwood balance

Domestic consumption of sawn softwood – derived from production and foreign trade data – rose again slightly over the past year by 1.5%, or almost 300,000 m³. The increase is related to production mainly when it comes to planed products, and a little also to rough-cut wood grades.

Hardwood

The rate of hardwood logging remained high in 2016. The 2016/2017 logging season was characterised by a generally stable demand for hardwood.

The demand for beech logs started early and has been accelerated by the early delivery premiums. The beechwood market is largely a stable one. The pressure from the firewood market and declining industrial wood prices have been declining for lower-grade beech and pallets. Better beech tends to be fixed, and regionally slightly higher still.

The demand for oak logs has risen again, largely due to a continually strong demand from barrel producers, while the other oak market isn't as dynamic and can only just keep up with rising prices.

It's also clear that there is a relatively stable market trend for coloured hardwood. Exports are also constant in this regard.

Looking at annual domestic logging of beech, of more than 2 million cubic meters, the export of around 700,000 cubic metres is very high and leads to an outflow of raw material that could rather be supplied domestically. Similar developments are also apparent in neighbouring European countries with beech stocks. For many years, the German and European sawmill associations have been attempting to balance the withdrawing of raw materials from domestic production.

The production of sawn hardwood will lose momentum in the fourth quarter of 2016

According to data from the Federal Statistics Office on production, the hardwood sawmills increased production in the first three quarters of 2016, compared with the previous year. Production of planed goods rose especially sharply with double-digit growth rates, even in the first two quarters. The fourth quarter market trend was slightly lower, but it did well next to a comparatively high previous-year level.

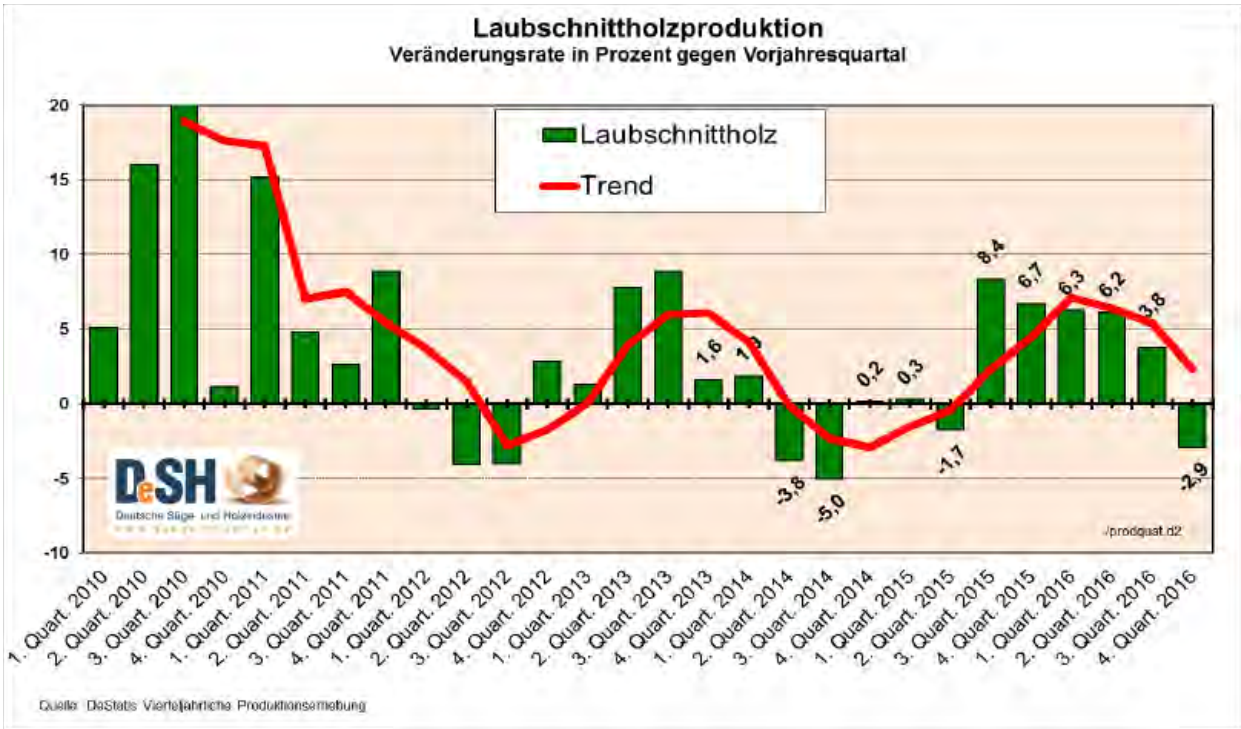
Domestic hardwood plants are very export-oriented. Exports of sawn oak rose again in 2016, while the export of sawn beechwood remained just below the previous year. In 2016, the sawn hardwood export has increased slightly.

With 478,467 m³, the previous-year export volume for sawn beech fell by 1.2%.

The most important importer of German sawn beechwood is China, which accounted for a quarter of total exports (-6% in comparison with the previous year) at 129,000 m³. The United States followed by a considerable margin, with an import volume of 65.900 m³ (+ 5%). Other customers include Poland, with 40,100 m³, and Mexico, with 36,700 m³.

Domestic consumption marginally increases

Domestic consumption rose marginally in 2016 to a good 750,000 m³. Almost half of domestic hardwood consumption

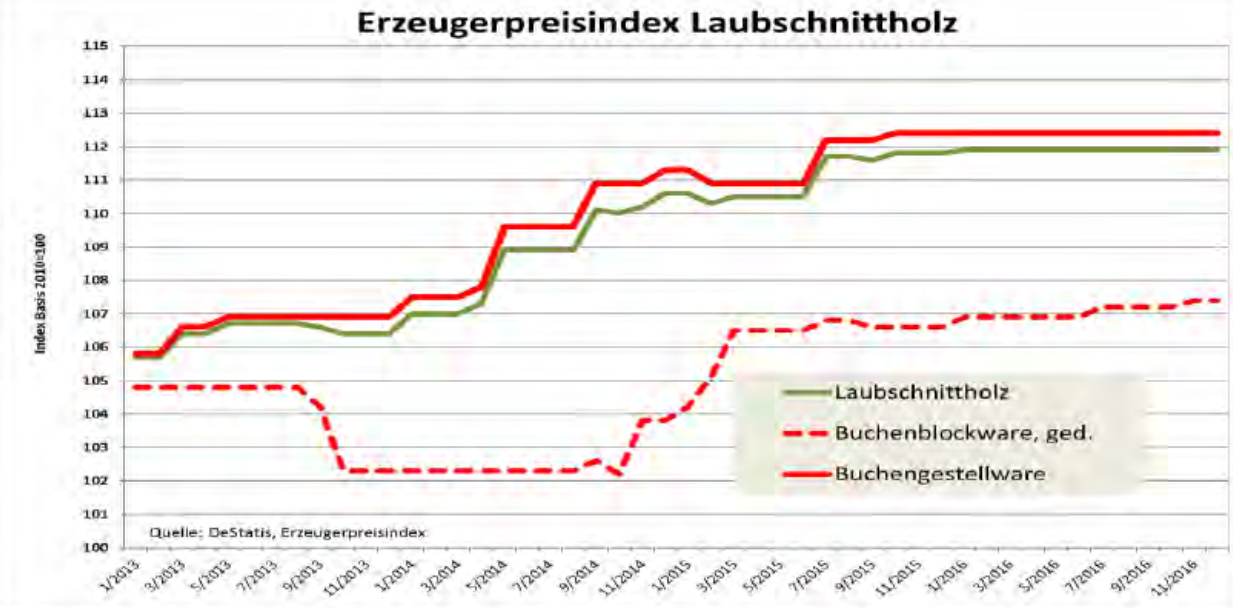


LAUBSCHNITTHOLZ (cbm)								
	Jahr 2010	Jahr 2011	Jahr 2012	Jahr 2013	Jahr 2014	Jahr 2015	Jahr 2016	Ver.% 2016 / 2015
Inlandsproduktion	516.234	540.995	515.858	507.874	517.589	518.966	520.839	+0,4
Prod. Hobelware	407.129	454.810	467.365	522.827	497.314	513.095	547.062	+6,6
Laubholz gesamt	**923.363**	**995.805**	**983.223**	**1.030.701**	**1.014.903**	**1.032.061**	**1.067.901**	**+3,5**
							(vorläufig)	
Einfuhr rau	449.081	461.602	427.663					
Eiche	78.265	87.370	85.105	86.757	91.466	96.191	103.683	+7,8
Buche *)	31.955 *)	36.207	34.800 *)	31.269 *)	36.299 *)	30.668 *)	23.253 *)	-24,2
sonst.Laubholz	227.237	220.776	207.155	178.654	204.116			
Tropenholz	111.624	117.249	100.603	104.618	85.601			
Einfuhr Hobelware	10.224	8.627						
Einfuhr gesamt	**449.081**	**461.602**	**427.663**	**401.298**	**417.482**	**411.155**	**384.533**	**-6,5**
Ausfuhr rau	613.797	609.749						
Eiche	120.486	113.374	89.347	101.752	132.036	132.330	140.024	+5,8
Buche *)	377.861 *)	393.623 *)	391.726 *)	452.367 *)	474.671 *)	484.206 *)	478.467 *)	-1,2
sonst.Laubholz	67.421	56.514	48.022	42.224	42.967			
Tropenholz	50.410	51.649	46.172	42.472	42.083			
Ausfuhr Hobelware	2.381	5.411						
Ausfuhr gesamt	**616.178**	**615.160**	**575.267**	**638.815**	**691.757**	**695.000**	**700.000**	**+0,7**
Rechn.Verbrauch	**756.266**	**842.247**	**835.619**	**793.184**	**740.628**	**748.216**	**752.434**	**+0,6**
DeStatis Außenhandel ab 1991 Gebietsstand n. 3.10.1990 -- rechn. Verbrauch ab 1991 einschl. neue Bundesländer								
Inlandsprod: erfaßt sind Sägewerke ab 1.000 fm Jahreseinschnitt, ab 1993 ab 5.000 fm Jahreseinschnitt, ab 1995 geänd. Systematik								
Intrahandel Anmeldeschwelle ab 1996: Warenwert 200.000 DM im Vorjahr bzw. lfd. Jahr, ab 1999 200.000 ECU/EURO, ab 2005 300.000 EURO, ab 2009 400.000 Euro								
*) ab 2000 inclusive Hobelware								

comes from domestic production, and about 385,000 m^3 comes from hardwood-species imports. The share of tropical timber continues to decline slightly in domestic consumption.

Production prices only marginally higher

Producer prices for sawn hardwood rose only slightly in 2016.



Betriebe, Beschäftigte, Umsatz

Sägeindustrie, Hobel- und Imprägnierwerke

nach fachlichen Betriebsteilen *), erfaßt sind Betriebe ab 50 Beschäftigten

in Mio. EURO	Jan.-Dez. 2015	Jan.-Dez. 2016	Ver.gg.Vj.in %	Dez. 2016	Ver.gg.Vjm.in %	Ver.gg.Vm.in %
Umsatz, gesamt	3.750,5	3.748,9	0,0	223,9	2,3	-30,1
davon Inlandsumsatz	2.513,3	2.456,2	-2,3	138,2	-4,4	-33,5
davon Auslandsumsatz	1.237,2	1.292,7	4,5	85,7	15,2	-23,8
Auslandsumsatz Eurozone	841,4	841,1	0,0	48,6	6,1	-31,1
Auslandsumsatz außerhalb Eurozone	395,9	451,6	14,1	37,1	29,6	-11,5
Anteil Auslandsumsatz in Prozent	*33,0*	*34,5*		*38,3*		
Betriebsteile	101	95	-5,6	94	-4,1	-1,1
Beschäftigte	10.486	10.371	-1,1	10.493	2,9	-0,3

*) nach fachlichen Betriebsteilen
In der Aufbereitung für **fachliche Betriebsteile** werden die Ergebnisse kombinierter Betriebe auf die verschiedenen Wirtschaftszweige aufgeteilt, denen die einzelnen Betriebsteile ihrer Produktion entsprechend zuzurechnen sind.
In der Aufbereitung **nach Betrieben** werden die Angaben allein dem Wirtschaftszweig zugerechnet, in dem das wirtschaftliche Schwergewicht des Betriebes liegt.

Varied sales growth in 2016 – declining turnover domestically and stronger sales internationally

The only marginal increase in domestic consumption of sawn timber at a barely upheld domestic price had led to a marginal drop in domestic turnover in 2016 by 2.3%, to just under 2.5 billion Euros. Eurozone sales remained constant at 841 million Euros. By contrast, international trade outside the Eurozone rose strongly by 14.1%.

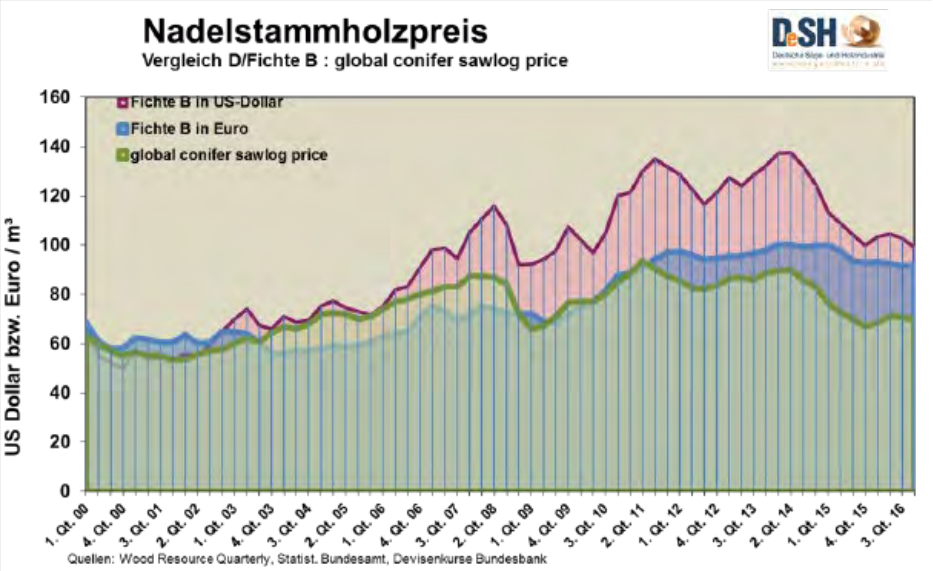
The sawmills' total turnover reached a volume of 3.7 billion Euros in 2016. When summing up their monthly turnover, the Federal Statistics Office only took into account sawmills with more than 50 employees, and in December 2016 there were 94 plants (professional operations).

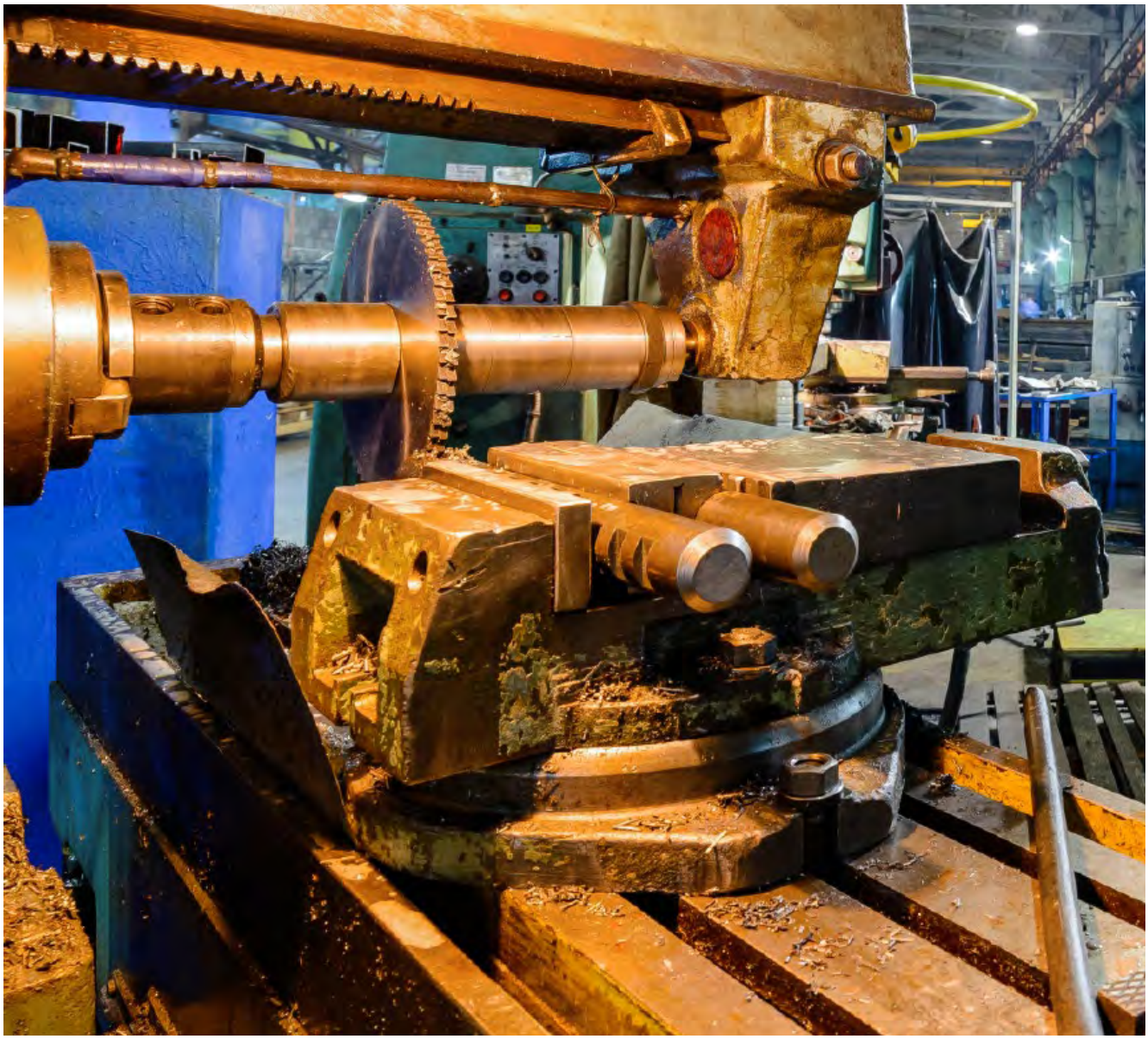
The varied development in 2015 and 2016 of domestic turnover and international turnover is reflected in the quarterly figures.

Global competition situation

Market pressure on the international market was not without consequence on the global log price, which has been in gradual decline for the past two years.

For many years, the domestic log price has easily surpassed the global log price, the global saw log price index, as determined by the WRI, and it contextualises the difficult position of the German sawmill in the international arean. However, at the same time as the price of timber logs is clearly above the price index for Europe, the European Sawlog Price Index.





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ITALY

Source: Assolegno, European Commission and EUROCONSTRUCT

General economic information

	2014	2015	2016	2017
Population *(million)*	60.7	60.6	60.7	60.6
GDP *(%)*	0.1	0.7	0.9	0.9
Inflation rate *(%)*	0.2	0.1	-0.1	1.1
Unemployment rate *(%)*	12.7	11.9	11.9	11.5
Construction industry				
Buildings permits (units)	81 400	80 500	82 100	84 100
Housing starts (units)	81 800	80 900	82 500	84 500
Housing completions (units)	103 600	86 200	81 600	81 000
Wage Development *(%)*	0.8	0.4	0.4	0.5
Average working time in sawmilling *(h/week)*	40	40	40	40

2017 data are estimates

Sawn Softwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	910	920	950	950
Imports*	3 904	3 873	3 981	4 000
Exports	140	150	178	160
Consumption	4 674	4 643	4 753	4 790

2017 data are estimates

Sawn Hardwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	520	550	550	550
Imports	593	601	590	600
Exports	135	154	161	160
Consumption	978	997	979	990

2017 data are estimates

Availability of logs (in 1,000 m^3)

	2014	2015	2016	2017
Softwood	3	3	3	3
Hardwood	3	3	2	3

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) – 2017 data are estimates

LATVIA

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

General economic information

	2014	2015	2016	2017
Population *(million)*	2.0	2.0	2.0	2.0
GDP *(%)*	2.1	2.7	1.6	3.5
Inflation rate *(%)*	0.7	0.2	2.1	1.8
Unemployment rate *(%) (15-64)*	8.3	8.7	8.4	7.8
Construction industry				
Buildings permits (units)	3438	3097	2550	2500
Housing starts (units)	n.a.	n.a.	n.a.	n.a.
Housing completions (units)	n.a.	n.a.	n.a.	n.a.
Wage Development *(%)*	6.8	6.8	9.0	4.0
Average working time in sawmilling *(h/week)*	n.a.	n.a.	n.a.	n.a.

2017 data are estimates

Sawn Softwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	2 620	2 690	2 792	2790
Imports	439	570	754	750
Exports	2 258	2 440	2714	2700
Consumption	801	820	832	840

2017 data are estimates

Sawn Hardwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	717	810	690	750
Imports	21	30	29	29
Exports	498	590	466	500
Consumption	240	250	253	279

2017 data are estimates

Availability of logs (in 1,000 m^3)

	2014	2015	2016	2017
Softwood	2	4	4	3
Hardwood	2	3	3	3

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2017 data are estimates

Market statement

General Economic Outlook

Faced with a wide range of challenges, the Latvian economy got stuck in a low-growth gear in 2016. One major reason for the slowdown was a delay in disbursement of EU funds, which led to a fall in construction spending by 20 per cent, peeling off 1.1 percentage points from real GDP growth. The recession in neighbour country Russia also acted as a drag on growth, although its negative effects are dissipating. Lingering uncertainty weighed on the real estate market, consumption and investment activity. Yet available fourth quarter data indicates increasing activity, with retail sales, industrial production and exports surging in November, a trend that we expect to continue this year. Our forecast is that GDP will grow by 3.5 per cent in 2017 and 2018, up from 1.6 per cent in 2016. Growth prospects for the coming two years are based on increasing EU funding inflows that will accelerate growth by activating investments and pulling up consumption.

Policy measures that might affect the forest based sector

New FSC Forest Management standard implementation is an international trend. Compared with current version, the updated FSC standard at least will not increase wood resources availability for wood industries, but possibly will not cut the availability. It could enter into force starting from 2020.

Developments regarding wood availability, biomass energy and sawn softwood

In2017,asawlogexportbanenteredintoforceinBelarus,making these resources unavailable for neighbouring countries. Also, log imports from Norway are projected to decrease this year. This means a slightly low availability of imported logs, while domestic deliveries are forecasted on the level of 2016. Positive changes are noticed in wood industry by-product market. In the send half of year 2016, sales of wood chips and sawdust were very limited and forecasts were not bright. But a relatively cold first part of the year changed the situation in wood energy markets, and as a result market for wood industry by-products now turned out to be much better than predicted. Ocean containers low availability and freight costs sharp increase has influenced the wood industry. Higher shipping costs decreased profitability of wood product export operations on Asian markets, but on the other hand also sharply decreased log export flow to China.

NORWAY

Source: Norwegian Sawmill Industries Association, FAO and European Commission

General economic information

	2014	2015	2016	2017
Population *(million)*	5.1	5.2	5.2	5.2
GDP *(%)*	1.9	1.6	0.7	1.2
Inflation rate *(%)*	1.9	3.0	2.9	2.0
Unemployment rate *(%)*	3.5	4.3	3.6	3.0
Construction industry				
Buildings permits (units)	27 300	31 301	36 203	36 000
Housing starts (units)	27 000	30 927	36 203	36 000
Housing completions (units)	29 000	28 265	29 394	30 000
Wage Development *(%)*	3.2	2.8	1.8	2.5
Average working time in sawmilling *(h/week)*	37.5	37.5	37.5	37.5

2017 data are estimates

Sawn Softwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	2 400	2 444	2 533	2 550
Imports	970	979	991	1000
Exports	512	560	600	620
Consumption	2 858	2 863	2 924	2 950

2017 data are estimates

Sawn Hardwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	-	-	-	-
Imports	23	24	24	24
Exports	-	-	-	-
Consumption	23	24	24	24

2017 data are estimates

Availability of logs (in 1,000 m^3)

	2014	2015	2016	2017
Softwood	2	2	2	2
Hardwood	-	-	-	-

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2017 data are estimates

Market statement

General economic outlook and sector specific market information

The forecast for the Norwegian Economy is positive. The standstill in the second half of 2015 has been replaced by a weak increase in growth in the mainland economy. A reduced decline in oil investments coupled with growth in house-building activity and exports may lead to an upturn in the economy from early 2017. Oil prices have risen significantly from low levels early in 2016. A weaker krone, low interest rate levels and an expansionary fiscal policy have counteracted the effects of the fall in demand from the Norwegian and international petroleum industry. Improvement in cost competitiveness, strengthened by a slightly higher growth in the global economy, will push exports up going forward. Improved competitiveness will also stimulate the activity in Norway by curbing imports in favour of Norwegian production.

The market development relative to housing starts has been positive and it is estimated to continue at the same level. The Norwegian production of sawn and planed softwood was at an all-time high in 2016 and is expected to continue at a high level in 2017. The mild winter has eliminated some production challenges related to cold weather, and the start of 2017 shows a big increase in the softwood production.

The focus on the forest and wood industry has increased. The national strategic process “Skog 22” is a unified recommendation for the way forward for the forest based sector and the government released a new White paper for the forest sector in the autumn of 2016. However, there is still a lack of targeted measures in place to better conditions for the industry. Closedowns in the pulp and paper industry through 2011 – 2013 have led to halved domestic pulpwood consumption. In the autumn of 2016 the Norwegian government issued a 7 per cent turnover requirement for biofuels from 2017, with a planned further increase up to 20% in 2020. The plan could pave the way for Norwegian production of biofuels based on residues from the forest and sawmill industry. However, there has been debate about the benefits of the measure, and it is yet to be decided whether the government will stand by the decision. The lack of basic industrial understanding from government officials is a challenge. One will normally see a mix of measures with more focus on economic support for research and innovation and less focus on the basic conditions for industrial activity than one could wish from an industrial point of view. Measures concerning infrastructure and unfavorable taxes and regulations compared to those of major competing countries, must be a substantial part of the solution. It is important to the Wood Industry Federation that market understanding is base of preparation for the strategy with associated measures that will improve the framework and thus the competitiveness. Availability of sawlogs is somewhat unstable, due to exports and fluctuations in various markets. As the domestic wood based building element prefabrication industry is not sufficiently developed, the increasing import of these commodities is a threat to the sawmilling industry. There is, however, increased focus on industrialization by the funding agencies, in the industry and by entrepreneurs. Sustainability, climate and the environment is on the agenda in the construction and building industry. The industry has developed climate and environmental policies with emphasis on circular economy. This can contribute positively to further development for the wood industry. We also experience an increased focus and further development of digital technology in the construction and building sector. This could change business structures - also affecting the wood industry.

ROMANIA

Source: Associatia Forestielor Din Romania (ASFOR) and European Commission

General economic information

	2014	2015	2016	2017
Population *(million)*	19.9	19.9	19.9	19.9
GDP *(%)*	3.1	3.9	4.9	4.4
Inflation rate *(%)*	1.4	-0.4	-1.1	1.6
Unemployment rate *(%)*	6.8	6.8	6.0	5.7
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 *(%)*	2.8	1.3	0.7	0.8
Average working time in sawmilling *(h/week)*	40	40	40	40

2017 data are estimates

Sawn Softwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	3 500	4 317	3 900	3 900
Imports	16	29	283	250
Exports	2 296	1 759	1 800	1 800
Consumption	1 188	2 529	2 383	2 350

2017 data are estimates

Sawn Hardwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	1 700	1 795	1 700	1 600
Imports	29	29	125	25
Exports	712	726	800	800
Consumption	918	1 179	1 025	825

2017 data are estimates

Availability of logs (in 1,000 m^3)

	2014	2015	2016	2017
Softwood	3	3	3	3
Hardwood	3	3	3	3

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2017 data are estimates

Market statement

In Romania, the inflation rate is projected to grow in 2017, while the gross domestic product will also increase.
The industrial construction sector recorded a lower production as a result of scarce foreign investments. The sawn softwood production decreased dramatically as a consequence of illegal tree fellings and regulations changes.

The sector operators exported a quantity of 1.8 million cubic meters sawn softwood, and the main exporters markets were: Japan, Austria, Italy, Greece, Egypt, Saudi Arabia, Germany etc.

Sawn hardwood exports were delivered to the following countries: Egypt 36%, China 32%, Lebanon 3% etc.

In 2016, the total standing timber volume was lower in comparison with the previous year and the annual schedule. The unharvested timber volume represents the monthly medium volume which remained unharvested, mostly during the first semester of the year.

Romania exported less than 100.000 cubic meters softwood and hardwood logs, while the imports reached almost 2.000.000 cubic meters of logs.

In 2016, the available volume of internal timber resource continued to go down as a result of the artificial crisis produced by spring auctions. Imports continued to increase their level and grew more diverse as a source.

An important responsible factor for this crisis was the late publication of *The Selling Timber Regulation* which subsequently allowed the auctions to be resumed.

The exploited wood volume **in the first 6 months** of 2016 reached a level well beneath 50% of the planned volume.

The decrease of exploited volume in the wood industry led to an important crisis of resources in 2016, simultaneously with a maintenance of prices at uncorrelated levels with the evolutions on the international markets, affecting the general competitivity of this industrial sector.

Simultaneously, the control institutions have put an excessive pressure on the sector by applying a legislation responsible for preventing illegal tree fellings.

The dynamics of 2015/2016 and 2016/2017 in the timber industry, alongside other reported wood assortments, was directly sustained by firewood and the energy use of wood. Its high price led to another scale of priorities for numerous producers belonging to the wood processing industry.

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

SWEDEN

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

General economic information

	2014	2015	2016	2017
Population *(million)*	9.7	9.9	10.0	10.1
GDP *(%)*	3.1	2.2	2.0	1.5
Inflation rate *(%)*	-0.2	0.9	2.3	1.6
Unemployment rate *(%)*	7.9	7.4	7.2	7.1
Construction industry				
Buildings permits (units)	44 900	52 900	71 900	65 700
Housing starts (units)	36 600	47 300	62 800	69 300
Housing completions (units)	35 700	41 700	52 000	64 300
Wage Development *(%)*	2.7	2.5	2.5	2.2
Average working time in sawmilling *(h/week)*	n.a.	n.a.	n.a.	n.a.

2017 data are estimates

Sawn Softwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	17 660	18 100	17 855	18 200
Imports	150	170	160	160
Exports	12 300	12 820	13 000	13 000
Consumption	4 800	5 450	5 400	5 500

2017 data are estimates

Sawn Hardwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	100	100	100	100
Imports	28	28	25	25
Exports	9	4	4	4
Consumption	120	124	121	121

2017 data are estimates

Availability of logs (in 1,000 m^3)

	2014	2015	2016	2017
Softwood	4	3	3	2
Hardwood	-	-	-	-

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) - 2017 data are estimates

Market statement

Sweden is the largest softwood exporter in Europe. 12 million cubic meters are exported of which 8 million cubic meters are shipped to Europe and 4 million cubic meters to markets outside Europe. Thus, the Swedish sawmills are highly dependent not only on the European but also the global softwood markets. After ten years of recovery the global consumption of softwood last year was back on all-time high.

Today, by far, the largest contributor to the global increase in wood consumption is the USA softwood market and China. Europe is growing at a much lower but stable pace. The consumption in USA and Europe are driven mainly by increasing building activities while the Chinese market to a high degree is also driven by growth in the furniture segment.

A continued good development on the two largest markets in the world - USA and China - will be crucial for how the softwood market - and thus the situation for Swedish sawmills - will develop during the coming year.

Limited increase in Swedish softwood production 2017

Despite the slightly improving market conditions throughout last year Swedish softwood production decreased slightly to 17.85 million cubic meters (-2%). This year we believe that a further improved market situation will contribute to increased production, but only slightly to about 18.2 million cubic meters (+2%). Some mill closures and high raw material process hold back the production mainly in southern Sweden. This means that the Swedish production will increase less than the global demand and that the level of production will still be well below the record from 2006.

Exports: Increase to East Asian markets, decrease to MENA

The table below shows the shipments from Swedish sawmills to different markets last year. The total export volume was 13 million cubic meters which was one per cent more than in 2015.

Swedish Sawn Softwood

2017 are estimates

	Unit	2013	2014	2015	2016	p 2017
Production	*1.000 m³*	16094	17660	18132	17855	18200
Imports	*1.000 m³*	118	149	170	160	160
Exports	*1.000 m³*	11741	12314	12820	13000	13000
Consumption	*1.000 m³*	4565	4976	5253	5399	5500

The export to **United Kingdom**, the largest export market, recovered strongly during 2014 and 2015. During 2016 the level was unchanged.

The "quartet" **Germany, Denmark, Norway and the Netherlands** are all important markets for Swedish sawmills. All of them receive each year close to one million cubic meter of Swedish wood. These markets are all favoured by relatively healthy consumption growth driven by increasing construction activities.

Poland is a smaller market but the single European market with by far the highest growth in exports from Sweden during the last ten years. Last year the increase amounted to 21 per cent.

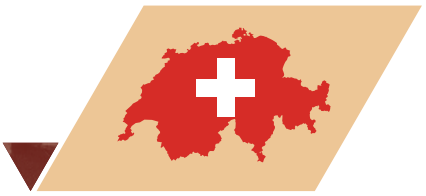
Exports to **Egypt**, which by volume is the second largest export market, was falling last year. There is a trend that the Middle East and North African markets (mainly redwood markets for Swedish sawmills) are decreasing while the East Asian markets are increasing strongly. Among the latter China has had a fantastic development during the last five years. For the first time, exports to China last year were slightly higher than exports to Japan.

Sweden is the single largest market for the Swedish sawmills. Last year shipments rose to 5.2 million cubic meters. Demand is driven by strong housing activity. Housing starts climbed last year to its highest level since the early nineties (even though most of the increase in building activity has been on flats) and are estimated to continue to increase by about ten per cent to 70.000 units this year. The repair and maintenance activity remains on a healthy level.

Swedish Forest Industries Federation
2016-04-15

SWITZERLAND

Source: Holzindustrie Schweiz and European Commission



General economic information

	2014	2015	2016	2017
Population *(million)*	8.2	8.3	8.4	8.5
GDP *(%)*	1.9	0.8	1.3	1.5
Inflation rate *(%)*	0.0	-1.1	-0.4	0.4
Unemployment rate *(%)*	3.2	3.3	3.3	3.2
Construction industry				
Buildings permits (units)	50 700	49 700	48 700	47 700
Housing starts (units)	46 800	46 000	45 100	44 200
Housing completions (units)	45 000	44 400	43 700	43 000
Wage Development *(%)*	1.4	0.0	0.0	1.0
Average working time in sawmilling *(h/week)*	42.5	42.5	42.5	42.5

2017 data are estimates

Sawn Softwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	1 080	1 060	1 045	1 030
Imports	330	310	323	330
Exports	180	180	194	195
Consumption	1 230	1 190	1 174	1 165

2017 data are estimates

Sawn Hardwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	65	60	55	55
Imports	35	35	35	35
Exports	15	15	10	10
Consumption	85	80	80	80

2017 data are estimates

Availability of logs (in 1,000 m^3)

	2014	2015	2016	2017
Softwood	3	4	4	3
Hardwood	3	3	3	3

(1 = low; 2 = medium low; 3 = normal; 4 = medium high; 5 = high) – 2017 data are estimates

Market statement

Some political uncertainties in the EU caused again a revaluation of the Swiss currency, which is not helping Swiss operators.

A recent study from the famous University of St. Gallen shows that many EU countries are distorting competition by state aid. The study argues that an indirect effect of measures implemented by EU states to protect their economies in the aftermath of the global economic crisis of 2007-2008 has been the worsening of terms of trade for Switzeland. Swiss market access to eleven EU member states gas deteriorated since the onset of the crisis. These actions (against EU agreements) are rather frequent and seem to be particularly harmful to the open Swiss Economy – overall, 17 billion of Swiss francs per year, which is tantamount to almost 15% of Swiss exports, has been put at risk by discriminatory public policies implemented by EU states since the onset of the global economic crisis.

Swiss sawmills largely cover their sawlog requirements from domestic sources – at prices charged in Swiss francs. They also export sawnwood and sawnwood residues into the euro zone. As a result, they face a double competitive disadvantage vis-à-vis their competitors from the EU. The weak demand of the Italian market, one of the largest export market for Switzerland, is also having a not positive impact on Switzerland.

After big progress in fire regulations it is time to invest more in wood promotion. Indeed, the main actors of the wood sector joined forces to positively influence and reinforce people's attitude towards Swiss wood.

The Confederation has a policy of resources to make more use of wood from Swiss forests. Stakeholders in the wood sector know that there is only one way to achieve their objectives: to raise public awareness by involving them in the timber sector through new methods.

The new federal campaign #WOODVETIA which was launched in January 2017 is strongly supported by forest owners and timber industry. The campaign aims to raise awareness about the sustainability and availability of domestic wood. The population should more and more ask for Swiss Timber and thus put pressure on the carpenters and joiners who are presently not too mindful of the origin of the wooden products.
The Timber Industry has taken the initiative to bring together all the wood promotion activities of the Federation and the branch in future to have better chances with other materials.

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UNITED KINGDOM

Source: ConFor, FAO, European Commission and EUROCONSTRUCT

General economic information

	2014	2015	2016	2017
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.

2017 data are estimates

Sawn Softwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	3 716	3 449	3 580	3 720
Imports	5 352	5 888	6 040	6 080
Exports	140	167	170	170
Consumption	8 870	9 170	9 450	9 630

2017 data are estimates

Sawn Hardwood (in 1,000 m^3)

	2014	2015	2016	2017
Production	47	44	40	40
Imports	400	338	330	330
Exports	20	17	20	20
Consumption	430	365	350	350

2017 data are estimates

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Market statement

Economic growth in the UK (of 2%) in 2016 outperformed forecasts following the vote to leave the EU. This followed some years of steady growth which is forecast to continue. However, growth has been driven by the service sector in the UK, which is expected to be hit by the weakening of Sterling and the resultant increase in inflation – increasing inflation at a time of flat wage rises will squeeze personal incomes, and it is consumer spending that has driven growth. The stronger than expected growth in the UK will, however, provide the opportunity for the Government to do more to stimulate the economy, including building more homes – a priority for Government.

The sawmilling and panel-board sectors had a good year in 2016, helped by the significant fall in the value of Sterling around the vote to leave the EU in June. Raw material prices remain high, however, meaning that margins in the sawmills are not as great as in previous years. Markets for timber have been steady.

Construction and renovation continues to increase as consumers still feel generally optimistic about the future, though real incomes will be squeezed and that could have a negative effect. There is 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. There is growing interest in off-site and prefabricated construction, though some of this is being met by investment in using steel.

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.

BLT WoodCut

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LASER TECHNOLOGY

unique solution for the wood processing industry

BLT WoodCut is a revolutionary technology designed for optimal cuts in timber and other wood up to 80 millimeters thick, in both wet and dry conditions and at a moisture level up to 80 %. Consisting of a unique scanning and x-ray solution, laser cutting system and automatic robotic handling, BLT WoodCut opens a new era in wood processing.

increases material yield and production value

The main challenge sawmills face is pressure to maximize material yield and production value. Only a low percentage of the wood is ever utilized and too much is wasted, so not enough profit is earned on each board. Decisions sawmill workers usually make often causes errors and quality material to be lost.

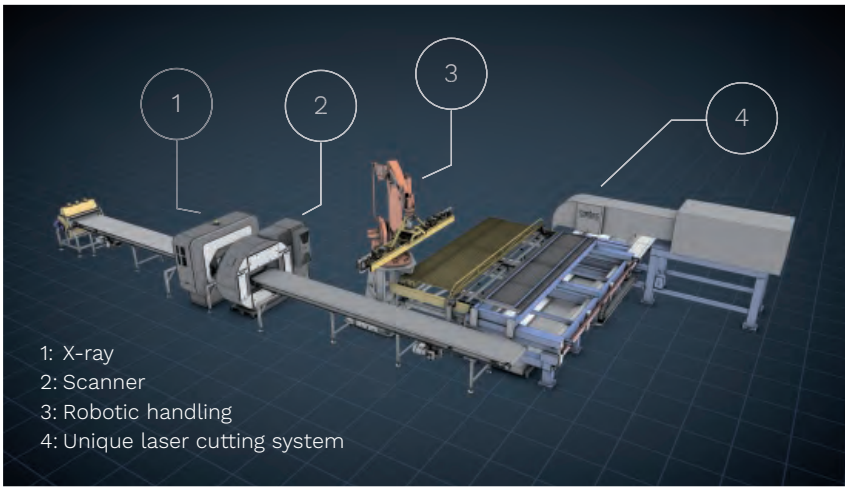
BLT WoodCut is a comprehensive production line developed to solve these long-existing problems by significantly increasing material yield, minimizing waste and maximizing profit from each board. To do this, each part of the production line was carefully chosen and underwent extensive research:

- The enhanced scanning and x-ray solution evaluates each board with no errors, setting up the most profitable cutting scheme for a laser to execute afterward
- Traditional saw-cutting is replaced with a unique laser system that brings many production advantages like a cutting thickness up to 80 millimeters, accurate cuts only 0.3 millimeters wide and cut in any direction along an XY axis
- Fully automated robotic handling provides manufacturing efficiency and reliability as well as quality everywhere in the production process

Developed to cover even more areas of production, this innovative technology processes valuable temperate and tropical woods as well as softwood. Besides timber and other primary wood products, it can also be used with product groups such as parquet top layers, veneer and furniture components.

reach a whole new level of production efficiency at your sawmill

- Produce only optimal and profitable cutting schemes
- Eliminate the human factor in production
- Increase material yield by more than 37 %
- Increase average product price by 22 %
- Profit from 2.7 mm extra wood with each cut
- Cut every possible way with maximum precision



1: X-ray
2: Scanner
3: Robotic handling
4: Unique laser cutting system

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Tel.: +421 2 5930 1211; www.biateclaser.com; info@biateclaser.com

SPECIAL FOCUS: Impact of U.S. Duties on Canadian and European Sawnwood Exporters

Delivered Sawnwood Cost Curve and Competitiveness Set to Change

The impact of duties on Canadian lumber exports to the U.S. will be a game-changer for different producing areas in North America, and also for exporters to the U.S. from overseas. Quite simply, punitive duties will need to raise the price of lumber in the U.S. to a point that allows Canadian lumber back into the market; alongside this will come increased imports from Europe. Essentially, a new "floor price" will be established, with lower total imports (especially from Canada) and increased U.S. lumber production.

Background

The previous Softwood Lumber Agreement (SLA) ran from 2006 to 2015 and involved a lumber tax on Canadian exports at various price thresholds. When the *Random Lengths* Lumber Composite price was low (below US$315/Mbf, nominal; US$197/m^3, net), the export tax was 15% on lumber exports from B.C. and Alberta, and a lower tax of 5% (but in combination with a quota) was in place for the rest of Canada. When lumber prices increased to reach a higher threshold, lower taxes were paid, and, when prices finally reached US$355/Mbf (US$222/ m^3, net) or higher, no export taxes were paid.

For a new SLA to be implemented, the U.S. is pushing to impose a volume-based quota that would limit annual, quarterly or monthly Canadian shipments to the U.S. In peak demand periods, a quota would hold back Canadian lumber exports and make excess volumes subject to very punitive penalties. Since Canada's share of the U.S. softwood lumber market has averaged about 31% from 1995–2015 (and 32% in 2016), a 1% change in quota is close to 500 million bf (800,000 m^3, net). Some initial U.S. proposals want the quota on Canada's market share of U.S. consumption to drop to 22% over a few years. A 22% quota would imply a huge plunge in Canadian lumber imports to the U.S. of some 5 billion bf (8 million m^3, net) — 15% of total Canadian production! This severe scenario makes little sense, as it opens up the question of where the U.S. will obtain its lumber from in the short-term. We estimate that the U.S. can produce only about 70% of its own lumber demand, and, with Canada's market share in the U.S. dropping further, the way is paved for an increase in imported lumber from Europe, Russia and other countries — and at higher prices. It seems that the objectives of the American side are clear: to raise lumber prices (and log prices) and create a windfall for U.S. sawmills and timberland owners, but with the consumer (and Canadian mills) paying for it.

U.S.–Canada Lumber War

The announcement of preliminary countervailing duties (CVD) of 19.88% on Canadian lumber shipments to the U.S. effective April 28, 2017 is applicable to all Canadian companies with the exception of five specific firms that receive rates ranging from 3% to 24%.

Along with the preliminary anti-dumping duty ("ADD," expected to be around 10% when it is announced in late June), the combined duties will have significant impacts on delivered lumber costs for Canadian mills to the U.S. While the export duties will make U.S. lumber more competitive due to higher prices, it will also allow European lumber exporters to gain a significant competitive advantage when selling into the U.S. market. Since European sawlog costs are higher than those in North America, European exporters have needed higher lumber prices to enter the U.S. market; the duties on Canadian lumber, coupled with a devalued euro, will accomplish just that.

The current softwood lumber trade dispute, known as "Lumber V," is a continuation of previous U.S. concerns going back to 1980 — and "Lumber IV" (2001 to 2015). The root of the disagreement seems to be that 90% of Canada's timber harvest originates on Crown lands. The U.S., on the other hand, sold most of its timber long ago and today operates using mainly private forest land. The U.S. side claims that the pricing of Canadian timber is too low and, therefore, that the government is "subsidizing" its industry. In Lumber Wars I to IV, this could never be completely proven by the U.S. side, but American interests remain determined to make U.S. trade law work in such a way as to raise the price of lumber — and therefore the value of their private timberlands. The details of the case are complicated but, in short, the U.S. wants to place export duties on Canadian lumber because, well…because it can (under U.S. trade law).

While most estimates expect the combined, final duties in January 2018 to be 25%–30%, is it only a coincidence that the Canadian dollar has devalued by about 25% since January 2013? It may be that the real issue of competitiveness is not related to government timber pricing at all, but simply to global foreign exchange rate changes (where almost every country in the world has seen its currency devalue relative to the U.S. dollar, thereby gaining competitiveness against it).

If there is indeed a "subsidy" as claimed by the U.S. side, it would seem the Canadian industry must be making *huge* sawmilling margins as compared to American mills. Well…no. We can state with certainty (as we have for many years via our *Global Timber & Sawmill Cost Benchmarking Reports*) that this is simply not the case. In fact, since 2008, the highest sawmilling margins in North America (often in the world) have been mills in the U.S. South — they averaged roughly 30% EBITDA in Q1/2017. By contrast, the poorest-performing North American region since 2002 has been Eastern Canada (averaging 10%–15% EBITDA in Q1/2017 before considering the 20% CVDs). This begs the question: what claims could the U.S. South industry ever make with respect to Eastern Canada? Export duties of 25%–30% will marginalize Eastern Canada even more and further fatten the margins of U.S. South mills.

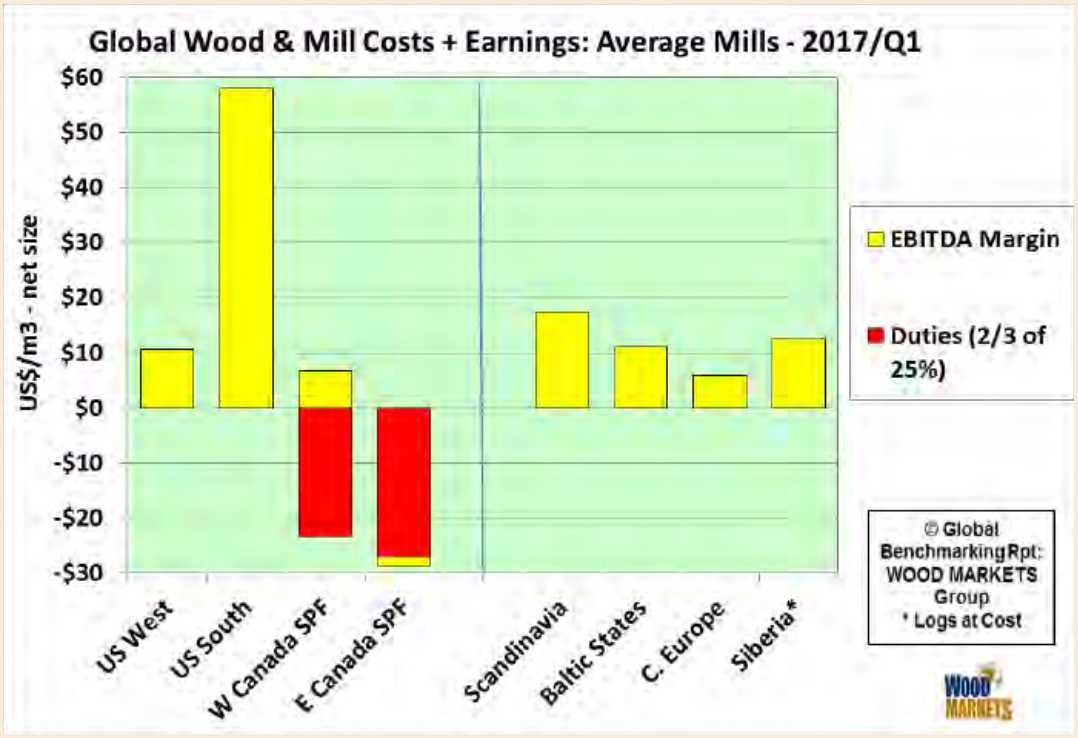
As we stated earlier, this issue is complicated; some aspects are frankly quite illogical. It seems that the heart of the matter may lie in the west, where the B.C. Interior's industry is pitted against that of the U.S. West (mainly Washington and Oregon). These regions have tended to have somewhat similar operating results following the global financial crisis, but, starting in 2014 when the Canadian dollar began to devalue, the B.C. Interior has had better sawmill earnings than the U.S. West. This may be the true issue that has prevented any renewal of the previous SLA and triggered the start of a new lumber war. Again, however, it is complicated — and now very political!

Sawmill Cost Benchmarking

WOOD MARKETS latest timber and sawmill benchmarking report, *Biannual Global Timber/Sawmill/Lumber Regional Cost & Revenue Profiles: Q1/2017*, analyzes the delivered log and sawmilling costs and margins in major regions of North America, Europe and the Southern Hemisphere. The Q1/2017 analysis is based on data to mid-/late February 2017 for "average" structural lumber mills (excluding specialty mills; top-quartile or "best" mills have improved results). Aside from a 19.88% export duty that commenced on April 28, 2017, retroactive duties have also been applied back to late January 2017. (Essentially, Canadian mills were forced to try to raise prices, selling lumber blindly without knowing the outcome of U.S. trade actions until 90 days later.)

For the analysis conducted, a 25% export duty on Canadian mills was applied for the full quarter, where it is assumed that the market would absorb one-third of the duties (or a net duty of 16%). This is a more pessimistic estimate than what actually happened in Q1/2017, as the U.S. market absorbed the bulk of the 19.88% duty going all the way back to late January. However, this is not expected to be the case going forward: U.S. lumber prices continue to ease off their peaks of April 2017 (the highest lumber prices since early 2005).

Based on the assumptions above for "average" sawmills, the results show that export duties marginalize mills in Eastern Canada: they would report a loss position under these circumstances (figure 1). Western Canadian mills



would move close to a zero margin after duties. The duties allow U.S. West mills to finally achieve higher sawmilling margins than Canadian mills despite the region having the highest delivered log costs in North America (almost double those of the U.S. South, whose delivered log costs are only slightly higher than those of Canada's SPF region).

The U.S. West faces a somewhat unique situation, as timberland owners are able to benefit from strong log export markets in China and Japan. This has placed rising pressure on the domestic sawlog supply and kept log prices high. At the same time, it has somewhat constrained lumber production and sawmill margins, since the U.S. West has the highest delivered log costs in North America. Throw in the 25% devaluation of the Canadian dollar to the U.S. greenback and the U.S. West industry has been looking for a way out. This is notwithstanding the fact that the provinces of B.C. and Quebec have had long-term timber sale programs that tie government timber stumpage rates to market log prices.

For perspective, European sawmills have the highest delivered log costs in the world; this is particularly the case in Central Europe (Germany and Austria). Siberia, conversely, has the lowest delivered log costs (a result of the devalued ruble). However, log quality, diameter and logistics are key factors in European log costs, and it is the higher-quality logs in combination with log merchandizing that provide the lowest sawmilling costs. Of note, weaker overall market conditions, coupled with high total costs, have led to small sawmilling margins in Europe for the last five years or so. When the total costs of logs and sawmilling are combined (minus by-product revenues) in North America and Europe, the U.S. West still comes out with the highest total production costs; Siberia has the lowest. When net 16% export duties are included, Eastern Canada has the second-highest total costs and Western Canadian SPF mills become more on par with European mills.

In terms of sawmilling margins in Q1/2017, "average" sawmills in Eastern Canada would record a small earnings loss at a net 16% export duty on U.S. lumber sales. Western Canadian "average" SPF mills would earn only a small margin — even less than their European counterparts. As a result, WOOD MARKETS is forecasting higher U.S. lumber prices (to keep Canadian mills in play) and this will allow European exporters to increase volumes to the U.S. This will especially evident in 2018 when the full brunt of the final export duties will land on Canadian mills.

Delivered Lumber Costs to U.S. South

The implementation of a 25% (net 16%) export duty on Canadian lumber essentially flattens the cost curve of competing regions and countries to the U.S. market; in fact, it is very effective at marginalizing Canadian lumber to the U.S. South region. When a delivered lumber cost analysis to the U.S. South (to Houston, Texas) was conducted (see our *Biannual Regional Profiles Report • Q1/2017*), it shows that, with a 25% (net 16%) Canadian export duty in effect, Canadian mills become high-cost suppliers to the region (like the U.S. West). Some of the lower cost suppliers to the U.S. market (after the U.S. South itself and the U.S. Inland region) become various European countries. Simply put, the high log costs in the U.S. West still maintain this region as a high-cost lumber supplier to the U.S. South — higher than European mills. The higher costs for Canadian mills will need to translate into loftier lumber prices, allowing European exporters to fill the gap left by Canada. Of course, all U.S. mills will benefit from this windfall of Canadian duties.

What is not factored into the analysis is that European mills' costs could be even lower when producing for the U.S. market. This is predicated on the fact that producing dimension lumber or studs can provide some cost offsets, e.g.,

- An ability to use lower-cost logs, such as more pine and short logs (cheaper than profiled in the analysis);
- An ability to obtain longer production runs on dimension lumber or studs (lower sawmill costs); and
- An ability to obtain a higher lumber recovery from logs (i.e., allowing some wane).

On the other hand, Europeans would face some incremental costs or risks, including the following:

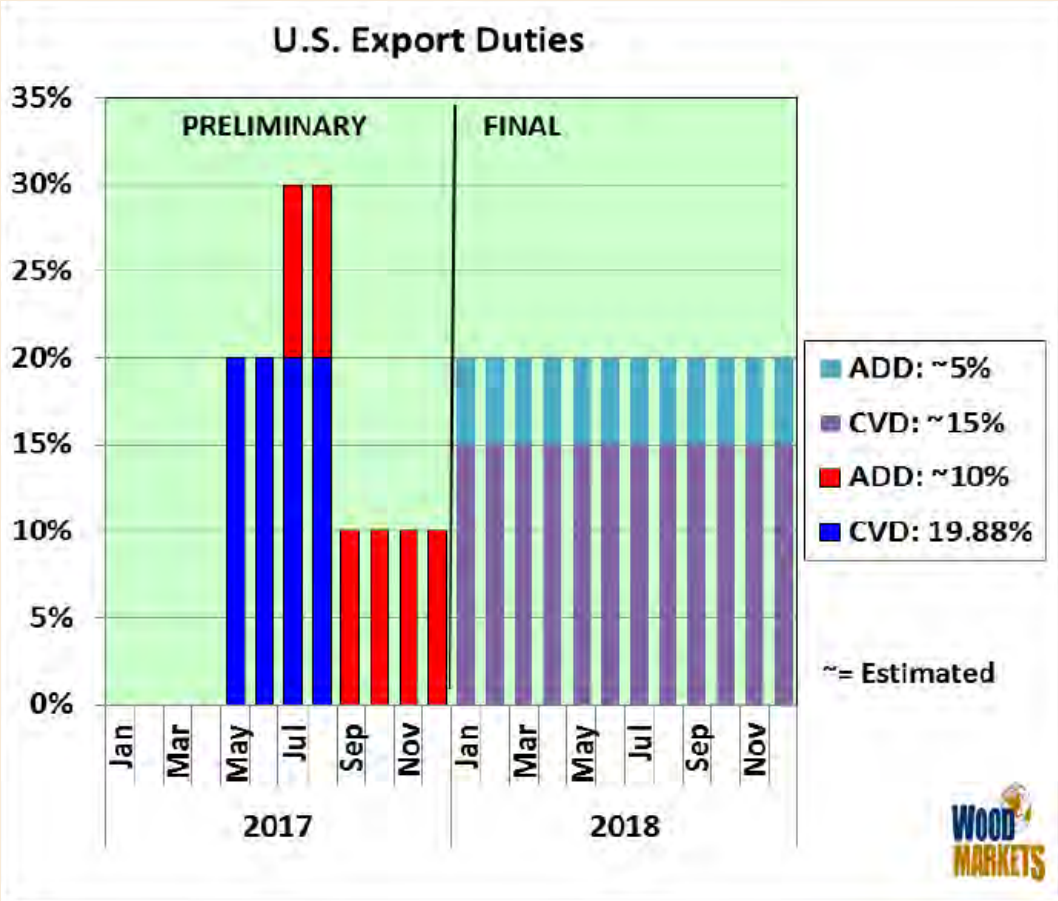
- Higher costs in operating planers (versus rough sawn production);
- Market price risks in selling six to eight weeks in advance to the U.S.; and
- Freight and foreign exchange risks.

The net result, as we are forecasting, will be higher U.S. lumber prices that will keep Canadian mills in play but also enable European exporters to expand the volumes they ship to the U.S. market. This will be especially noticeable in 2018, when the full brunt of the final export duties will fall on the shoulders of Canadian mills. It will be a bumpy road going forward, and price volatility will be increasingly evident.

Our most current analysis from 2016 to 2019 predicts some of the trends shown below in the U.S. market and North American industry.

U.S. Demand Conditions

- Both the U.S. and Canadian economies have surged forward.
- In the U.S., conditions supporting housing starts are strong: rising consumer confidence; high builder optimism; historically low interest rates; tight inventory levels of both new and existing for-sale housing; and an affordability index that is at a healthy 110 (meaning that a family with a median income can afford 110% of a median-priced home).
- Furthermore, real wage growth, stuck just below 2% from 2010–2015, has finally risen to a post-recession level of just over 3%.
- After a long period of underbuilding and price recovery, U.S. housing starts are forecasted to grow by 7% per year in 2017 and 2018. This is good news.
- The eventual return of U.S. housing starts to their 50-year average of 1.44 million units per year is expected to occur around 2020.
- Currently, the homebuilding industry is being held back in its growth by shortages of housing lots, financing and labour, and also by high regulatory costs (adding as much as $20,000 to the cost of a new home). It is estimated that only some 40% of the pre-recession construction labour force has returned to their jobs.
- While there is considerable pent-up demand, the percentage of first-time buyers in the market is creeping back to its historical average of 40% — at just 32% in 2015, it rose to 36% in 2016.
- In a bid to attract first-time buyers (including the burgeoning millennial population), home builders are starting to offer more "entry-level" homes, such as D.R. Horton's floor plans branded as "Express Homes."
- U.S. lumber consumption is forecasted to rise over the next few years, from an expected level of 49.6 billion bf (79 million m^3, net) in 2017 to a forecasted 55 billion bf (88 million m^3, net) in 2019 (+11% in two years; 5%–7% per year). Much of this increase will need to come



from U.S. sources or offshore imports, as Canadian production is expected to decline slightly from 2018 onward (due largely to additional mountain pine beetle-related closures in the B.C. Interior as well as curtailments from low net U.S. sawnwood prices).

- In contrast to U.S. housing markets, Canadian markets have been overbuilding relative to demographic trends. Canadian housing starts are currently projected at a buoyant 202,000 for 2017, then easing to 182,000 in 2018.
- In 2016, Canada accounted for roughly 15% of the 55.7 billion bf of softwood lumber consumed in North America.

U.S. Supply Trends

- On the supply side, the expected timing of the preliminary and final duties will have a dramatic impact on sawnwood prices as well as Canadian and U.S. production.
- Total duties, starting with the preliminary countervailing duty (CVD) — now at 19.88% — will rise in July as a preliminary anti-dumping duty (ADD) is added in. The duty levels will then fall in September as the preliminary CVD expires, and then ultimately rise again in January 2018 when the final CVD and ADD rates come into effect (figure 2).
- U.S. lumber production is indeed growing, but each producing region faces its own challenges. In the U.S. South, sawmill capacity has not increased as fast as timberland volumes. The ensuing, massive excess inventory “on the stump” has kept log prices down even as lumber prices have risen, resulting in higher margins for lumber producers.
- While sawmillers have been investing in expanding their existing mills, a shortage of skilled labour in the U.S. South region has limited greenfield mill capacity expansions.
- The story is slightly different in the U.S. West. Here, production has also been recovering from pre-recession levels, but growth has slowed in the last two years. As in the U.S. South, much of the log supply available to western mills comes from private forests.

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However, strong purchasing competition from Chinese mills has pushed up log prices, squeezing sawmill margins.

- We expect increases in U.S. lumber output, especially in the U.S. South (where timber is plentiful and cheap).
- While pine sawlog prices in the U.S. South have trended down over the past decade, U.S. West prices for both whitewood and Douglas-fir sawlogs have risen. For example, March 2017 prices for #2 whitewood and Douglas-fir sawlogs were $535/Mbf (Scribner scale) and $658/Mbf, respectively, in contrast to $178/Mbf for southern pine sawlogs.
- With new export duties (estimated at a total of 20%–30%), Canadian exports to the U.S. are expected to drop by 10%–15% in 2018 from 2016, or a decline of about 1.5 to 2.0 billion bf (2.3 to 3.2 million m^3).
- 2018 could be a tough year for higher-cost Canadian mills, as the full bite of U.S. duties will be in effect and may lead to numerous curtailments across the country.
- By 2019 the U.S. will need more Canadian lumber, so we anticipate that higher prices will begin to allow curtailed mills to restart.
- The U.S. will need rising imports — if not from Canada, then from Europe and the Southern Hemisphere — and this means high prices for both logs and lumber.

By Russ Taylor, President
International WOOD MARKETS Group
Vancouver, BC

International WOOD MARKETS Group Inc. is a wood products consulting firm. Its consulting team has provided industry and market expertise in the solid wood products field to its clients since 1993. The company provides market research, new business development, business plan/strategy, and other consultative services to wood products companies in North America and around the world. The firm also publishes a number of strategic industry multi-client reports, including its landmark *WOOD MARKETS Monthly International Report* (since 1996), the monthly *China Bulletin* (since 2007), various five-year forecast reports (North America, China, Russia) and its *Global Timber & Sawmill Cost Benchmarking Reports* (since 2002). The company's various conferences in Vancouver and China are effective ways to inform producers, exporters and importers about key trends in global markets. Further information is available by visiting www.woodmarkets.com.

SPECIAL FOCUS: Status and Trends of Timber Construction in Belgium

The Belgian National Federation of Sawmills, through its organization for promotion and technical information Hout Info Bois, conducts a biennial survey on the state of timber construction in Belgium. If one house in ten is built with wood, what are the main trends in this sector and what can be learned from it both at national and European level?

In Belgium, more than 100 companies produce nearly 2500 new wooden houses per year. The size of firms can be very variable, but almost 60% of companies build less than 10 houses per year. However, this is a developing sector that has only really got going in the last 20 years. Among these 60%, one often finds companies that were carpentry companies which decided to expand their activities to wooden construction.

Nevertheless, over the years, the average number of constructions per company tends to increase. This development is a sign of a developing sector. The multidisciplinary companies are turning into companies specifically dedicated to wood construction. This transformation is accompanied by a marked increase in the prefabrication of the building elements in the workshop. This results in a better guarantee of the quality of the wooden dwellings. It seems clear that more and more companies will be using prefabrication and robotization for their production. On the one hand, prefabrication will likely exert strong pressure in terms of competition and competitiveness on the smaller companies, but, on the other hand, the latter will be able to orient themselves and adapt more easily to less stereotyped architecture.

The Belgian construction sector (all materials) has been slowing down for several years. Indeed, the number of building permits granted tends to decrease continuously. The main reasons are economic, (the prolonged effects of the financial crisis of 2008) but also structural; Indeed, the availability of building land is very low and the future does not look better! On the other hand, the market for wood construction continues to grow. It is clear that this growth is connected to the fact that aspiring builders are more and more aware of the environmental impact of their choice. The thermal advantages of a wooden house, which is also built with sustainable renewable materials - originating in more than 90% of Europe and favoring local employment -, are all factors that weigh heavily in favor of wood compared to other building materials.

Four distinct constructive systems are mostly used. These are wooden framing, glued or laminated timber (CLT - Cross Laminated Timber), wooden log houses and beam-column. A little more than 80% of the houses are built according to the wooden frame system. However, the CLT is gaining little by little more market share (currently 7%) to the detriment of the other three systems. The CLT is also increasingly used for the construction of larger buildings such as schools, agricultural, industrial or sports halls, nurseries, etc. The manufacture of CLT panels remains

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mainly the prerogative of Austria or Germany and these panels are often transformed in Belgium for the Belgian market. However, some companies are beginning to study the possibility of making such panels in Belgium based on softwood. A sawmill has begun production of beech-based CLT. For the time being, these are non-structural panels which can be realized with one or more layers of heat-treated beech to provide a darker aesthetic variant. As in the majority of countries, it seems obvious that these two systems will continue to develop mainly to the detriment of the other two ... pending new innovations!

As a first reaction, the principle of using wood in construction is pleasing to the majority of aspiring builders. In a second phase, the same people may link the timber construction to the pressure it could generate on the forest resource. For an uninformed public, it is a legitimate fear and it is essential to have objective arguments to counter this wrong thesis. It is important to remember that wood construction in Europe is made with more than 90% of European wood and that in Europe only 64% of the annual forest growth is harvested. The volume of timber in the European forest increases each year by 270 million m^3. This volume would allow the production of a wooden house every 3 seconds without altering the forest capital!

Moreover, in a wood frame construction, only 10% of the wall is made of wood! In Belgium, the total volume used in wood construction represents only 2.4% of the volume of sawn timber annually.

While wood construction is gaining momentum in several European countries, it remains marginal in many others. Given the environmental challenges that Europe will have to face and the many advantages of wood in construction, let us express the wish that wood is the material of the century, well, centuries to come ...

Written by the EOS Member, Mr Hugues Frère
Secretary General of Fédération
Nationale Belge des Scieries.
Director of Hout Info Bois

5. The Construction Industry in Europe

EOS expresses gratitude to Ms Marion Le Roy, Economic Adviser of EPF, for her kind contribution to this EOS Annual Report.

In 2016 the European construction activity measured by the construction output registered an increase for the third year in a row of 2% in comparison with 2015. Against expectations, construction output in Eastern Europe contracted in 2016 by 3.3% due to much weaker than expected absorption of EU funds, whereas it grew by 2.4% in Western Europe. However, there is still a lot of ground to recover from the pre-crisis level with the construction output in 2019 still forecast to be 17% below the 2007 peak.

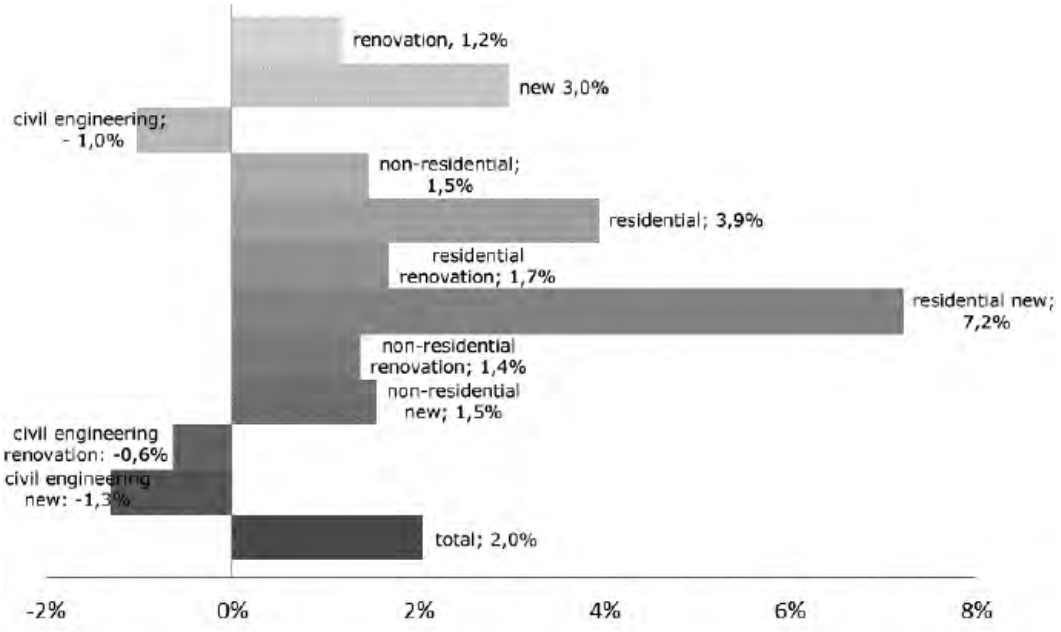
In Eastern Europe, all four countries registered a decrease with Czech Republic registering the largest drop (9%). In Western Europe, building activity increased significantly in Ireland for the third consecutive year (+12.5%), Sweden (6.9%), Finland (6.8%), Norway (6.7%), the Netherlands (5.4%) and Belgium (+3.1%). The only two countries registering a decrease were Portugal (-1%) and the United Kingdom (-0.1%). The other countries of the region recorded a growth of their construction output of no more than 3%.

An increase in activity is observed for all segments in 2016 except civil engineering registering a decrease of -1% at the European level, because of a deterioration of the segment in Eastern Europe, especially in new civil engineering, and a no growth situation in Western Europe.

The "new" sub-segments registered the largest increase of 3% when compared with "renovation" (+1.2%). The "new residential" segment showed the largest progression with +7.2%, followed by "residential renovation" at +1.7%.

With a slightly increasing share of 47% (46% in 2015), residential construction remains the building sector's main branch. Non-residential buildings rank second, accounting for 32% (31% in 2015), while civil engineering projects account for the remaining 21% (23% in 2015), recording a slightly decreasing share in the overall construction market due to the decrease in output in 2016 in Eastern European countries.

Figure 5.1: Growth rates of the different segments of the European construction market, 2016



Source: Euroconstruct

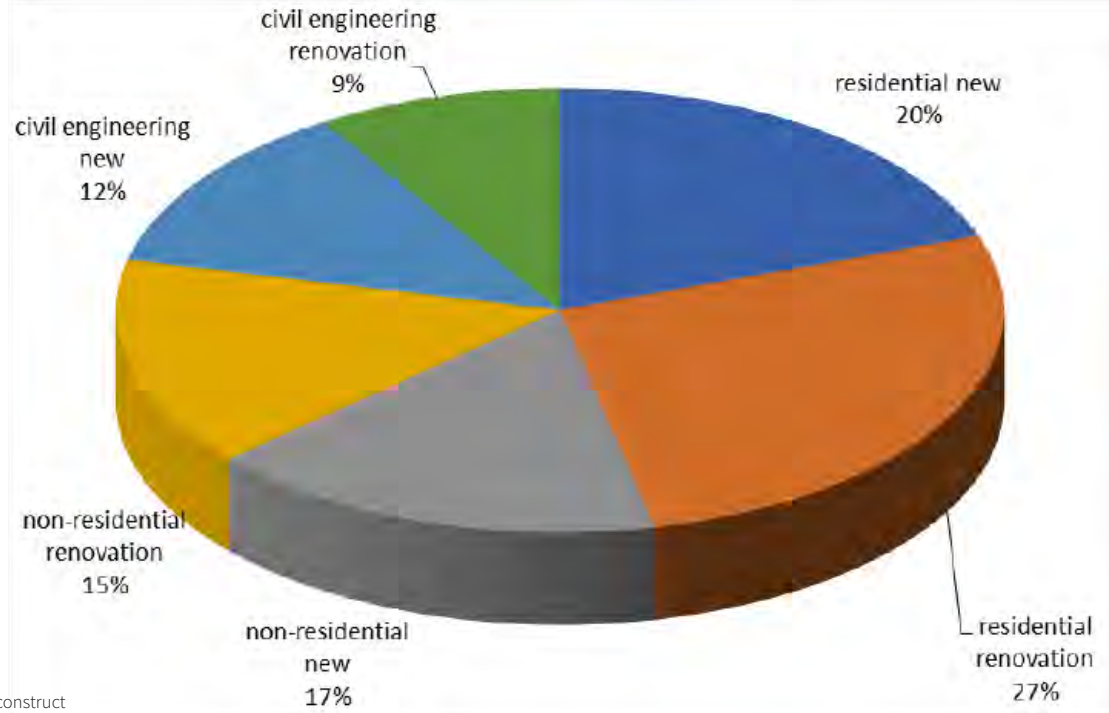
Table 5.1: Overview of the construction industry in Western and Eastern Europe in 2015 and 2016

	total construction*			new residential			residential renovation			new non-residential			non-residential renovation			new civil engineering			civil renovation		
	2015	2016	%	2015	2016	%	2015	2016	%	2015	2016	%	2015	2016	%	2015	2016	%	2015	2016	%
Austria	33.868	34.410	1,6%	10.834	11.007	1,6%	4.901	4.970	1,4%	8.616	8.806	2,2%	2.913	2.951	1,3%	5.283	5.346	1,2%	1.321	1.330	0,7%
Belgium	40.936	42.196	3,1%	8.121	8.543	5,2%	11.284	11.510	2,0%	8.834	9.444	6,9%	6.086	6.177	1,5%	5.006	4.876	-2,6%	1.605	1.647	2,6%
Denmark	27.461	28.050	2,1%	1.999	2.099	5,0%	11.585	11.817	2,0%	3.551	3.587	1,0%	3.016	3.091	2,5%	4.700	4.794	2,0%	2.610	2.662	2,0%
Finland	29.272	31.255	6,8%	5.080	5.888	15,9%	7.428	7.539	1,5%	5.722	6.512	13,8%	4.786	4.858	1,5%	4.559	4.719	3,5%	1.697	1.739	2,5%
France	199.628	204.336	2,4%	36.477	38.410	5,3%	59.093	60.866	3,0%	27.767	28.072	1,1%	33.799	34.407	1,8%	17.832	18.955	6,3%	24.660	23.624	-4,2%
Germany	296.895	304.298	2,5%	51.746	56.662	9,5%	114.106	114.106	0,0%	30.741	31.356	2,0%	48.693	49.180	1,0%	28.075	28.637	2,0%	23.534	24.358	3,5%
Ireland	12.650	14.225	12,5%	3.332	3.772	13,2%	2.860	3.026	5,8%	2.818	3.455	22,6%	410	434	5,8%	2.642	2.927	10,8%	588	612	4,0%
Italy	161.454	164.583	1,9%	14.420	13.786	-4,4%	64.532	66.532	3,1%	14.791	15.190	2,7%	32.005	32.613	1,9%	13.775	14.092	2,3%	21.931	22.370	2,0%
Netherlands	66.207	69.813	5,4%	10.159	11.378	12,0%	15.424	16.627	7,8%	9.623	9.806	1,9%	10.040	10.502	4,6%	13.506	13.911	3,0%	7.455	7.589	1,8%
Norway	43.263	46.182	6,7%	8.905	10.250	15,1%	7.601	7.715	1,5%	6.833	6.970	2,0%	8.274	8.357	1,0%	7.952	9.033	13,6%	3.698	3.857	4,3%
Portugal	15.216	15.067	-1,0%	2.136	2.221	4,0%	4.205	4.499	7,0%	2.790	2.762	-1,0%	1.148	1.171	2,0%	3.962	3.487	-12,0%	975	926	-5,0%
Spain	84.800	86.533	2,0%	20.330	23.176	14,0%	14.550	15.205	4,5%	16.200	16.443	1,5%	11.770	12.182	3,5%	15.760	13.554	-14,0%	6.190	5.973	-3,5%
Sweden	34.895	37.301	6,9%	6.448	8.376	29,9%	8.041	7.912	-1,6%	3.788	4.110	8,5%	6.372	6.499	2,0%	8.695	8.791	1,1%	1.551	1.613	4,0%
Switzerland	64.831	64.894	0,1%	21.681	21.681	0,0%	7.979	7.987	0,1%	9.392	9.467	0,8%	11.198	11.366	1,5%	5.007	4.762	-4,9%	9.574	9.631	0,6%
UK	223.399	223.076	-0,1%	48.477	50.852	4,9%	43.343	42.910	-1,0%	64.550	64.550	0,0%	26.225	26.409	0,7%	28.336	26.636	-6,0%	12.468	11.720	-6,0%
Total Western Europe	**1.334.775**	**1.366.218**	**2,4%**	**250.145**	**268.102**	**7,2%**	**376.932**	**383.221**	**1,7%**	**216.016**	**220.528**	**2,1%**	**206.735**	**210.197**	**1,7%**	**165.090**	**164.519**	**-0,3%**	**119.857**	**119.652**	**-0,2%**
Czech Republic	17.307	15.748	-9,0%	2.637	2.782	5,5%	931	911	-2,2%	4.676	4.246	-9,2%	3.301	2.849	-13,7%	3.154	2.807	-11,0%	2.608	2.154	-17,4%
Hungary	9.270	8.960	-3,3%	580	754	30,0%	1.040	1.092	5,0%	1.800	1.944	8,0%	1.970	1.872	-5,0%	2.000	1.700	-15,0%	1.880	1.598	-15,0%
Poland	45.202	44.825	-0,8%	8.964	9.609	7,2%	3.340	3.407	2,0%	13.582	13.066	-3,8%	4.940	5.019	1,6%	9.216	8.460	-8,2%	5.160	5.263	2,0%
Slovak Republic	5.148	4.868	-5,4%	621	696	12,0%	414	465	12,2%	1.549	1.510	-2,5%	646	665	2,9%	1.700	1.312	-22,8%	218	221	1,4%
Total Eastern Europe	**76.927**	**74.401**	**-3,3%**	**12.802**	**13.841**	**8,1%**	**5.725**	**5.874**	**2,6%**	**21.607**	**20.766**	**-3,9%**	**10.857**	**10.404**	**-4,2%**	**16.070**	**14.280**	**-11,1%**	**9.866**	**9.236**	**-6,4%**
Total Europe	**1.411.702**	**1.440.619**	**2,0%**	**262.947**	**281.942**	**7,2%**	**382.657**	**389.094**	**1,7%**	**237.623**	**241.294**	**1,5%**	**217.592**	**220.601**	**1,4%**	**181.160**	**178.799**	**-1,3%**	**129.723**	**128.888**	**-0,6%**

Source: Euroconstruct

* Total construction also includes services/construction by other sectors, DIY, black economy

Figure 5.2: Relative share of the different segments in the overall construction market in Europe, 2016



Source: Euroconstruct

RESIDENTIAL

Following the moderate growth of 2.2% in 2015, a marked acceleration of growth is estimated for 2016 in the residential sector, with total residential construction growing 3.9%, and activity rising in all countries except Switzerland with a no change situation. Growth is considerably higher in Eastern Europe than in Western Europe, but since the volume of construction in euro terms is much smaller in Eastern Europe, the total average growth is close to that of the Western area. Although at a decelerating pace, the outlook is quite positive with residential building activity projected to continue to increase by +2.8% in 2017, +2% in 2018 and +1.9% in 2019, again with Eastern Europe observing the highest increases. At national level, in 2017, residential construction grows in all 19 countries, although with widely different growth rates, as new construction growth rates vary from 0.1% in the UK to 23.4% in Hungary. However, in more than half the countries, the growth rate is lower than in 2016, pulling the average growth rate considerably down. In 2018 and 2019, the growth rates are projected to stay positive in most countries, but in many cases, the growth rate is lower than in 2017. In 2018, activity actually declines in Finland, Sweden and Slovakia, although in all cases, the decline is fairly small. In 2019, activity declines in Germany, Sweden and Slovakia. In percentage terms, the decline is strongest in Sweden, where new construction declines 9%. In euro terms, the most significant change is a trend reversal in Germany, where 0.5% growth of total residential construction in 2018 is much lower than in 2017 – and where activity declines in 2019.

The number of completions of new one and two-family dwellings is expected to have upturned in 2015, but quite weakly. In 2016 and the following years, the upturn is stronger but remains quite moderate compared to the growth in flats. Completion of one and two-family dwellings is expected to slowdown from 2017 in Germany.

The turnaround for completions of flats came already in 2014 after the very poor showing in the previous years. The total number of finished flats in Europe is projected to register an increase throughout the forecast period. From 2016 to 2019, the share of flats versus share of one and two-family dwellings in completions is forecast to rise in 12 of the 19 countries. The largest relative changes occur in Hungary, where the share of flats in completions rises from 41% in 2015 to 67% in 2019; in other countries, the change is below 10 percentage points, and in 12 countries, less than 3 percentage points. In addition to Hungary, the share grows

Table 5.2: Total residential construction volume in Europe in million EUR and annual increases, 2015-2019

Total volume x million EUR		% change			
(current prices)	**2015**	**2016***	**2017****	**2018****	**2019****
Austria	15.735	1,5	1,6	1,6	1,1
Belgium	19.406	3,4	1,4	2,6	3,1
Denmark	13.584	2,4	2,5	2,9	3,0
Finland	12.508	7,4	1,6	-0,3	0,1
France	95.570	3,9	4,6	3,5	2,9
Germany	165.852	3,0	2,0	0,5	-0,7
Ireland	6.192	9,8	10,5	14,8	18,0
Italy	78.952	1,7	2,4	1,1	1,4
Netherlands	25.584	9,5	6,6	6,0	5,8
Norway	16.506	8,8	1,0	0,7	3,3
Portugal	6.341	6,0	7,0	7,4	8,0
Spain	34.880	10,0	7,2	4,5	4,3
Sweden	14.489	12,4	3,8	-0,3	-4,0
Switzerland	29.660	0,0	0,4	0,7	0,5
UK	91.820	2,1	0,1	0,5	1,6
Total Western Europe	**627.079**	**3,9**	**2,7**	**1,9**	**1,7**
Czech Republic	3.568	3,5	2,8	9,4	14,5
Hungary	1.620	14,0	23,4	20,4	6,4
Poland	12.304	5,8	2,6	3,7	4,8
Slovak Republic	1.035	12,1	0,5	-0,9	-1,5
Total Eastern Europe	**18.527**	**6,4**	**4,5**	**6,4**	**6,5**
Total Europe	**645.606**	**3,9**	**2,8**	**2,0**	**1,9**

* estimate
** forecast
Source: Euroconstruct

very considerably in Germany, Poland, Sweden, and Ireland. However, the trend is the opposite in Denmark, Finland, Italy, Netherlands, Portugal, and the Czech Republic, which are all forecast to have somewhat growing shares of one and two-family housing.

Germany represents about 26% of the overall residential construction market in Europe in 2016, followed by France (15%), the United Kingdom (14%) and Italy (12%). Together those four countries represent 67% of the overall residential construction market in Europe in 2016. The other European countries have a share of maximum 5%.

New residential has the strongest growth rate in 2016 with 7.2% and, in the forecasts, it is the sector expected to do better but is recovering from a deep recession. In Western Europe, registering 7.2% growth, Italy was the only country reporting a decline (-4.4%) in new residential buildings in

Table 5.3: Finished one and two-family dwellings forecasts for selected European countries x 1,000 dwellings, 2015-2019

	2015	2016*	2017**	2018**	2019**
Austria	16,5	16,9	17,5	17,8	17,9
Belgium	20,5	18,2	20,0	19,4	19,9
Denmark	7,2	6,5	7,0	8,0	9,0
Finland	7,7	6,5	6,5	7,0	7,3
France	156,0	142,1	145,5	150,2	154,5
Germany	102,7	120,0	115,0	105,0	105,0
Ireland	11,0	11,5	12,5	15,5	20,5
Italy	29,8	29,3	29,7	30,6	31,2
Netherlands	30,4	37,5	42,0	46,0	50,5
Norway	10,5	11,8	12,4	12,3	12,1
Portugal	4,6	4,5	5,4	6,8	9,0
Spain	12,0	11,0	16,0	20,0	20,0
Sweden	12,9	14,7	16,3	15,8	14,6
Switzerland	7,5	7,2	6,9	6,7	6,5
UK	122,2	124,5	127,7	136,1	137,3
Western Europe	**551,5**	**562,2**	**580,4**	**597,2**	**615,3**
Czech Republic	14,7	15,3	16,4	17,2	18,6
Hungary	4,5	4,5	6,0	8,0	7,0
Poland	79,8	82,0	83,0	83,0	85,0
Slovak Republic	9,9	9,8	10,0	10,5	10,1
Eastern Europe	**108,9**	**111,6**	**115,4**	**118,7**	**120,7**
Total Europe	**660,4**	**673,8**	**695,8**	**715,9**	**736,0**

* estimate
** forecast
Source: Euroconstruct

2016 while Sweden reported the largest increase (+29.9%). Eastern European countries registered again a stronger increase of 8.1% in new residential constructions. The most significant progression is reported for the third year in a row after a sharp decline in 2013 by Hungary (+30%).

Housing renovation is not expected to grow as fast, but records healthy production levels currently. An improvement of 1.7% for Europe as a whole as well as for Western Europe in 2016 was observed. Activity in this sub-segment rose by 2.6% in Eastern Europe. In 2017, renovation is expected to outreach the peaks of 2007-2008, and to hit new record levels.

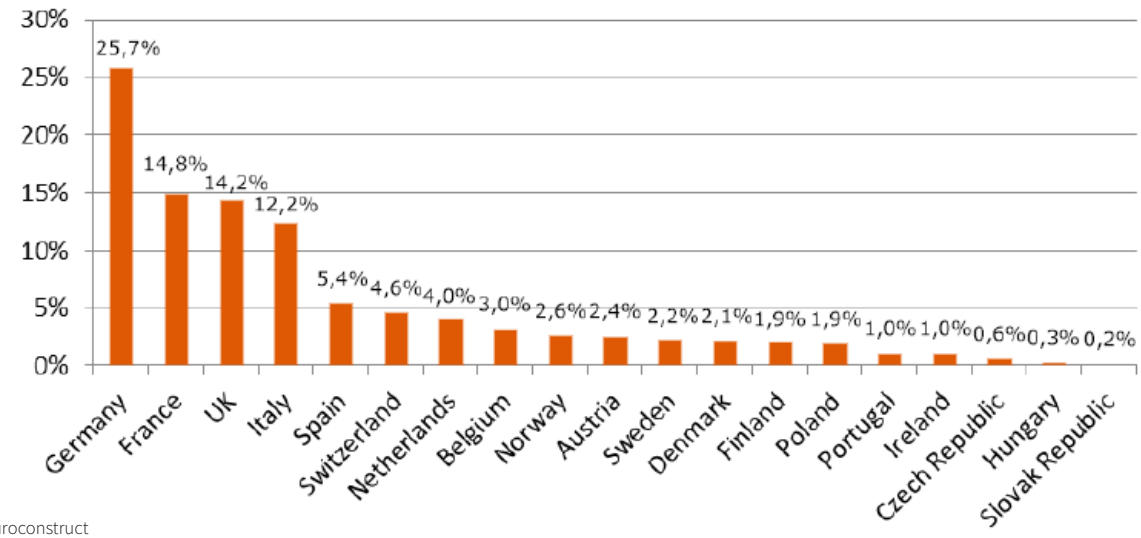
So far European households are enjoying better access to credit but there is a risk that the situation will not last long. The recovery in house prices gives positive signals to investments, but it also tends to overheat the market. Investors are becoming more active in new building developments. The influx of refugees has been increasing the pressure to rapidly provide accommodation in countries like Germany and Norway.

Table 5.4: Finished flats forecast for selected European countries x 1,000 dwellings, 2015-2019

	2015	2016*	2017**	2018**	2019**
Austria	28,7	30,4	33,0	35,5	36,8
Belgium	29,4	26,8	29,0	28,2	28,9
Denmark	7,1	8,0	8,0	8,0	8,5
Finland	21,0	26,0	25,5	23,5	22,0
France	243,5	201,1	214,3	237,6	245,4
Germany	114,0	140,0	160,0	180,0	175,0
Ireland	1,6	2,5	3,5	4,5	5,5
Italy	56,5	52,4	51,3	51,8	53,2
Netherlands	18,0	25,5	27,0	27,0	28,5
Norway	17,7	20,2	21,0	20,8	20,5
Portugal	2,1	2,1	2,5	3,0	3,8
Spain	33,2	31,0	44,0	55,0	60,0
Sweden	28,6	37,2	48,0	51,4	51,8
Switzerland	45,3	45,9	46,5	47,2	47,8
UK	42,9	41,5	42,3	44,9	44,7
Western Europe	**689,6**	**690,6**	**755,9**	**818,4**	**832,4**
Czech Republic	10,4	10,7	10,7	10,3	10,1
Hungary	3,1	5,5	9,0	12,0	14,0
Poland	68,0	84,0	92,0	90,0	105,0
Slovak Republic	5,6	5,3	6,5	6,2	5,8
Eastern Europe	**87,1**	**105,5**	**118,2**	**118,5**	**134,9**
Total Europe	**776,7**	**796,1**	**874,1**	**936,9**	**967,3**

* estimate
** forecast
Source: Euroconstruct

Figure 5.3: Relative share of selected European countries in the overall residential construction market, 2016



Source: Euroconstruct

NON- RESIDENTIAL

After two years of transition in 2014 and 2015 with no serious fall but no growth either (-0.4% for both years), the new non-residential segment bounced back in 2016 registering a growth of 1.5%. While the sub segment increased by 2.1% in Western Europe, it registered an important decrease of 3.9% in Eastern Europe. The segment is in the very early stages of recovery and still far from its optimal condition as it is witnessing a downgrade of the economic horizon that cools off demand for new offices, retail and the like. The niche with better prospects is office construction, which is expected to grow at an average rate of 3.0% p.a. between 2016 and 2019. On the other hand, industrial and storage are expected to perform below the non-residential average, something that can be read as a sign of low expectations on the demand side (domestic, European, worldwide). Another of the underperformers is education, still held back by public sector budget constraints.

At national level, the largest increases were observed in Ireland (23%), Finland (14%), Sweden (9%), Hungary (8%) and Belgium (7%) while new non-residential construction output fell by 1% in Portugal, 3% in Slovakia, 4% in Poland and 9% in Czech Republic. Expectations for non-residential in the United Kingdom for 2016-2017 indicate no chances of growth as a result of a stagnant 2016 and a receding 2017 following the Brexit vote. The German forecast also announces a slowdown in non-residential, amid an atmosphere of slow demand and cautiousness in investments. German production may enter negative territory in 2018. In Italy, non-residential seems to be strengthening progressively after suffering heavy losses. There is also some progress in the Netherlands, Belgium and Denmark, but somehow below the positive forecast the real market situation is not yet fully normalised. The lack of synchronization between the public and the private sides in this segment is a recurrent problem in many countries.

Non-residential renovation already rebounded in 2014, two years before the new non-residential, and is expected to grow by 1.4% in 2016. Again, for this sub-segment, Eastern European declined by 4.2% while Western Europe increased by 1.7%. Even though the growth rates have been quite moderate, and will continue to be such in the forecast period, they will be enough to bring back production in 2019 only 1.5% below the peaks of 2008. In a context where there is still plenty of concern about the economy, and companies are not significantly expanding their staff and/or equipment, renovating their existing facilities remains a reasonable option. And from the point of view of property investors, the same atmosphere of caution also hints at the idea that buying assets in newly developed areas involves more risks than in consolidated areas, even if the latter are likely candidates to be renovated in order to make them competitive. At a country level, it is worth noticing the singular situation of saturation in the German housing renovation segment, which may be also affect the non-residential, where the forecast is negative from 2018 onwards.

CIVIL ENGINEERING

After a substantial growth of 3.5% experienced in 2015, civil engineering experienced a contraction of 1% in 2016, reflecting governments' defensive investment positions that affect negatively this segment. The countries that suffer most of this downward trend are primarily the four Eastern countries as a result of the transition period between the end of the 2007-2014 and the start of the following round of EU structural funds that will last until 2020. Portugal and Spain faced problems of fiscal imbalances. Finally, the United Kingdom is the only case where the civil engineering segment was not particularly at risk but the recent events are causing a sizeable drop in 2016 (-6%).

New civil engineering experienced a negative trend in 2016 registering a slight decrease of 0.3% in Western Europe and a sharp one by 11.1% in Eastern Europe. Civil engineering renovation which depends on multi-annual planning remained more resilient, with a slight decrease of 0.2% in Western Europe and dropped by 6.4% in Eastern Europe.

Country Analysis of the Construction Market in Europe

Austria

After an output decline of 0.6% in 2015, the building activity in Austria upturned in 2016 registering a general output growth rate of 1.6%. All segments and sub-segments developed

positively but the main drivers of growth were housing and non-residential constructions. Total **residential** construction is estimated to have grown 1.5% in 2016 with the new sub-segment increasing by 1.6% and renovation by 1.4%. The demand for flats remains at very high levels in urban areas fuelled by the demographic development. Additionally, increasing house prices in combination with low interest rates are pushing private investment in residential housing. After its full implementation by the end of 2016, the "housing offensive" (Wohnbauoffensive) which targets to stop the rise in real estate prices by increasing supply, is expected to particularly stimulate the residential construction market in 2017 and 2018. The **non-residential** sector started recovering in 2016 with a significant increase of about 2%, growing in both new and renovation sub-segments by respectively 2.2% and 1.3%. Growth mainly stems from the industry sector, but also office and commercial construction expanded while only public investments lag behind. After having shrunk in 2015, total **civil engineering** is estimated to have expanded by 1.1% in 2016, with new civil engineering growing by 1.2% and civil renovation by 0.7%, on the back of stronger investments in transport infrastructure. Total construction in Austria is expected to develop rather steadily in the upcoming years 2017 to 2019 at an annual average real growth rate of about 1.5% per annum.

Belgium

In Belgium, the total construction output increased by 3.1% in 2016, with the major source of growth being non-residential. The **residential** sector is estimated to have registered a 3.4% increase with new residential increasing by 5.2% and renovation by 2%. In the new residential sub-segment, the tightening of Belgian energy performance requirements in Flanders on 1st January 2016 and the improved economic framework (falling unemployment and rising disposable incomes in a context of very low mortgage rates) are at the root of an increase in the number of housing units authorised in 2016. Although less strongly, these factors are expected to continue supporting demand in the period 2017-2019. Regarding the residential renovation sub-segment, the only significant change proposed over 2015-2018 is an increase of VAT from 6 to 21% applicable to housing units aged 5 to 10 years, however not significantly affecting this segment. After two consecutive years of decline, 2016 appears to mark the beginning of a strong recovery for the **non-residential** segment with an estimated increase of 4.7%. New non-residential constructions increased by 6.9% mostly thanks to the support of the "schools for tomorrow" programme. The development of new non-residential buildings can count on increase in company investments and hopefully on the end of lethargy in office building production. The building renovation sector, which registered a more moderate growth of 1.5% in 2016, should also be able to count on an increase of activity. **Civil engineering** experienced a contraction of 1.3% in 2016, with new civil engineering dropping by 2.6% whereas renovation increased by 2.6%. Even though the total construction output in Belgium is expected to grow by an average of 2.7% per annum over 2017-2019, the construction market in Belgium can be identified as a mature market.

Czech Republic

In 2016, the Czech construction sector experienced a dramatic downturn with a drop of its total output of 9%. The discontinuity in the EU funding programmes is causing a two-year recession on Czech civil engineering and also weighs down on non-residential. This is not compensated by good performance in new housing keeping growing since demand remains high. The **residential** sector is estimated to have increased by 3.5%. The new residential sub-segment increased by 5.5% thanks to very low mortgage interest rates and high demand for new flats. New buildings development is expected to continue growing with an anticipated reduction of building prices. Renovation in residential buildings decreased by 2.2% mostly because of an important increase in new constructions and despite governmental supporting programmes for energy savings and renewable use. Suffering from a lack of public investments, the **non-residential** sector decreased by 11.1% in 2016 with the new sub-segment decreasing by 9.2% and renovation by 13.7%. More positive development is expected from 2018. After extremely positive developments in 2014-2015, **civil engineering** is estimated to have contracted by 13.9% in 2016 with new decreasing by 11% and renovation by 17.4% reflecting the end of the EU funds programme. The Czech construction sector is expected to register a negative growth in 2017 (-3.2%), but as soon as civil engineering gets back to normal, the whole Czech construction output is forecast to accelerate quickly (4.5% for 2018, 8.3% for 2019). The main risk is whether the Czech authorities will be able to push enough shovel-ready projects to capitalise the total of EU funds approved in Brussels.

Denmark

Total Danish construction is estimated to have grown by

2.1% in 2016. The **residential** sector increased by 2.4%. Growth resumed in 2016 in new residential construction with a 5% increase as the economy picks up and housing needs increase, especially in larger cities where residential real estate prices have risen considerably. It is expected to grow further to 8% in 2019. However, uncertainty lies in the evolution of interest rates and an announced change in the real estate taxation system. Renovation in residential increased by 2% promoted by a support scheme supporting energy conservation, climate-related projects and broadband internet installation. Higher availability of labour, desire for comfort and fashion are also expected to gradually push residential renovation upwards. The **non-residential** sector is estimated to have increased by 1.7% in 2016. New non-residential construction grew by 1% driven mainly by a large governmental programme of new hospitals, while private sector construction continues to decline. Renovation in non-residential is estimated to have grown 2.5% driven by incentives in energy savings linked to high energy costs. Although at a lower rate than the previous years, **civil engineering** is estimated to have grown by 2% in 2016 in both new and renovation. Civil engineering is expected to grow lower in 2017 before picking up again. Total new civil engineering will remain at a high and growing level despite the completion of large projects such as the Copenhagen Metro Circle Line and shift in political priorities due to the change of government in June 2015. Although civil engineering renovation needs are clearly high, political priorities favouring new construction makes it growing moderately the next years. Even with less-than-ideal circumstances, construction production in Denmark is expected to grow by 2.5% in 2017, and by 3% both in 2018 and 2019.

Finland

The construction output in Finland increased strongly in 2016 by 6.8%, with new buildings (both housing and non-residential) pushing growth forward. The **residential** sector is estimated to have increased by 7.4%. While the residential renovation sub-segment, the largest of the Finish construction sector, increased by a moderate rate of 1.5% as a result of a tepid consumer-driven DIY renovation and a slowdown in renovation of one and two family houses, new housing grew by 15.9%. After four years of contraction mainly due to the drop in the volume of one and two family houses, housing starts began to increase strongly at the end of 2015 boosted by lively new home sales and faster urbanisation. For the next few years, housing starts are expected to gradually decrease. The **non-residential** sector increased by 8.2%. After a four-year decrease, new non-residential increased by 13.8% in 2016 driven by construction of buildings for education, industry, commerce and health-care, but in 2017 the sub-segment is forecast to contract about 2%. Renovation in non-residential increased 1.5%. The need for renovation of non-residential buildings increases more steadily and is likely to grow even until 2030. **Civil engineering** increased by 3.2% with new construction growing by 3.5% and renovation by 2.5%. Factors of growth are efforts in reducing the infrastructure renovation backlog, the lower input costs and the lively construction of housing in urban regions leading to infrastructure needs. Civil engineering is expected to decline in 2018 and 2019 with a decrease in state funding. In light of the sluggish economy, the boost provided by new building will be exhausted soon and the Finnish construction market is expected to progressively decline, growing by 0.9% in 2017 before contracting by 0.1% in 2018 and 1% in 2019. The expected situation for 2019 has plenty of similarities with that of Germany with the weakness spreading through all the segments, but building renovation manages to dodge recession.

France

The French total construction output is estimated to have grown by 2.4% in 2016. After a transitional year, the French **residential** sector entered a new phase registering an increase of 3.9% with new and renovation increasing by respectively 5.3% and 3%, still highly supported by political measures for access to ownership along with attractive housing loans. The replacement of the “Duflot” incentive by the “Pinel” one, relatively more favourable and more flexible, boosted the sales of new apartments while the reinforcement of the PTZ loan (Prêt à taux zéro) impacted positively the sales of one-family dwellings. The PTZ has also been extended to renovation works carried out for at least 25% of the total value of the house. A slight decline of the unemployment rate coupled with a modest growth of the household income foresees an improvement for the private new residential sector and an increase in the number of authorized and started dwellings to 392,000 by 2019. The year 2015 has witnessed the end of a 6-year long downward trend in **non-residential** buildings which increased by 1.5% in 2016 both in new and renovation by respectively 1.1% and 1.8%. The situation is expected to continue improving to 2019, thanks to better macroeconomic indicators in the private sector and the end of budget reduction plans in the

public sector. A post Brexit effect might also foster Paris' office market. However, shift in budget allocation after the elections and the new regions reorganization could also impact the sector. The renovation sub-segment continued its upturn initiated in 2015 thanks to the implementation of energy performance decrees and accessibility requirements for existing non-residential buildings. The overall activity in non-residential is forecast to slightly slowdown after 2017. Even at very low level, **civil engineering** recovered a positive growth of 0.2% in 2016, with the new sub-segment increasing by 6.3%, whereas renovation contracted by 4.2%. This is principally the consequence of cuts in local subsidies until 2017. Civil engineering is expected to accelerate, since private investment (telecom, energy, water) will keep pushing, and public investment will recover (roads, high speed train) hopefully with some support from the Juncker plan. With all the market segments growing, the forecast for France depicts a placid panorama for construction with an average annual growth rate of 3.2% in 2017-2019, more reassuring than the political one with the elections in 2017.

Germany

The German construction output is estimated to have grown by 2.5% in 2016 boosted mainly by new housing. The **residential** sector increased by 3% with all of the impetus coming from the new construction segment up by 9.5% while renovation registered no growth. Higher refugee immigration, as well as pull-forward effects in one and two family house construction due to tougher energy regulations as of the beginning of 2016, are giving a temporary boost to residential construction. Main constraining factors include the limited supply of construction areas and the sharp increase in construction and development costs exacerbated by tougher energy regulations. In addition to this, the failed implementation of the European mortgage credit directive encouraged the banks to far greater caution in issuing loans. The upcoming renewed toughening up of rental law is expected to affect the attractiveness of the rental market. Concerning renovation in residential, renovation measures have been at an exorbitantly high level for a decade, significantly reducing the need for refurbishment in the years ahead. Also, a number of constraints point to a cool down in the renovation market. Although the **non-residential** sector increased by 1.4% with new increasing by 2% and renovation by 1%, the segment is suffering from companies' cautious approach to investment. There are nevertheless currently several indicators that companies will, at least for 2016-17, spend slightly more on maintaining their buildings and/or on new construction. On a positive note, the German state development bank KfW offers funding programmes related to energy-saving renovation, renewable energy, resource efficiency and handicapped accessibility. **Civil engineering** increased by 2.7% with new increasing by 2% and renovation by 3.5%. Civil engineering is mainly benefiting from far higher federal government funding for roads and railways and increased contribution to the expenditure on refugees realised by Länder and municipalities. The German construction sector is forecast to perform reasonably well in 2017 (1.5%) mostly because of a strong demand in the new housing segment, but as soon as the first symptoms of fatigue appear in 2018, the whole German construction sector will stagnate (0.2%) and slightly contract in 2019 (-0.6%) with not a single segment expected to grow. The stagnation in the building renovation segment, representing about 55% of the German construction market, is particularly worrying.

Hungary

The construction output in Hungary is estimated to have decreased by 3.3% in 2016 as a result of a sharp drop in civil engineering. The **residential** sector increased by 14%. New construction increased the most (30%) thanks to the introduction of a tax relief, and easier grants for young families for housing construction. In 2014-2016 these measures, combined with a more stable economy, resulted in an increasing number of new housing. Renovation in residential grew more moderately by 5% as the government's housing policy prioritizes young couples' home purchase. In 2018-2019 acceleration is expected in residential renovation due to the compulsory energy saving EU regulations 20/20/20. The **non-residential** sector increased by only 1.2% in 2016 due to a decrease of 5% in renovation while new non-residential construction increased by 8%. This marks the beginning of a smooth transition into the new EU budgetary period in financing public and private non-residential construction projects. The **civil engineering** sector decreased by 15% in both the new and renovation sub-segments due to the transition to the next EU cycle of 2014-2020 and mostly impacted transport infrastructure. Hungary expects to resume the flux of EU funds at very short term, so the negative impact on civil engineering will not extend beyond 2016. With infrastructure construction getting back on track already in 2017, and with the contribution of new housing construction, Hungary is expected to grow strongly again in 2017 (10%). The acceleration in housing is expected to last with demand on the rise, public support (tax

benefits, subsidies, loans) to back it, and the new building regulations contributing to smooth the administrative side of the building process pointing to a very positive forecast for 2018 (12%) and 2019 (7.1%).

Ireland

The Irish construction sector commenced a strong recovery in recent years, albeit from an exceptionally low base, and is estimated to have grown by 12.5% in 2016. The **residential** sector increased by 9.8% with new being the most expanding segment with 13.2% growth while renovation increased by 5.8%. The level of housing supply in Ireland is substantially below where it needs to be. In July 2016, the Irish government published the Housing Action Plan, 'Rebuilding Ireland – an Action Plan for Housing and Homelessness', addressing all aspects of the housing system affirming the restoration of a properly functioning housing market at the top of the political agenda. Regarding renovation, the Home Renovation Incentive scheme for owner occupiers has impacted positively the volume of housing refurbishment works since its introduction in October 2013. The **non-residential** sector increased by 20.5% with new again increasing the most strongly and by 22.6% while renovation increased by 5.8%. The Foreign Direct Investment sector generates significant opportunities, but the momentum is expected to fade out from 2018 onwards. The **civil engineering** is estimated to have increased by 9.6% with the new sub-segment increasing by 10.8% and renovation by 4%. Governmental funds are expected to support civil engineering more in the future. There is a commitment in the Programme for Government to leverage additional private investment in sectors struggling with large infrastructure deficits, including residential care, housing, regional transport and third level education. The overall volume of construction output is forecast to grow by 8.5% in 2017 and 7.1% in 2018 or the second highest annual growth rate of all Euroconstruct countries, only surpassed by Hungary. The Irish construction industry is in recovery phase and is on course to experience the most positive outlook in a decade, provided Brexit does not adversely impact this encouraging trajectory.

Italy

Following an upturn in 2015, 2016 represents the year of consolidation of the Italian construction sector with an increase in output of 1.9%. Residential renovation and new non-residential building are leading the market and only new residential construction is still declining. The **residential** sector increased by 1.7% with the new sub-segment decreasing by 4.4% while renovation increased by 3.1%. New housing remains weak, but there are hopes for improvement from 2018-2019. The **non-residential** sector increased by 2.1% with new increasing by 2.7% and renovation by 1.9%. Despite economic uncertainty, new constructions are expected to boost the sector from 2016 and while the new sub-segment used to be weaker than renovation, it is expected to become a driver of the recovery. After having entered a new expansionary phase in 2015 (+4.6%), **civil engineering** is expected to have experienced a slowdown in 2016 with a growth of 2.1% (+4.6% in 2015), the new sub-segment increasing by 2.3% and renovation by 2%. The slowdown is expected to last until 2017 after which positive development should strengthen. The sector is the focus of numerous actions put in place, such as the cancellation of the Internal Stability Pact substituted with a new more flexible mechanism, with the aim of achieving a non-negative balance, or the easing of the procedures for undertaking major urgent works. In August 2016 relevant amounts of resources to infrastructures for transport, especially for the railway, were approved. The Italian market is still wrapped up by the stabilising effects of a prominent renovation market, representing a share of 60% of the total construction market, while civil engineering may not be as strong as had initially been expected. The total construction output is expected to keep growing at a modest pace of 2% per annum for 2017-2019.

Netherlands

Following an upturn in 2014 and a strong growth in 2015 (+7.5%), the construction sector in the Netherlands is estimated to have grown vigorously again by 5.5% in 2016 with new residential expanding strongly. The **residential** sector increased by 9.5% with new increasing by 12% and renovation by 7.8%. The development of residential construction is boosted by the revival of consumer confidence, low interest rates and the increasing need for housing due to expected granting of asylum to more people. A steady increase in output is expected in the years further ahead. The **non-residential** sector increased by 3.3%. New construction in 2016 expanded for the first time in eight years with a growth rate of 1.9% boosted by the improvement of the economic situation and favourable export opportunities ensuring a steady recovery of industrial, commercial and storage buildings, while health building output also increased significantly. The coming three years will be characterized by a modest growth. While the output

in renovation and maintenance has fallen strongly in recent years due to delayed regular maintenance, renovations and reconstructions is estimated to have grown by 4.6% in 2016 and the output will be driven by the necessity to catch up on the postponed maintenance work for the years to come. **Civil engineering** is gradually recovering from the economic crisis and austerity measures in the past and registered a 2.6% growth in 2016 with new increasing by 3% and renovation by 1.8%. Main drivers are the economic growth, some large projects and the increasing need for work to accompany new residential construction. Civil engineering renovation in the Netherlands shows a weaker performance than new work, with austerity measures still having a significant influence on maintenance budgets. The forecast reveals robust expectations of around 4% growth per annum for 2017-2019. Nevertheless, there is plenty of room for improvement both in new non-residential (weak demand, surplus supply) and in civil engineering (still budget constraints, particularly for maintenance work). The high growth rates for new housing are surely eye-catching, but the residential segment is still at low levels.

Norway

The Norwegian construction sector has barely experienced any significant recession, and yet still has some more room for growth. In 2016 the construction sector in Norway is estimated to have grown by 6.7% with new housing providing again most of the growth. The **residential** sector has increased by 8.8% with the new sub-segment growing by 15.1% while renovation only increased by 1.5%. Despite a sluggish economy, the new housing market is surprisingly stable. Demand drivers remain low interest rates, low unemployment and population growth with increasing urbanization. The supply side seems to finally respond to the increased housing prices with 34 000 dwellings expected to have been initiated in 2016 – the highest amount since 1980. Regarding renovation, establishment of asylum centres and municipal housing for the settlement of refugees has contributed positively to the sub-segment, but a temporary stop in the refugee inflow will probably dampen this demand. The **non-residential** sector increased by 1.4% in both new and renovation by respectively 2% and 1%. Public buildings provide most of the growth and the start of new constructions increased by almost 6% in 2016. Regarding the renovation sub-segment, lower employment growth, in combination with companies being more cautious with non-essential expenditures lead to a modest growth. Diminishing public grants in 2017 is expected to drag down growth to 0.8% the same year, while an improved economic situation is expected to increase growth to 1.5% in 2018. The **civil engineering** increased by 10.6% with the new sub-segment expanding the most by 13.6% and renovation by 4.3%. This market has experienced strong growth since 2010, and there are no signs of weaker growth except for 2019. In general, investments are growing faster than maintenance. The Norwegian construction output is expected to continue growing by 3.3% per annum for 2017-2019. With residential stabilising at high levels, growth comes from civil engineering (roads and energy) and from 2018 new non-residential. Opposite to most European countries, in Norway public demand for construction is stronger than private demand.

Poland

In 2016 the transition problems between the successive programmes of EU funds have been less felt in Poland than in the other Central Eastern countries. The construction sector is estimated to have experienced only a slight contraction of 0.8%. The weakening of production mainly applies to civil engineering (large decline in production was noted in construction energy and water) and public and commercial non-residential construction. The **residential** sector increased by 5.8% with the new sub-segment increasing by 7.2% and renovation by 2%. The main driver of growth in housing remained in 2016 the investments in the construction of flats carried out mainly by developers. A simultaneous increase was observed in both dwellings completed and number of permits issued. In a context of stabilization of the flats prices, housing demand has been fuelled by the growing affordability of mortgages and lower interest rates, supported by the improving labour market conditions and the extended government-subsidized housing programme “Flat for the Young”. A significant slowdown is expected from 2017 in connection with the fading out of “Flat for the Young” and the implementation of the “Flat Plus” programme easing access to ownership and rental to medium and low incomes. The **non-residential** sector decreased by 2.4% with new registering a 3.8% decrease while renovation increased by 1.6%. The development of non-residential construction is negatively affected by decline in investment expenditure of local self-governments associated with smaller scale projects carried out from EU funds. Private investments had also been undermined by lower EU fund inflows as well as uncertainty related to the economic outlook. After 2016 an increasing absorption of the EU funds under the financial framework

for 2014-2020 is expected to provide impetus to the sector again both for public and private constructions. **Civil engineering** decreased by 4.5% with new decreasing by 8.2% and renovation increasing by 2%, caused by the delay in the implementation of many key infrastructure projects. In 2017 many delayed construction investments, related to the use of funds from the EU financial framework 2014-2020, are expected to start. Total construction output is expected to rise again by 4.2% in 2017and 6.8% and 4.8% in 2018 and 2019 respectively. There is considerable uncertainty related to the possible delay or changes in the rate and range of the construction projects. As in the case of Czech Republic, Polish experts warn against the risk of not being able to put to work the full amount of EU funds available in the next years.

Portugal

In 2016 the construction sector in Portugal is estimated to have decreased by 1% mainly because of cuts in public investment. The **residential** sector is estimated to have increased by 6% with building renovation segment being the most dynamic segment of the construction sector registering an increase of 7%. Still the new construction segment also progressed well with a 4% increase. For the near future, forecasts for housing market evolution are positive, in a framework of economic recovery. New housing construction is expected to perform positively until 2019, but renovation and maintenance works segment is still expected to register a higher dynamism. The **non-residential** sector decreased slightly by 0.1% due to the less favourable than expected economic performance and a sharp decline in investment. The new non-residential building construction segment declined 1% in 2016, while the renovation and maintenance works volume increased by 2% mainly thanks to private investment, largely of foreign origin, attracted to Portugal by the availability of liquidity in financial markets and low interest rates combined with an undervaluation of real estate assets. From 2017 to 2019, the non-residential building segment is expected to register positive growth rates. Again, non-residential renovation and maintenance works are expected to increase at a higher pace than the new construction segment. **Civil engineering** decreased by 10.6% with new decreasing by 12% and renovation by 5%. The segment suffered the sharp cuts in public investment implemented by the government in order to achieve a public deficit level under 3% of the GDP. From 2017, civil engineering is expected to slightly recover from the sharp fall of 2016, benefiting from the Structural Funds Programme "Portugal 2020". New civil engineering works are expected to perform positively from 2017 onwards, while renovation is expected to stagnate in the period 2017/2018 and recover in 2019. The case of Portugal has some similarities with Spain. It is also a market that has suffered such a long and deep recession that the high forecast figures (4.3% per annum for 2017-2019) are giving a false perception of recovery. As in Spain, there are plenty of uncertainties in the non-residential segment, but some hope in new housing, stirred by property investors. In line with the recovery of the Portuguese economy, the construction sector is forecast to grow by 3.5% in 2017, 4.5% in 2018 and 5.0% in 2019.

Slovakia

In 2016 the construction sector in Slovakia passed through recession, and is estimated to have decreased by 5.4%, disconnecting from economic growth. This recession was caused by a heavy drop in civil engineering due to the disruption in the EU funds while the residential sector developed very strongly. The **residential** sector increased by 12.1%. After a contraction in 2015, the new residential sub-segment registered an increase of 12% boosted by demand for housing, affordable mortgage lending and the purchase of apartments as investment. While the Slovak State support thermal insulation of houses and apartment buildings as well as construction of municipal housing, the renovation residential sub-segment increased by 12.2%. Moderate growth should continue in 2017 and 2018 in both new and renovation sub-segments. The **non-residential** sector, largest segment of the Slovak construction market, registered a slight decline of 0.9% in 2016 due to a decline of 2.5% in non-residential building construction, while renovation is estimated to have increased by 2.9%. The increase in 2017 and 2018 will be driven mainly by the construction of a new car company Jaguar Land Rover (production hall, a logistics centre, intermodal terminal) and investment activities in established companies (mostly Volkswagen). While **civil engineering** was the driving force of the construction sector in 2015, the sector is estimated to have registered a drop of 20.1% in 2016 with new decreasing by 22.8% while renovation still registered a slight increase of 1.4%. The quick recovery expected in 2017, with 6.2% growth, has to do with the new funds programme kicking in, as well as new road projects and investments from the car industry expecting boosting the non-residential segment. The combined momentum should be enough to guarantee a very positive growth of 4.9% in 2018.

Nevertheless, uncertainty lies for the year 2019 for which a slight contraction of 0.1% is expected.

Spain

In 2016 the construction sector in Spain is estimated to have increased by 2.1%, with segments moving at very different speeds illustrating a gap between public and private development. While the recovery in residential construction has remained steady, civil engineering suffered from the uncertain political environment. Non-residential construction lies somewhere in between, improving moderately. The **residential** sector is estimated to have increased by 10% but to be still far from its comfort zone. Construction of new buildings increased by 14% as a result of the reappearance of owner occupant buyers following a fall in housing prices and the opening of granting mortgages. For the first time after the crisis there have been more housing starts than completions. The renovation sub-segment has accelerated to 4.5% growth as a result of large-scale renovations. Small scale renovations are also awaking from a deep slumber, proof that in the last few years renovation investments had been postponed. The **non-residential** sector encounters more difficulties recovering than housing and is estimated to have increased by 2.4% in 2016 but for the first year both new and renovation sub-segments registered a positive development with new increasing by 1.5% and renovation by 3.5%. Non-residential real estate activity continues to be intense, and there are few signs of fatigue so far. But as demand has being boosted by speculating investment funds it cannot be interpreted as a clear upturn in the development of new construction. **Civil engineering** decreased by 11% because of the long provisional period that led to the repetition of the general elections, with the new sub-segment decreasing the most by 14% while renovation recorded a drop of 3.5%. The new deficit constraints recently agreed with Brussels are conditioning this market. Severe cost curbing measures have reduced the number of new projects and slowed progress on the works already underway. Without a positive contribution from infrastructure construction, production is expected to grow 3.2% in 2017 which is undoubtedly below Spain's theoretical potential. For 2018-2019 we expect a steady rebalancing and growth is forecast to slightly accelerate to 3.4% in 2018 and 3.6% in 2019.

Sweden

Since 2014, Sweden has been experiencing substantial growth thanks to the good performance of new building, and particularly new housing. In 2016 the Swedish construction sector is estimated to have increased by 6.9%. The **residential** sector increased by 12.4%, driven by activity in new buildings increasing by a huge 29.9% while renovation dropped by 1.6%. Huge increase in housing starts (+118% in 2015 and +36% in 2016), reaching levels haven't seen since the early 90-ties, can be explained by fundamentals like low interest rates, a huge demand, rising house prices, employment and income growth. But this is still below the government's goal of 70 000 new dwellings annually to 2025. New residential buildings are expected to flatten out, and drop slightly towards 2019 as a result of lower employment growth, uncertain house prices, rising taxes and interest rates. The contraction in renovation is a result of a cut from 50% to 30% at the end of 2015 of the deduction on labour costs. The **non-residential** sector increased by 4.4%. The new non-residential building activity has remained stable, thanks to increasing employment, low interest rates, rising rents and decreasing vacancies. Building permits, project lists and a strong economic growth in general points towards a growth of 8.5% in 2016, mainly driven by industrial, miscellaneous and commercial buildings. Public building investments in health services remain high, too. Non-residential renovation also went up by 2% in 2016. Historically low interest rates, decreased vacancies and rising rents have made it a good opportunity to initiate renovation projects. The property market is expected to cool down the coming years making investors increasingly selective. **Civil engineering** increased by 1.6% with new and renovation increasing by respectively 1.1% and 4%. Transport infrastructure is taking a leap upwards as a consequence of the transport infrastructure plan from 2014. Many new and large projects are reaching a more intensive phase. However, the extensive need for renovation and maintenance will continue to enforce priorities. With the residential wave expected to last until 2017, civil engineering keeping growing at moderate speeds, and both new non-residential and building renovation just stagnating, the Swedish construction output growth is forecast to progressively slow down to 2.7% in 2017, 0.7% in 2018 and finally to contract by 1% in 2019.

Switzerland

In 2016 the Swiss construction output is estimated to have increased by only 0.1%. However, financing conditions remain attractive and the economic environment improves continuously after a difficult year 2015. The **residential** sector cooled down in 2016 registering zero growth in both

new and renovation sub-segments after several years of expansion linked to high immigration flows and a catch-up of housing capacity. Residential construction is expected to regain traction in 2017 and 2018, since a higher volume of construction permits from 2015 materialises. Demand remains weak however since the wage development and the situation on the labour market does not improve significantly, also somewhat limiting immigration flows. The **non-residential** sector increased by 1.2% with new increasing by 0.8% and renovation by 1.5%. Big projects such as the "Circle" at the airport in Zurich or investments of biotechnology and pharmaceutical companies support the non-residential construction sector. However, the manufacturing industry performed poorly in 2015, leaving little room for capacity expansion and investments into new facilities in 2016 and the office segment faces over-capacities. Investments into buildings from the health sector remain very dynamic due to aging population and outdated infrastructure. **Civil engineering** decreased by 1.3% with new decreasing by 4.9% while renovation increased slightly by 0.6%. The civil engineering segment will benefit from two new infrastructure funds in the next few years: the railway infrastructure fund implemented on 1st January 2016 and the national road and agglomeration transport fund from 2018 onwards. Due to improving fundamentals and high investments into hospitals and infrastructure projects, the construction sector should recover in 2017 with an expansion by 1.3% and 2.6% growth in 2018. Slowly rising interest rates point to a lower growth of 1.9% in 2019. While the Swiss construction market seems to grow at relatively low rates, high production levels indicate a situation of saturation.

United Kingdom

In 2016 the British construction sector is estimated to have experienced a contraction of 0.1%, new housing being the only segment with real traction. The **residential** sector increased by 2.1%. The new residential sub-segment increased by 4.9% as a result of private housing holding up while public housing output fared worse than expected. The forecast for private housing has remained relatively buoyant as the underlying market dynamics of high latent demand and lack of supply have not changed. After a strong performance in 2014 and no growth in 2015, renovation of residential buildings decreased by 1% in 2016. More constrained consumer spending growth is likely to negatively impact the housing renovation sector. In the aftermath of the EU referendum vote, the **non-residential** sector stagnated in 2016 with 0.2% growth (no growth in new and 0.7% growth in renovation). The most vulnerable sectors are the industrial, offices and commercial ones, with their heavy reliance on business investment. The capital's office development cycle had probably already peaked, thus the referendum result is likely to sharpen the downturn. However, the regional markets are somewhat more insulated from this effect and given a shortage of Grade A space in many, the prospects for new build remain good. Although the impact of the referendum on non-residential renovation is more opaque, slower economic growth is expected to constrain funding for renovation. **Civil engineering** contracted by 6% in both new and renovation sub-segments as a result of a hiatus in road building and energy works. While no change is expected in projects launched, in the future, the government may even boost capital spending to mitigate the impact of the referendum vote. There is little doubt that the vote in favour of leaving the European Union will have a significant impact on the UK's economic and political landscape in the ensuing years. In 2017 new housing is not expected to compensate for hesitations in non-residential, building renovation and civil engineering, leading to a slight contraction of 0.2% before first symptoms of revival in non-residential in both new and renovation in 2018 allowing an expected 0.9% increase in construction output. In 2019, with also civil engineering back on track, the outlook is for a more substantial growth of 2.8%.

6. EOS Advocacy Actions

On 25 March 1957, the project of European unification was born on Rome's Capitol Hill, when high representatives of six countries (Belgium, France, Germany, Italy, Luxembourg and the Netherlands) signed the Treaty of Rome "to establish the foundations of an ever-closer union among the European peoples". The Treaties of Rome, which became the foundation stone of the European Economic Community, were signed; these treaties established the European Economic Community (EEC) and the European Atomic Energy Community (EAEC-EURATOM) moreover they envisaged the creation of a customs union and of the European Institutions: the Commission, the Council, the Parliament and the Court of Justice.

"The European spirit signifies being conscious of belonging to a cultural family and to have a willingness to serve that community in the spirit of total mutuality, without any hidden motives of hegemony or the selfish exploitation of others. The 19th century saw feudal ideas being opposed and, with the rise of a national spirit, nationalities asserting themselves. Our century, that has witnessed the catastrophes resulting in the unending clash of nationalities and nationalisms, must attempt and succeed in reconciling nations in a supranational association. This would safeguard the diversities and aspirations of each nation while coordinating them in the same manner as the regions are coordinated within the unity of the nation".

— Robert Schuman, founding father of the European Union.

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 partners 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.
Mrs Maria Noichl is Chairwoman of the Club du Bois since the beginning of 2015. 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: November 2016

The European Panel Federation (EPF), the European Organisation of the Sawmill Industry (EOS) and the European Confederation of Woodworking Industries (CEI-Bois), organised the third Club du Bois meeting under the chairwomanship of Mrs Maria Noichl, MEP, on 10th November at the European Parliament in Brussels.

The following members of the EU Parliament attended the event:

- Mrs Maria Noichl, DE – Chairwoman

- Mr Brando Benifei, IT
- Mr Paul Brannen, UK
- Mrs Molly Scott Cato, UK
- Mrs Inese Vaidere, LV
- Mrs Henna Virkkunen, FI

Additionally, the associations listed below were represented:

- Mr Gus Verhaeghe, Innovawood
- Mr Harald Mauser, European Forest Institute
- Mr Bernd Fuchs, Gütegemeinschaft CO2 neutrale Bauwerke in Holz
- Mr Seppo Romppainen, Hirsitaloteollisuus ry
- Mr Ferdinand Lienbacher, DMBV Deutscher Massivholz-u. Blockhausverband

MEP Mrs Noichl opened the meeting and expressed her pleasure to be chairing her third Club du Bois meeting. She looked forward to an active and stimulating meeting. She then gave the floor to the experts of the woodworking industries.

The EOS Secretariat invited MEP Mrs Henna Virkkunen to give a presentation about the positive results obtained in Finland on the development of the Bio-economy.
MEP Virkkunen highlighted the development of the forest-based industry in Finland in the overall framework of the bio-economy. As she reported, the forest sector contributes 4% of the GDP of Finland, and employs about 65.000 people. The annual value added from forestry is 6.7 € billion. 70% of Finnish forest industry products are exported to Europe. Traditional products are now joined by a wide range of new wood-based bio-products such as fibre packages, biodiesel, composites, biopolymers, pharmaceuticals, and cosmetics products. MEP Virkkunen underlined that Europe is slowly shifting towards the bio-economy, but much more could be done to speed up the process. Indeed, there are already plenty of examples of advanced biotechnology in the fields of agriculture, health and energy industry and the potential for new innovations is huge. She fully believes that the bio-economy should be seen as an integrated part of the circular economy and of climate change mitigation.

As already highlighted by EOS in several occasions, **bio-economy clearly entails boosting the consumption of wood as a building material**. In this regard, MEP Virkkunen recalled that in Finland, wood accounts for about 40% of all building material. 80% of the single-family homes and 50% of attached houses are made of wood as a load bearing material. The aim is to increase the construction of wooden multi-storey apartment buildings from 2% at present to 10% before 2020. MEP Mrs Virkkunen concluded by stating that Europe can and should be the forerunner in the field of the bio-economy. To foster the development the EU and its Member-States should boost investments in innovation and infrastructure, and be careful not to over-regulate the bio-economy. Europe also needs to be open for new ideas and new business models that the development of technology brings.

In the picture: one moment of the Club du Bois meeting.

Mr Josef Egle, from the Gütegemeinschaft CO2 neutrale Bauwerke in Holz, Germany gave a presentation on "CO2 lowering buildings in wood". He made a passionate plea to use more wood in construction. His main theme was that wood has the best carbon balance of all construction materials, especially when the substitution effect is taken into account. In other words, we should consider both the carbon storage effects of wooden products and the carbon released in the manufacture of fossil fuel construction products such as steel. He thereby highlighted 5 facts: 1. Reduction of greenhouse gas emissions (GWG) is one of the most important targets in the actual European Energy Performance of Buildings Directive (EPBD) 2. The carbon store effect of wood meanwhile is accepted. During the growth of 1 kg wood (dry) 1,83 kg CO2 are changed into biomass and oxygen 3. This store effect is only possible with organic renewable materials 4. A lot of companies and associations working with wood are talking about carbon store and carbon sink effects. But there is no clear strategy how to transfer these properties into legal requirements. 5. Including these properties into energy performance certificates must become a central masterplan for the European timber industry. Extensive use of solid wood in construction will without any doubt contribute to reduce climate change: when processing wood, a lot less CO2 is blown into the air compared to the production process of concrete and steel. The central message of the wood associations towards relevant professional bodies and authorities should be that a real reduction in greenhouse gas emissions is possible with further strengthening of thermal insulation standards. Wood associations should grasp the opportunity to demonstrate the relationship of material selection and material preparation by using environmental product declarations and proof of thermal insulation of buildings when using wood.

"Climate protection may be the biggest opportunity ever for the timber industry. But it will not happen automatically. So, act now!"

Moreover, Mr Esko Rintamäki, from the Finnish Log House Industry, explained that in the Finnish legislation the energy efficiency of buildings is compared using the calculated energy efficiency reference value, known as the E value. Now, new energy efficiency regulations for buildings are expected to come into force in Spring 2017. There are different E value requirements depending on the building's size and purpose (small residential buildings in solid wood, summer houses, schools, etc.).

Mr Pinnington, Managing Director of EPF, took the participants on a great journey throughout the world, demonstrating the beautiful wooden constructions – ever taller – that are currently being built. "Plyscrapers" are rising around the world. The Bob building in Norway at 14 storeys tall has recently lost the record of being the "tallest wooden building" to a UBC structure in Vancouver, Canada. However, Europe is expected to regain the title with the HoHo in Vienna at 24 storeys. This is a tremendously exciting development, and one that the woodworking industry is rightly proud of. It should be pursued for aesthetic reasons as well as climate protection purposes. However, there are now great concerns concerning a Draft EC Regulation on an EU VOC Classification and Declaration System. In this, there is no indication of a solution for nature-based construction products such as wood. EPF's key concern is the absence of consideration of the scientific fact that VOC emissions, naturally coming from wood, are without a health risk and therefore there is no need for a declaration according to the construction product regulation at all. Of particular interest is that pine wood as well as OSB (which is produced mainly from pine) is, by its nature, known to have a large variation of naturally occurring VOC emissions.

Unfortunately, the EC is including wood in its new draft EU VOC classification and declaration system leading to potential market discrimination versus fossil-fuel based construction materials, due to these natural VOC emissions. Wooden products may not achieve the highest classification classes and may therefore face de-selection in favour of other materials. This could have the contrarian effect of boosting sales of carbon intensive materials, and the reversal of the current trend that sees environmentally friendly wooden buildings on the increase.

The Juncker Commission is committed to making it easier to do business in Europe through the simplification of procedures and the reduction of red tape. Key elements of the draft regulated act on an EU VOC classification system are in conflict with those overarching goals. A level of complexity is added that is unnecessary, unjust and would require far greater testing and documentation by manufacturers, for no obvious consumer gain. Moreover, the costs and discriminatory effects are in contradiction to the EC's Explanatory Memorandum of the draft delegated act itself that claims that "such a classification would [...] alleviate the administrative burden for manufacturers and users of construction products alike".

EPF believes that the Commission should be encouraged

to embrace the scientific findings and consider carefully how to include them in its fact-finding process for finalising a robust harmonised European VOC classification and declaration system. To find the best solutions for all stakeholders, **EPF invites the Members of the European Parliament to evaluate how to convince the European Commission to explore the opportunities to capitalise on the landmark scientific publications on the proven absence of harmful effects, and the proven positive health effects of emissions from nature based construction products**, with a view to enhancing the role of nature-based materials in the EU's bio-economy and circular economy ambitions. Until such solutions are found, wood-based materials should remain outside the scope of any EU VOC classification or regulation schemes.

Finally, Mr Vitor Poças, from the Organisation AIMMP in Portugal explained that the Portuguese forests, which account for 1/3rd of the territory, are extremely important for the economy as they create 260.000 direct and indirect jobs and contribute positively to the trade balance.
Regrettably if one has a look at the number of hectares that have been lost due to forest fires in the last years, the outlook is no longer that bright as pine forests are being replaced more and more by eucalyptus. It is estimated that over the last 25 years, 300 000 hectares of maritime pine was lost, which also means that sawmills are closing down. Nowadays, there is over 1 million hectares of eucalyptus compared to 600.000 hectares of pine forest.
At present, production amounts to 2,3 Mm3, whereas total consumption equals 4,4 Mm3. The Portuguese wood and furniture companies call upon the national ministries and the European authorities in Brussels to investigate more into the forest fires, to set up adequate prevention measures, and to intensify awareness with the media and schools.
Mr Poças ended his presentation with the following quote: **"Without forests there will be no forest-based industries left in Europe."**

6.2 Wood Dust: Revision of the Carcinogens and Mutagens Directive (2004/37/EC)

On 16 May 2016, the European Commission has proposed changes to the Carcinogens and Mutagens Directive (2004/37/EC) to limit exposure to 13 cancer-causing chemicals at the workplace. The Directive 2004/37 consolidates and replaces Directive 90/394 and its amendments aims to protect health and safety in the workplace by establishing specific requirements for the protection of workers who either are or are likely to be exposed to carcinogens and mutagens. In this context, the directive defines minimum requirements, including permissible occupational exposure limit values and various preventive measures. Mutagens and carcinogens are defined as various substances or mixtures of substances that meet the criteria for classification as a category 1A or 1B carcinogen/mutagen set out in Annex I to Regulation 1272/2008.

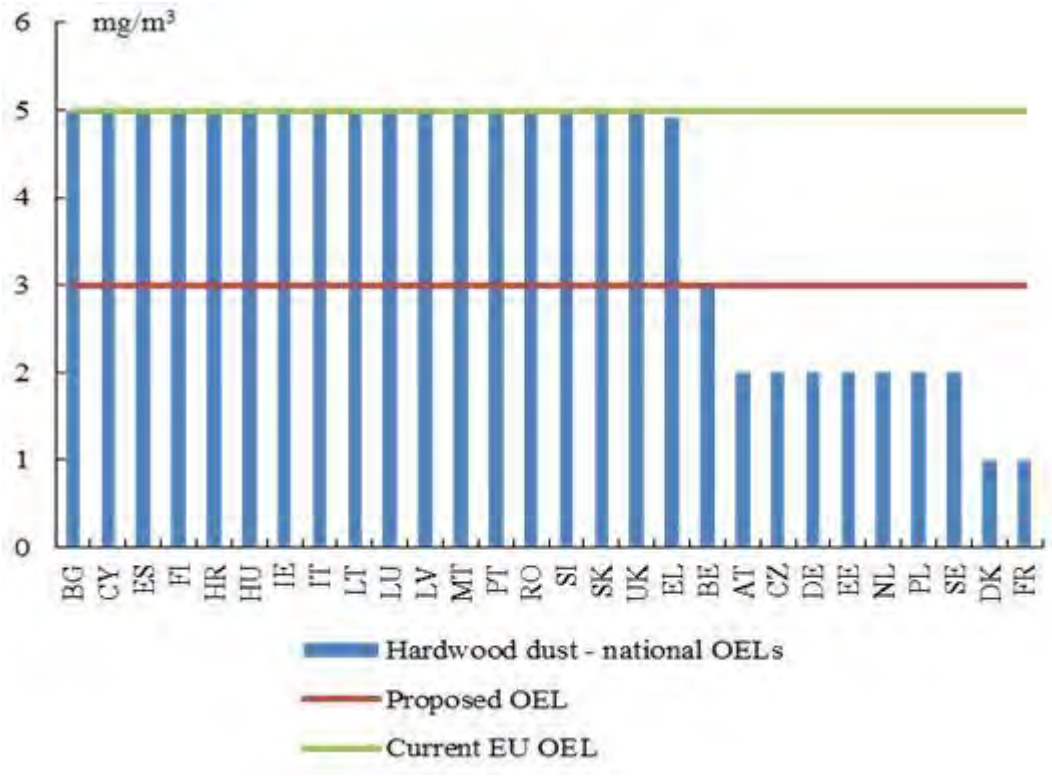
This revision aims at increasing the protection for workers from cancer-causing chemicals. Concretely, the Commission is proposing to address exposure to 13 cancer-causing chemicals by including new or amended limit values in the Carcinogens and Mutagens Directive. These limit values set a maximum concentration for the presence of a chemical carcinogen in the workplace air. The proposal is based on scientific evidence and follows broad discussions with scientists, employers, workers, Member States' representatives and labour inspectors. This proposal introduces limit values for 13 of identified priority chemical agents including **hardwood dust**.

In particular:

Chemical agents	Proposed OELs	Relevant sectors	Types of cancer caused/ other illnesses	No. of exposed workers
Hardwood dusts	3 mg/m^3	Wood working industry, furniture manufacture sectors and construction.	Sinonasal and nasopha-ryngeal cancers	3, 333,000

The proposal released in May 2016 is supported by the European Commission Impact Assessment that looks at the cost and benefits of broadening Directive 2004/37; in particular, the impact assessment estimates that concerning hardwood dust the savings health costs range from EUR 12 to 54 million.

Hardwood dust - Current national OELs vs. proposed EU OEL



On 28 February, the Committee on Employment and Social Affairs (EMPL) of the European Parliament adopted the Report on the *Proposal for a directive of the European Parliament and of the Council amending Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work* of the Rapporteur, the Honourable Member of the European Parliament, Marita Ulvskog. On the very same day, the EMPL Committee gave mandate for initiating the so called trilogue discussion, a negotiating procedure involving the EU Parliament, the Council and the EU Commission and aiming at finding a joint position and a faster adoption of the legislative proposal.

Concerning wood dust, the Report, as adopted by the Committee on Employment and Social Affairs, introduces new elements compared to the original proposal of the EU Commission that was officially released in May last year. The European Commission proposed to amend Directive 2004/37/EC by expanding its scope and by including and/or revising occupational exposure limit values for a number of cancer-causing chemical agents in the light of new scientific data. According to the Commission, this would improve workers' health protection, increase the effectiveness of the EU framework and promote clarity for economic operators. In the original EU Commission proposal, the wood dust threshold limit was set at 3mg/m3 only for hardwood. In the EMPL Proposal the distinction between hardwood and softwood dust is removed and as far as the limit value in Annex III to Directive is concerned, a transition period both for hardwood and softwood is introduced before lowering the threshold limit to 2mg/m^3.

Reported below, the EU Parliament proposal concerning wood dust:
Directive 2004/37/EC Annex III – Part A

CAS No ([1])	EC No ([2])	NAME OF AGENT	LIMIT VALUES ([3])			Notation ([4])
			mg/m³	ppm	f/ml	
-	-	***Wood*** dusts	***2*** *(Inhalable fraction.)*	-	-	Hardwood dusts: 3 mg/m³ until XXXX (5 years after entry into force) Softwood dusts: 5 mg/m³ until XXXX (5 years after entry into force)

In several occasions, the European Organization of the Sawmill Industry (EOS) stressed its support for the threshold of 3 mg/m3 restricted to hardwood dust as assessed and determined by the European Commission in a 10-year process of consultations and analysis with experts and interested parties. EOS highlighted that any lower limit would entail significant additional costs for firms and would require drastic changes in manufacturing processes and the installation of compliant ventilation systems without having any concrete guarantee on the effective possibility of reducing the wood dust in the working area. Moreover, such costs risk disproportionately affecting SMEs, possibly forcing some of them out of business. Jobs will then be lost, and with no clear additional benefit to workers' health. Additionally, EOS recalled that currently there is no harmonised methodology for measuring workers' exposure to carcinogens in Europe. This last point has been recognised in the Rapport of MEP Ulvskog.

A joint letter has been addressed to the European Parliament in order to stress the concerns of the European woodworking and Furniture industry. (Copy of the letter is available at the end of this chapter).

On 13 October 2016, the Council reached a "general approach" on the EU Commission proposal. In particular, the general approach modifies only the recitals, without proposing any modifications to the original text of the EU Commission. During the trilogue meetings, the Presidency of Malta should propose to the Parliament to maintain the EU Commission proposal without neither lowering the thresholds nor introducing new substances.

The adoption of the "Directive of the European Parliament and of the Council amending Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work" is expected by June 2017.

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Joint Letter of the European woodworking and Furniture industry sent prior the amendments discussion within the Members of the EU Parliament on the revision of the Carcinogens and Mutagens Directive (2004/37/EC)

Brussels, *23 January* 2017

Amendments discussion on the revision of the Carcinogens and Mutagens Directive (2004/37/EC) - wood dust

Dear Honorable Member of the European Parliament,

On 25th January the Committee on Employment and Social Affairs, will discuss the revision of the *Carcinogens and Mutagens Directive* and it will be called to pursue a very challenging task: guaranteeing the maximum level of protection for European workers and - at the same time - proposing threshold limits that are technically feasible for companies.

The European wood-working and furniture Industries, made up of around 2 million workers, believe that your role in this discussion will be of vital importance for our sectors, for their employers and for their employees. For this reason, we kindly invite you to support the threshold of 3 mg/m3 restricted to hardwood dust that represents, as per the EU Commission, a safe and adequate value for the protection of workers health, which is our major concern.

This threshold of 3 mg/m^3 restricted to hardwood dust has been assessed and determined by the European Commission in a 10 year process of consultations and analysis with experts and interested parties. Any lower limit would entail significant additional costs for firms and would require drastic changes in manufacturing processes and the installation of compliant ventilation systems. Such costs risk **disproportionately affecting SMEs, possibly forcing some of them out of business**. Jobs will be then lost, and with no clear additional benefit to workers health.

As per the information received from our Members, each company's investment for new ventilation systems might amount to up to 700.000 EUR and often **these ventilation systems do not even achieve the hoped for performance**. Moreover, the wood-working and furniture markets have been stagnating for many years, which have already caused in several cases the closure of companies.

Hoping that you can take into consideration this preliminary information, we would like to propose a personal meeting in the following weeks in order to provide you with a more comprehensive view of this problem.

Thanking you in advance for your support,

Yours sincerely

Patrizio Antonicoli
Roberta Dessi
Silvia Melegari
Clive Pinnington
Endre Varga

6.3 Climate change and wood products

6.3.1 Inclusion of greenhouse gas emissions and removals from land use, land use change and forestry into the 2030 climate and energy framework: the new European legislative proposal

On 20 July 2016, the European Commission published new legislative proposals aiming at binding annual greenhouse gas emissions targets for Member States from 2021-2030 for the transport, buildings, agriculture, waste, **land-use and forestry** sectors as contributors to EU climate action.

In particular, the package is composed of the following new legislative proposals:

- Proposal for a Regulation of the European Parliament and of the Council on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 for a resilient Energy Union and to meet commitments under the Paris Agreement and amending Regulation No 525/2013 of the European Parliament and the Council on a mechanism for monitoring and reporting greenhouse gas emissions and other information relevant to climate change.
- **Proposal for a REGULATION of the European Parliament and of the Council on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry into the 2030 climate and energy framework and amending Regulation No 525/2013 of the European Parliament and the Council on a mechanism for monitoring and reporting greenhouse gas emissions and other information relevant to climate change.**
- Communication from the commission to the European Parliament, the Council, the European economic and social committee and the committee of the regions a European strategy for low-emission mobility.

According to the new package, Member States will have national emission targets for 2030 expressed as a percentage reduction from 2005 emission levels as well as access to new flexibilities to achieve those targets cost effectively. Collectively, these national targets will give an overall EU reduction of 30% in the sectors covered by the proposal. The 2030 targets range from 0% (Bulgaria) to -40% (Sweden) compared to 2005 levels. As previously anticipated by the EU Commission carbon offsetting from the Land Use, Land Use Change and Forestry (LULUCF) sector will be included under the ESD. The carbon offsetting via LULUCF will be capped at 280 million tons CO2-equivalent (Mt CO2-eq) across the EU for the 2021-2030 period, with individual limits set at national level.

According to the EU Commission, the new proposal for a Regulation "on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry into the 2030 climate and energy framework" will support foresters and forest-based industries through greater visibility for the climate benefits of wood products which have a longer life-time and which store carbon from the atmosphere for lengthy periods. Moreover, it will provide a framework for Member States to incentivise more climate-friendly land use.

During the press conference held on 20 July, the EU climate commissioner Miguel Arias Cañete was questioned on the effectiveness of the new package proposal considering that UK will leave the EU following the Brexit vote in June. Mr Cañete replied: "Let's be very clear, from a legal point of view, the outcome of the referendum has changed nothing as **UK remains a member state with all the rights and obligations.**"

Key elements of the new LULUCF Proposal for a Regulation:

The objective: The objective of this proposal is to determine how the LULUCF sector will be included into the EU climate policy framework, as of 2021 => the Kyoto Protocol will expire at the end of 2020.

The "no-debit" rule: The proposal requires each Member State to ensure that accounted CO emissions from land use are entirely compensated by an equivalent removal of CO from the atmosphere through action in the same sector. **Article 4** states *"For the period from 2021 to 2025 and from 2026 to 2030, taking into account the flexibilities provided for in Article 11, each Member State shall ensure that emissions do not exceed removals, calculated as the sum of total emissions and removals on their territory in the land*

accounting categories referred to in Article 2 combined, as accounted in accordance with this Regulation." In practice, if a Member State cuts down their forests (deforested land=> land use reported as forest land converted to cropland, grassland, wetlands, settlements, and other land), it must compensate the resulting emissions by planting new forest (afforestation) or by improving the sustainable management of their existing forest, croplands and grasslands.

The proposal also contains the accounting rules to be used by all Member States so that compliance with the "no-debit" commitment is calculated consistently across all Member States.

Accounting rules (Article 5 and 6 "General accounting rules" and "Accounting for afforested land and deforested land"): The technical rules are updated, with the current methodology regarding land use accounting mostly kept, but upgraded and made relevant for a post-Kyoto protocol period (post-2020) in order to improve environmental integrity. In particular:

- the proposal updates the base period to average accounts for the years from 2005 to 2007. This creates a stable benchmark more closely aligned with the non-ETS 2005 base year.
- The new proposal aims at simplifying and streamlining the reporting and accounting systems to the internationally recognised approach based on tracking emissions and removals associated with different categories of land use (e.g. forest land, cropland, grassland). In the EU, a standard accounting period of 20 years will be introduced for land use change, except for afforested land where Member States may choose a 30-year period, based on national justifications such as forest conditions.
- The proposal also introduces a new EU governance process for monitoring benchmarks, called "forest management reference levels" that Member States will use to calculate emissions and removals from managed forests.

Flexibilities and ESD *(if adopted=> Effort Sharing Regulation. "Proposal for a Regulation of the European Parliament and of the Council on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 for a resilient Energy Union")* – **Article 11 of the new Proposal:** this article allows Member States to compensate for emissions from one land accounting category by removals from another land accounting category in their territory. It also enables a Member State to cumulate the net removals identified in their accounts over the 10-year period. The new proposal provides several flexibilities to Member States to meet their "no-debit" commitment while maintaining environmental integrity. If the net removals of CO2 are greater than the net emissions of CO from land use in the first compliance period (2021-2025), these can be banked and used in the next compliance period (2026-2030). Moreover, if a Member States has net emissions from land use and forestry, it can use allocations from the Effort Sharing Regulation to satisfy its "no debit" commitment. They can also buy and sell net removals from and to other Member States. Where a Member State generates net removals beyond their commitment by increasing forest area (i.e. afforestation) or through good practice in agriculture (i.e. managed grassland and managed cropland) a number of these credits can be used to comply with national targets in the Effort Sharing Regulation, although this amount is strictly limited to ensure the environmental integrity of these targets. Only net credits generated domestically by afforested land, managed grassland and managed cropland can be transferred and used for compliance under the Effort Sharing Regulation.

Reporting time: two compliance periods **from 2021-2025** and **from 2026-2030**. According to the European Commission "a five-year cycle is appropriate for land use because absorptions and emissions in the sector can vary significantly from year to year, due to weather and other natural phenomena".

The Commission will carry out a comprehensive review of the data after each 5-year period and determine compliance with the "no debit" commitment. Where a Member State does not meet its commitment in either period, the shortfall is deducted from their allocation in the new Effort Sharing Regulation.

Harvested wood products: As stated in Article 9 of the new Proposal for a Regulation, "Member States shall reflect emissions and removals resulting from changes in the pool of harvested wood products falling within the following categories using the first order decay function, the methodologies and the default half-life values specified in Annex V: (a) paper; (b) wood panels; (c) sawn wood." **The methodology is unchanged compared to Decision 529/2013/EU.**

The whereas n°12 states *"The increased sustainable use of harvested wood products can substantially limit emissions into and enhance removals of greenhouse gases from the atmosphere. The accounting rules should ensure that **Member States accurately reflect in accounts the changes in the harvested wood products pool when they take place, to provide incentives for enhanced use of harvested wood products with long life cycles. The Commission should provide guidance on methodological issues related to the accounting for harvested wood products**"*.

Natural disasters: emissions that are outside the control of Member States may be excluded from the accounts for land use and forestry. Clear rules limit this exemption to ensure that it does not create a loophole.

On 12 October 2016, the EOS members met in occasion of the Winter General Assembly and they endorsed the following consideration on the LULUCF dossier:

1. **The new LULUCF proposal for Regulation should create favorable market conditions for increasing the use of harvested wood products (HWPs)**. Indeed, HWPs contribute to the climate change mitigation in three specific ways: 1°carbon storage effect (HWP constitutes a carbon reservoir), 2° material substitution effect, and 3° energy substitution effect => the combustion of wood fuel releases only carbon that is already part of the global carbon balance. In Europe, an annual increase in wood use of 4% would generate an annual reduction of approximately 150 million tons in carbon dioxide emissions.

2. The accounting system of the LULUCF Regulation proposes that *"imported harvested wood products, irrespective of their origin, are not accounted for by the importing Member State ("production approach")"*. Nevertheless, it should be recognized that ***the C-sink effect of wood products is as important as the material substitution effects for energy-intensive materials***. The substitution of high-energy products by wood/wood-based products offers a strong potential to decrease the use of fossil fuels and increase carbon storage.

3. The building sector contributes up to 30% of global annual greenhouse gas emissions and consumes up to 40% of all energy. Wood is a renewable and recyclable material with a lighter carbon footprint compared to other construction materials, as it requires comparatively little additional energy to manufacture into products. It is also the only structural building material with third-party certification systems in place to **verify that products have come from a sustainably managed resource. Considering that the "Effort Sharing Regulation" proposal** sets binding annual greenhouse gas emission targets for Member States for the period 2021–2030 for the sectors of the economy not regulated under the EU Emissions Trading System such as **buildings**, agriculture, waste management, and transport that accounted for almost 60% of total EU emissions in 2014, it is clear that measures for **the national emissions reduction targets should take into account the possibilities of reducing the buildings' GHG prioritizing the use of forest wood products**.

4. **The LULUCF should stimulate Member States in enhancing the use of wood products because this will facilitate MSs in reducing carbon dioxide emissions and achieving the climate targets**. In this sense, the expansion of green architecture using timber and engineered wood products should be promoted. The manufacture of wood products generates comparatively little carbon dioxide emissions, moreover, the amount of carbon stored in wood products outweighs the emissions caused by their manufacture by many times over.

5. The increased sustainable use of harvested wood products can substantially limit GHG emissions and enhance removals from the atmosphere. A **holistic approach is needed in order to appropriately reflect the positive contribution of greenhouse gas storage in wood-based products and contribute to greater use of forests as a resource, within a framework of sustainable forest management**.

6. Sustainable forestry management is a *conditio sine qua non* for increasing the carbon storage and capture capacity of forests and the use of harvest wood products. In this sense, **the LULUCF Regulation should both promote afforestation measures and stimulate the sustainable forest management. The expansion of the Nationals' forest area is considered very important; projects in this sense should be identified and developed with in cooperation with the forestry and wood working industries**.

Additionally, in consultation with its Member, the EOS Secretariat has elaborated several suggestions for

amendments on the Regulation of the European Parliament and of the Council on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry into the 2030 climate and energy framework and amending Decision n° 525/2013 of the European Parliament and the Council on a mechanism for monitoring and reporting greenhouse gas emissions and other information relevant to climate change. In a second moment, these suggestions for amendments have been adopted by CEI-Bois as concerns and hopes of the entire European woodworking industry.

European Organisation of the Sawmill Industry aisbl

Suggestions for amendments on the Regulation of the European Parliament and of the Council on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry into the 2030 climate and energy framework and amending Decision n° 525/2013 of the European Parliament and the Council on a mechanism for monitoring and reporting greenhouse gas emissions and other information relevant to climate change

Wood-based products form an integral part in the carbon cycle of managed forest ecosystems. In sustainable managed forests the removals are in balance with forest growth in the long term, and wood removed from forest through harvest can be viewed as a replacement for the natural mortality that would otherwise occur eventually.

The European Organisation of the Sawmill Industry considers that the new LULUCF proposal for a Regulation should create favorable market conditions for increasing the use of harvested wood products (HWPs). Indeed HWPs contribute to the climate change mitigation in three specific ways: 1°carbon storage effect (HWPs constitute a carbon reservoir), 2° material substitution effect, and 3° energy substitution effect; the combustion of wood fuel releases only carbon that is already part of the global carbon balance. **In Europe, an annual increase in wood use of 4% would generate an annual reduction of approximately 150 million tons in carbon dioxide emissions**.

For these reasons, EOS has elaborated few proposals for amendments:

Whereas:
12) The increased sustainable use of harvested wood products can substantially limit emissions into and enhance removals of greenhouse gases from the atmosphere. The accounting rules should ensure that Member States accurately reflect in accounts the changes in the harvested wood products pool when they take place, to provide incentives for enhanced use of harvested wood products with long life cycles. The Commission should provide guidance on methodological issues related to the accounting for harvested wood products.

Whereas:
12) The increased ~~sustainable~~ use of ***sustainable*** harvested wood products can substantially limit emissions into and enhance removals of greenhouse gases from the atmosphere. The accounting rules should ensure that Member States accurately reflect in accounts the changes in the harvested wood products pool when they take place, to provide incentives for enhanced use of harvested wood products with long life cycles. ~~The Commission should provide guidance on methodological issues related to the accounting for harvested wood products.~~

New 12): The Commission should provide guidance on methodological issues related to the accounting for harvested wood products ***including considerations on the GHGs saving obtained through the material substitution effect***.

Explanation: The use of wood products leads to GHG savings over the total life cycle as compared to the use of the alternative products. Indeed harvested wood products (HWPs) mitigate climate change via a carbon storage effect, a material substitution effect (a reduction in the consumption of fossil fuels in material production, transportation, etc., as a result of the substitution of other materials with HWPs), and an energy substitution effect (the substitution of fossil fuels as a result of the energy use of HWPs). It has been calculated that every cubic meter of wood used as a substitute for other building materials reduces CO2 emissions to the atmosphere by an average of 1.1t (tonnes) CO2. If this is added to the 0.9t of CO2 stored in wood, each cubic metre of wood saves a total of 2t CO2. As a result, wood products are climate-friendly from many perspectives and should be promoted in LULUCF.

Article 2 Scope 1. This Regulation applies to emissions and removals of the greenhouse gases listed in Annex I, section A, as reported pursuant to Article 7 of Regulation (EU) No 525/2013 occurring in any of the following land accounting categories on the territories of Member States during the period from 2021 to 2030:	*Article 2* Scope: 1. This Regulation applies to emissions and removals of the greenhouse gases listed in Annex I, section A, as reported pursuant to Article 7 of Regulation (EU) No 525/2013 occurring in any of the following ~~**land**~~ accounting categories on the territories of Member States during the period from 2021 to 2030: **New (f) harvested wood products**
Article 4 Commitments For the period from 2021 to 2025 and from 2026 to 2030, taking into account the flexibilities provided for in Article 11, each Member State shall ensure that emissions do not exceed removals, calculated as the sum of total emissions and removals on their territory in the land accounting categories referred to in Article 2 combined, as accounted in accordance with this Regulation.	*Article 4* Commitments For the period from 2021 to 2025 and from 2026 to 2030, taking into account the flexibilities provided for in Article 11, each Member State shall ensure that emissions do not exceed removals, calculated as the sum of total emissions and removals on their territory in ~~**the land**~~ ***each*** accounting categories referred to in Article 2 combined, as accounted in accordance with this Regulation.
Article 5 General accounting rules 1. Each Member State shall prepare and maintain accounts that accurately reflect the emissions and removals resulting from the land accounting categories referred to in Article 2. Member States shall ensure the accuracy, completeness, consistency, comparability and transparency of their accounts and of other data provided under this Regulation. Member States shall denote emissions by a positive sign (+) and removals by a negative sign (-).	*Article 5* General accounting rules 1. Each Member State shall prepare and maintain accounts that accurately reflect the emissions and removals resulting from ~~**the land**~~ **each** accounting categories referred to in Article 2. Member States shall ensure the accuracy, completeness, consistency, comparability and transparency of their accounts and of other data provided under this Regulation. Member States shall denote emissions by a positive sign (+) and removals by a negative sign (-).

2. Member States shall prevent any double counting of emissions or removals, in particular by accounting for emissions or removals resulting from more than one land accounting category under one category only.	2. Member States shall prevent any double counting of emissions or removals, in particular by accounting for emissions or removals resulting from more than one ~~land~~ **of the** accounting category under one category only.
4. Member States shall include in their accounts for each land accounting category any change in the carbon stock of the carbon pools listed in Annex I, section B. Member States may choose not to include in their accounts changes in carbon stocks for carbon pools where the carbon pool is not a source, ~~except for above-ground biomass and harvested wood products on managed forest land~~.	4. Member States shall include in their accounts for each land accounting category any change in the carbon stock of the carbon pools listed in Annex I, section B. Member States may choose not to include in their accounts changes in carbon stocks for carbon pools where the carbon pool is not a source, ~~except for above-ground biomass and harvested wood products on managed forest land~~.
Article 8 3 (II paragraph) The national forestry accounting plan shall contain all the elements listed in Annex IV, section B and include a proposed new forest reference level based on the continuation of current forest management practice and intensity, as documented between 1990-2009 per forest type and per age class in national forests, expressed in tonnes of CO2 equivalent per year.	*Article 8* 3 (II paragraph) The national forestry accounting ~~plan~~ **report** shall contain all the elements listed in Annex IV, section B and include a proposed new forest reference level based on the continuation of ~~current~~ **sustainable** forest management practice ~~and intensity, as documented between 1990-2009 per forest type and per age class in national forests~~, expressed in tonnes of CO2 equivalent per year.
Article 8 5 Accounting for managed forest land The Commission shall review the national forestry accounting plans and technical corrections and assess the extent to which the proposed new or corrected forest reference levels have been determined in accordance with the principles and requirements set out in paragraphs (3) and (4) as well as Article 5(1). To the extent that this is required in order to ensure compliance with the principles and requirements set out in paragraphs (3) and (4) as well as Article 5(1), the Commission may ~~recalculate the proposed~~ new or corrected forest reference levels.	Article 8 5 Accounting for managed forest land The Commission ***supports Member States in*** ~~shall review~~ ***the elaboration of*** the national forestry accounting plans and ***provides*** technical corrections ~~and assess the extent to which the proposed new or corrected forest reference levels have been determined~~ in accordance with the principles and requirements set out in paragraphs (3) and (4) as well as Article 5(1). To the extent that this is required in order to ensure compliance with the principles and requirements set out in paragraphs (3) and (4) as well as Article 5(1), the Commission ***may suggest*** ~~recalculate the proposed~~ new or corrected forest reference levels. **Or** Article 5(1), the Commission **may give recommendations to improve transparency of the** ~~corrected~~ forest reference levels
Article 9 **Accounting for harvested wood products**	Article 9 **Accounting for harvested wood products**

	New 9.1
	9.1. Member States shall account for emissions and removals resulting from the changes in the pool of harvested wood products, as the total of emissions and removals for each of the years in the periods from 2021 to 2025 and from 2026 to 2030.
~~In accounts pursuant to Article 6(1) and 8(1) relating to harvested wood products,~~ Member States shall reflect emissions and removals resulting from changes in the pool of harvested wood products falling within the following categories using the first order decay function, the methodologies and the default half-life values specified in Annex V:	**~~In accounts pursuant to Article 6(1) and 8(1) relating to harvested wood products,~~** Member States shall reflect emissions and removals resulting from changes in the pool of harvested wood products falling within the following categories using the first order decay function, the methodologies and the default half-life values specified in Annex V:
Annex II: Minimum values for area size, tree crown cover and tree height and forest reference levels	Annex II: Minimum values for area size, tree crown cover and tree height and forest reference levels
Table II: Member State forest reference levels including harvested wood products	Table II: Member State forest reference levels **~~including harvested wood products~~**

Explanation: When domestic roundwood production and HWPs usage are promoted, an overall climate change mitigation effect is consistently expected to be attributable to HWPs until 2050. For this reason, it is proposed that Harvested Wood Products (HWPs) would be treated and accounted as a separate aggregated category; this proposal is consistent with the 2006 IPCC Guidelines and the UNFCCC reporting practice. Therefore, it enhances transparency and comparability with the international UNFCCC process, and reduces unnecessary administrative burden.

Moreover, the Forest Reference Level should be consistent with the most recent data on forest management and intensity with the aim of finding the highest possible sustainable level for the period 2020-2030 and at the *conditio sine qua non* that the LULUCF sector shall remain a net remover of carbon in the second half of the century. The forest is constantly evolving, which is why the period 1990-2009 cannot serve as a reference, additionally the forest reference level based on historical levels risks will reduce wood mobilization and will jeopardize the development of the bio-economy.

Annex IV: National forestry accounting plan containing a Member State's updated forest reference level	
A. Criteria for determining forest reference levels	
e) Reference levels should take into account the ~~objective of contributing to the conservation of biodiversity and the sustainable use of natural resources, as set out in the EU Forest Strategy, Member States' national forest policies, and the EU Biodiversity Strategy;~~	e) Reference levels should take into account the ***criteria and indicators for the Sustainable Forest Management signed by the 46 signatory states of the FOREST EUROPE.***

Explanation: Since the United Nations Conference on Environment and Development (UNECD) in Rio in 1992, several different international processes and initiatives have developed criteria and indicators as a policy instrument to evaluate and report progress towards SFM. FOREST EUROPE is the pan-European policy process for the sustainable management of the continent's forests. It develops common strategies for its 46 participating countries and the European Union on how to protect and sustainably manage forests.

Annex IV: National forestry accounting plan containing a Member State's updated forest reference level	Annex IV: National forestry accounting plan containing a Member State's updated forest reference level
B. Elements of the national forestry accounting plan	B. Elements of the national forestry accounting plan
(d)A description of how stakeholders were consulted and how their views have been taken into account;	d)A description of how ***interested*** stakeholders were consulted and how their views have been taken into account;

6.3.1.1 EU Parliament hearing on the LULUCF

On 30 January, the Committee on Environment, Public Health and Food Safety (ENVI) held a public hearing on "Meeting the EU's 2030 emission reduction targets: the role of the land use and forestry sectors". The aim of the hearing was to feed into the work of the committee on the LULUCF legislative proposal, which requires that the land use and forestry sectors also contribute to meeting the EU's 2030 emission reduction targets.

The EOS Member Mr Streiff was one of the speakers of the hearing and he presented to the Members of the EU Parliament the role of wood products in tackling climate change and the Swiss CO2 Bank System.

The public hearing on "Meeting the EU's 2030 emission reduction targets: the role of the land use and forestry sectors (LULUCF)" has officially launched the work of the EU Parliament ENVI Committee on the EU Commission Proposal for a Regulation proposal on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry into the 2030 climate and energy framework and amending Regulation N° 525/2013 on a mechanism for monitoring and reporting greenhouse gas emissions and other information relevant to climate change, presented on 20 July 2017.

The role of harvested wood products in the LULUCF framework was presented by the EOS Member Mr Streiff, Director of the Swiss Timber Industry Association. He highlighted that in order to effectively tackle climate change we must remove carbon from the atmosphere as well as reduce new carbon emissions into the atmosphere: responsibly sourced wood can achieve both of these.

In the picture, one moment of the EP Heraing on LULUCF. The EOS Member, Mr Streiff, is the first on the left.

In order to guarantee that the use of wooden products doesn't negatively affect the high values of the forests in terms of ecosystems, timber should always be produced according the sustainable forest management criteria. Indeed managing forests can result in more climate benefits than just leaving forests minimize soil disturbance and increasing the forest carbon storage. Left entirely to nature, forests will achieve a climax stage. At this point the forest only grows as trees fall due to age, wind, landslip, disease or fire. Furthermore, Mr Streiff recalled that when fossil fuel-based products are replaced by wood we have a double positive effect: energy consumption and GHG emissions from the production processes are reduced; wood products'

carbon store increases in the longer term, so more and more carbon is removed from the atmosphere.

Then Mr Streiff introduced the Swiss Federal Act on the Reduction of CO2 Emissions. This Act is intended to reduce greenhouse gas emissions and in particular CO2 emissions that are attributable to the use of fossil fuels (thermal and motor fuels) as energy sources with the aim of contributing to limiting the global rise in temperature to less than 2 degrees Celsius. In particular, there is an obligation for importers of fossil fuels and operators of fossil thermal power plants to compensate for CO2 emissions using domestic measures, including at least 10% of the CO2 emissions caused by traffic until 2020. Reductions in greenhouse gas emissions achieved in emissions-reduction projects and programmes (CO2 compensation projects) in Switzerland can receive attestation and be used to compensate for emissions. The biological CO2 sequestration in wood products is admitted by this system as compensation project meaning a clear recognition of the extended storage effect of timber products. The Swiss Timber Sink (e.g a HWPs pool) is composed of three different reference levels and lines for:

- solid timber and plywood;
- particle board and MDF;
- fibre board (insulating).

The Federal Office for the environment issues attestations for reductions achieved in Switzerland. The attestations may be sold to companies that are required to compensate for their emissions, e.g., such as a fossil fuel thermal power plant or a fuel importer. Attestations are issued and traded in the Emissions Trading Registry and cannot be traded outside Switzerland, moreover, these are reserved to be used exclusively by companies obliged to compensate.

The Swiss system, as reported by Mr Streiff had several positive effects such as stimulating the harvested volume (*in 2015 only 56% of the annual increment*); encouraged a positive silviculture (37% of growing stock in trees with more than 50cm Ø at breast high) and improved biodiversity; the thinning has reduced darkness in forests.

Finally, in the specific framework of the LULUCF, the presentation given by Mr Streiff was concluded with the following recommendations:

- « The Forest Reference Level should aim to find the highest possible sustainable harvest level for the period 2020-2030 »;
- « Increased use of wood-based products and the substitution benefits should be promoted »;
- « Creation of a separate pool for HWP is necessary and easier to monitor and to manage than a forest pool »;
- « Industries with obligation to compensate can deal with a limited number of timber companies focused on timber processing much easier than with thousands of forest owners of various motivation to do Forest management – or not ».

On behalf of the European Commission, Mr Giacomo Grassi, EU Joint Research Centre, explained that several studies has been conducted prior the determination of the FRLs (Forests Reference Levels). From these analysis it was highlighted some uncertainty on both the historical levels and the projections of LULUCF emissions and removals. Nevertheless, it has been estimated that the full implementation of all INDCs (Intended Nationally Determined Contributions) would significantly decrease LULUCF net emissions in 2030 compared to historical levels. Considering the ratio behind the EU Commission decision, Mr Grassi stated that in the first commitment period, parties could account for the actual reported net emissions (or removals) in each year of the commitment period without comparing it with a base year (so called gross-net accounting). Nevertheless, this approach was subject to much criticism. To address this, an alternative approach was discussed where the annual level of net emissions (or removals) is compared to the historical reference (so-called net-net accounting). This was finally rejected in favour of the projected reference level, combined with a cap, representing a compromise solution between gross-net and net-net accounting. Based on these considerations and the feedback in the stakeholder consultation, there is a strong rationale for continuing this approach in the post-2020 period, while improving transparency and comparability across Member States' FRL.

6.3.1.2 The EU parliament debate on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry into the 2030 climate and energy framework: the new European legislative proposal

On 25 April the Committee on the Environment, Public Health and Food Safety (ENVI) of the European Parliament discussed the amendments tabled on the draft report by MEP Norbert Lins "Inclusion of greenhouse gas emissions and removals from land use, land use change and forestry

into the 2030 climate and energy framework and amending Regulation No 525/2013 of the European Parliament and the Council on a mechanism for monitoring and reporting greenhouse gas emissions and other information relevant to climate change".

- Several proposals for amendments (AMs) are in line with the main requests of the European sawmill Industry and well reflect our demands for enhancing the use of harvested wood products by taking into consideration the substitution effects.

In particular, AM 76 proposes that "**The increased sustainable use of harvested wood products can substantially limit emissions by the substitution effect (considering the energy and CO2 intensity of other sectors, e.g. cement production accounts for roughly 8% of global CO2 emissions)**, and enhance removals of greenhouse gases from the atmosphere. The accounting rules should ensure that Member States accurately reflect in accounts the changes in the harvested wood products pool when they take place, and to recognise, welcome, **incentivise and enhance the use of harvested wood products** with long life cycles over use for energy purposes. The Commission should provide guidance on methodological issues related to the accounting for harvested wood products."

Moreover, AM 39 states "The LULUCF sector can contribute to climate change mitigation in several ways, in particular by reducing emissions, maintaining and enhancing sinks and carbon stocks and **substituting fossil or carbon-intensive raw materials and energy**."

Additionally, several Members of the European Parliament are proposing that Harvested Wood Product are accounted as a separate and eligible category. This would be consistent with 2006 IPCC Guidelines and UNFCCC reporting practice. (AMs 108,109, 135 - *list of* amendments *not exhaustive*).

As far as the forestry reference levels are concerned, the Members of the ENVI Committee are clearly divided. Some AMs are stressing that the period 1990-2009 cannot serve as a good reference (e.g. AMs 199 and 200) and other amendments are proposing more stringent considerations such as AM 180 by Eleonora Evi, Piernicola Pedicini, Marco Zullo, Dario Tamburrano "*Member States shall account for emissions and removals resulting from managed forest land, calculated as emissions and removals in the periods from 2021 to 2025 and from 2026 to 2030 minus the value obtained by multiplying by five annual average emissions and removals in the forest reference period. A forest reference period is an estimate of the average annual net emissions or removals resulting from managed forest land within the territory of the Member State in the periods from 1990 to 2009.*" In particular, the Italian Government believes that having more stringent reference levels will create "de facto" a more credible and trustable LULUCF system.

One specific amendment (AM 292 by Benedek Jávor) is particularly interesting for the sawmill Industry. Currently the European Commission proposes that "imported harvested wood products, irrespective of their origin, are not accounted for by the importing Member State ("production approach"). MEP Benedek Jávor proposes that "**imported harvested wood products, irrespective of their origin, are accounted for by the importing Member State ("consumption approach")**. This new accounting methods will favour both "Producer" and "Consumption" Country and it will create positive conditions for overall enhancing the use of wood products.

6.3.2 "The value of wood" conference

EOS had the great pleasure to co-sponsor and participated in the International Forum "The Value of Wood," which was held in Brussels on the International Day of Forests. The aim of this activity was the promotion of wood products as carbon neutral material.

The conference was organised in the framework of the European Forest city Project, an event that was dedicated to the promotion of forestry based products. The campaign was organized by the communication agency "Revolve Media" in co-operation with a number of Brussels-based organizations, including EOS.

"*My message is very simple. As simple as it can be the reduction of CO2 emissions, particularly in the construction sector. Increasing the use of wood in construction and in*

everyday products plays an important role in tackling climate change, developing green jobs - particularly in rural areas - and boosting the bio-economy." With these words the EOS's President, Mr Sampsa Auvinen, started his speech at the International Forum "The Value of Wood," held in Brussels, in conjunction with the International Day of Forests on 21 March 2017.

This important event was hosted by the Honourable Member of the EU Parliament (MEP) Mr Paul Brannen, who also moderated the first panel, while MEP Mrs Henna Virkkunen moderated the second panel. Both Members of the European Parliament highlighted the need for an increase of wood products as building materials. "Wood is the building material of the future—versatile, beautiful, and carbon neutral". Without any doubts, wood products play a key role in tackling climate change and developing a sustainable bio-economy.

Mr Auvinen recalled that "The European sawmill industry, as part of the Forest based industry, provides a large number of employment opportunities and career development in a wide range of disciplines. Jobs are being created across the skills spectrum and in a variety of business types and sizes – predominantly the SME sector. Without doubt, wood is one of the most environmentally and sustainable friendly material. To address global challenges such as climate change, a growing population and resource scarcity, Europe must find pathways to produce goods, food and energy by using renewable organic materials more widely. In this sense, the promotion of timber construction is anchored in the bio-economy concept. The European sawmill industry makes market products with a small carbon footprint, from raw material procured from sustainably managed forests. Companies process hardwood and softwood for a wide range of construction and furniture products. The sawmill industry is the backbone of the bio-economy. Residues from sawmill processes can be converted into a broad range of wood-based products including bio-composite materials, bio-plastics, textiles and carbon-neutral biofuels. Simultaneously, the production of saw-logs, and the correlated use of by products and residues, complies with the resource efficiency principle, guarantees the highest profitability for forest owners and provides the raw materials needed for developing the bio-economy."

The Director for the environmental department of the French research centre FCBA, Mr Gerard Deroubaix offered

In the picture from left to right: Mr Auvinen, President of EOS and CEO of Norvik Timber Industries, Mr Doehring, EOS Board Member and CEO of ILIM Timber, Mr Joebstl, CEO of Stara Enso Austria, Mr Merivuori, EOS Board Member and Director of Sahateollisuus, and Mr Stuart Goodall, Director of Confor. The EOS Members are standing in front of the "CUBE" displaying key messages on the use of wood in tackling climate change and the role of the sawmill industries in the bio-economy.
The EOS French Board Members, Mr Sève from the Company Monnet-Sève and Mr Lefebvre from Groupe Lefebvre were both present at the "The Value of Wood" Forum.

a technical explanation of the wood products as carbon store. He recalled that the carbon footprint of construction products made of wood is, in a very large majority of cases, significantly lower than the carbon footprint of the products made of competing materials. He recalled that a recent study commissioned by the EU Commission and entitled "Climwood2030" presented calculations at European level showing that "the material use of wood products instead of functionally equivalent alternative products leads to a decrease of fossil based GHG emissions over the whole life cycle of about 1.5 à 3.5 t CO2 per ton of wood product".

The role of timber in Architecture was presented by Mr Andrew Waugh who was invited to the "Value of Wood conference" to explain the latest achievements of building with wood. He presented the Dalston Lane Project that is the world's largest CLT building: the ten-storey, 121-unit development is made entirely of CLT, from the external, party and core walls, through to the floors and stairs, weighing

a fifth of a concrete building of this size, and reducing the number of deliveries during construction by 80 per cent. The ten-storey, 121-unit development, is made entirely of CLT, from the external, party and core walls, through to the floors and stairs, weighing a fifth of a concrete building of this size, and reducing the number of deliveries during construction by 80 per cent. Another example of the wood application is the Murray Grove. As explained by Mr Waugh, the Murray Grove is the first urban housing project to be constructed entirely from pre-fabricated solid timber, from the load bearing walls and floor slabs to the stair and lift cores.

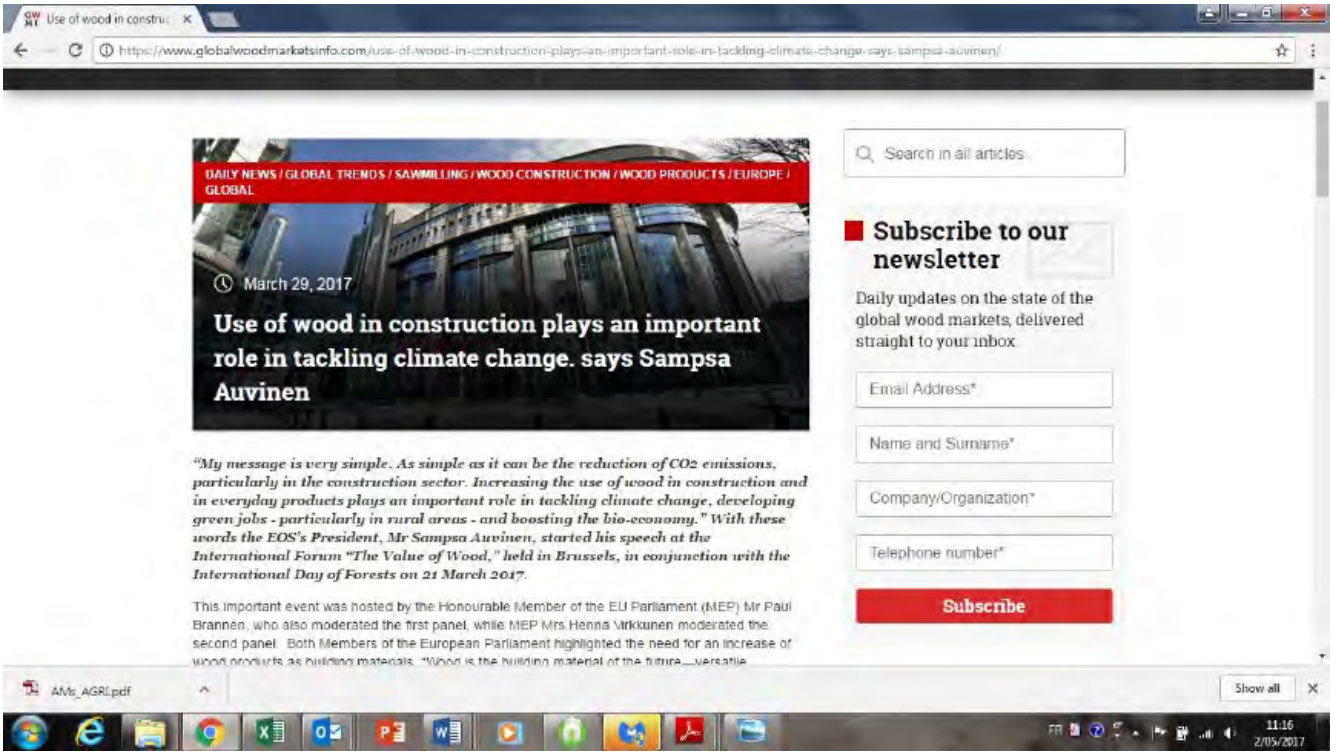
Mr Per-Olof Weding, President of European State Forest Association (EUSTAFOR) emphasised that European Forests are constantly growing both in size and in volume of wood. This extremely positive fact is due to an active and sustainable forest management system that ensures the production capacity and resilience of forest ecosystems. He stressed that a vibrant European forestry sector can make the bio-economy the next major economic development and can bring real benefits to mitigate climate change.
The Conference attracted roughly 100 participants and it was concluded with a cocktail reception.

In addition to the participation in the "The value of wood conference", the European Organization of the Sawmill Industry published an article on the Revolve magazine. A copy is available in the following pages.

Legality of imported timber is contingent upon the timber exporting country's administrative system. At present, there is neither a single definition of illegal logging in the world nor is there an administrative system and mechanism to coordinate timber legality. The EU made a constructive attempt towards this. In May 2003, the EU launched the FLEGT Action Plan, and is signing VPAs with partner countries. Under the VPA, a timber import license system will be used to ensure that timber products produced by partner countries are in compliance with their laws, thus preventing illegally harvested timber from entering the supply chain. The EU is testing and preparing to issue the first FLEGT license with partner countries such as Indonesia. In future, FLEGT-licensed Indonesian forest products will be accepted on the world's forest products market. According to the writers, China is Indonesia's major forest products partner, imports of forest products bearing various consumer countries approved legal labels will help China to meet its need for legal forest product imports.

Copy of the interview given by the EOS President, Mr Sampsa Auvinen on "Sawmills and Sustainability" is available at the following link: http://revolve.media/qa-sawmills-and-sustainability/ and on the following page.

The EOS President message was reported on the Global Wood Markets Info.



Q&A Sampsa J. Auvinen, EOS President

CEO of Norvik Timber Industries and President of the European Organization of the Sawmill Industry (EOS)

How do sawmills contribute to rural development?

The European sawmill industries play a key role in the development of a green and sustainable society. With over 56% of the EU population living in rural areas, the effective implementation of rural development policies is a key component for lowering unemployment levels and returning growth to Europe. Often located in remote and less industrialized areas, the European woodworking and sawmill industry have long been a central player in rural communities supporting stable employment while encouraging investment. Indeed, the processing of timber constitutes the main source of economic revenues for forests owners. The continued development of this sector will help to avoid delocalization across the EU and enhance the competitiveness of rural areas. In Nordic countries, the forest sector plays a particularly vital role in general economic and social development.

How do wood-based products contribute to the circular economy?

In the Circular Economy, the materials used in products should not be seen as inputs but as assets. All businesses need to step away from unsustainable models such as 'creating – using - disposing' and think about ways to maximize the value of products over product lifecycles. Optimizing the entire lifecycle of materials and avoiding the production of waste are two main elements of the European Circular Economy Strategy. The Circular Economy should encourage the use of naturally and renewable raw materials, products and designs for structures and interior applications which are more environmentally-responsible and cost-efficient to operate.

Wood products are an excellent environmental choice. They are naturally renewable, recyclable and they store significant amounts of carbon from the atmosphere. Wood products also require considerably less energy for processing compared to other materials and at the end of the products' life, these can be recycled and burned for the bio-energy production. Comparative studies reveal that there is virtually no waste during the manufacture of wood product.

By way of example, wood and sawmill residues can be converted into a broad range of wood-based products including pulp and paper, bio-composite materials, bio-plastics, textiles and carbon-neutral biofuels. Moreover, most wood-working manufacturing facilities use wood residues as a source of energy to run a significant portion of their operations and sometimes use it for the cogeneration of electricity avoiding the use of fossil fuels.

What efforts are being made along your supply/production chain to be environmentally sustainable?

The European Sawmill Industries are fully committed to respecting the principle and criteria defined by FOREST EUROPE on the sustainable forests management. I believe that forest resources should be used in a way that minimizes impact on the environment with clear priority given to the forest outputs that have higher added-value, such as the sawmill products that create more jobs and contribute to a better carbon balance. It is important to highlight that when sourced from sustainably-managed forests, wood represents the optimal choice as it is an environmentally-friendly material. Europe can drastically reduce CO2 emissions by increasing the carbon sink created by its forests (by optimizing their management) and by enhancing the use of sustainably produced wood products. European sawmill companies are continuously evaluating solutions and instruments to have a trusted wood sourcing supply chain.

Comparative studies reveal that there is virtually no waste during the manufacture of wood product.

To read the full interview, visit: r**evolve.media**

The press article published in occasion of the "Valve of Wood" conference

WOOD: AN ENVIRONMENTAL CHOICE!

Choosing the right building materials makes a big difference for the environment: by choosing wood, you opt for the most environmentally-friendly material

Wood represents a traditional building material that has been used for centuries when humans began building shelters, houses and boats. Timber is now recognized as being a natural and environmentally-friendly product and indeed offers many environmental benefits. Compared to other products, wood helps to increase a building's energy efficiency and minimizes the energy consumption. Using wood also helps to keep carbon out of the atmosphere, thus mitigating climate change.

Trees and wood products have the unique ability to store carbon. Forests store carbon in biomass, that is, in trunks, branches, leaves, roots and in dead wood. As trees grow, they 'inhale' carbon from the atmosphere. When trees are harvested and used as wood products, the carbon remains stored in the wood for the whole product lifetime. Studies estimated that 50% of the dry weight of wood is carbon. Wood-based products are considered an integral part of the carbon cycle of managed forest ecosystems. In sustainably-managed forests, removing wood is in balance with forest growth in the long-term, and wood removed from forests through harvesting, constitutes a replacement for the natural trees mortality that would otherwise occur eventually.

Timber in buildings and wood-based structural components, wooden furniture, or any other wood-based products continue to sequester carbon from the atmosphere for at least as long as the building stands or the wooden item is used. Moreover, when wood is used to replace energy-intensive materials, which contain non-renewable raw materials, and which generate carbon emissions during their production phase, the carbon dioxide emission reduction effect is often even greater than the carbon storage effect of the wood.

To top it off, in most cases the energy necessary for processing and transporting wood is less than the energy stored by photosynthesis in the wood. Every cubic meter of wood used as a substitute for other building materials reduces CO_2 emissions to the atmosphere by an average estimate of 1.1t (tons) CO_2. If this is added to the 0.9t of CO_2 stored in wood, each cubic meter of wood saves a total of 2t CO_2.

Less CO2? Use Wood!

The enhanced use of wood products can help Member States reduce overall carbon dioxide emissions and achieve their climate targets. Timber in construction and wood products can represent an important solution to some of the challenges of the 21st century such as sustainable urban development, "zero emissions" buildings and more sustainable consumption. In this sense, the expansion of green architecture using timber and engineered wood products can play a key role.

According to the European Commission, buildings are responsible for 40% of energy consumption and 36% of CO_2 emissions in the EU. Currently, about 35% of the EU's buildings are over 50 years old. By improving the energy efficiency of buildings, the total EU energy consumption could be reduced by 5-6% and could lower CO_2 emissions by about 5%. **Using renewable materials with low-carbon footprints and improvements of energy performance of buildings to reduce emissions provides low-cost and short-term opportunities.** The main opportunities are the storage of carbon in wood products and the potential offered by the substitution of other (energy- or carbon-intensive) materials.

> buildings are responsible for 40% of energy consumption and 36% of CO_2 emissions in the EU

Wood Sawmills

One of the most important developments in modern construction practices is the use of thermal insulation in all types of buildings. Wood and wood-based materials are by nature good insulators, as timber's cellular structure provides it with natural thermal insulation qualities that are superior to any other building material, keeping out the cold in winter and the heat in summer, and reducing energy consumption and thus lowering energy bills. Without a doubt, wooden houses easily meet thermal insulation expectations.

Wood means as well less energy 'leakage' from a home. If you want the warmth (or coolness) to remain in your home, and you want to spend less money on heating (or cooling), wood is a tremendous alternative to other materials. Compared to any other construction material, **wood is economically a super star for insulation.**

Wood and Forests

To guarantee that the use of wooden products does not negatively affect the high value of forests in terms of ecosystems, timber should always be produced according the criteria and indicators developed by **Forest Europe**: an important forum in which 46 participating countries and the European Union discuss how to protect and manage forests more sustainably. Indeed, managing forests can result in more climate benefits than just leaving forests alone. Forest management activities contribute to maximizing biomass production and forest health, in addition to minimizing soil disturbance and increasing the forest carbon storage.

Left entirely to nature, forests will achieve a climax stage at which point the forest only grows as trees fall due to age,

> One of the best ways to address climate change is to use more wood, not less. Every wood substitute – including steel, plastic and cement – requires far more energy to produce than lumber.
>
> Dr. Patrick Moore,
> co-founder of Greenpeace

wind, landslip, disease or fire. European forests and the forest-based sectors are already contributing significantly to climate change mitigation. This mitigating effect reduces EU emissions by 13%. Nevertheless, there is a potential to contribute up to an additional 9%, according to the European Forest Institute.

The competitiveness of the European forest-based industry is inextricably linked with the sustainable management and expansion of forests. All European countries have policies and practices requiring reforestation and imposing that more trees are planted than are harvested. Currently, only 65-70% of the annual increment of European forests is harvested and the forest area is constantly increasing.

Using wood products and timber means making a smart choice for tackling climate change. Using more wood from sustainable managed forests implies less fossil fuels and ensure that the carbon storage potential of forests continues to grow. **To effectively tackle climate change we must remove carbon from the atmosphere and reduce new carbon emissions into the atmosphere. Responsibly sourced wood can do both.**

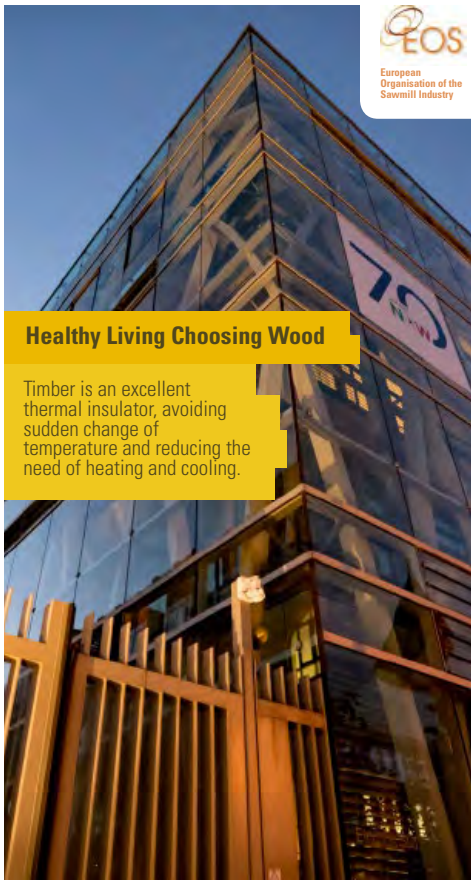
European saw mills have an annual turnover of 37 billion euros and provide over 259.000 job opportunities

EOS
EUROPEAN ORGANISATION OF THE SAWMILL INDUSTRY

www.eos-oes.eu

Created in 1958, the European Organization of the Sawmill Industry (EOS) is a Brussels-based non-profit association representing the interests of the European sawmilling sector on European and International levels. Through its member federations and associated members, EOS represents some 35,000 sawmills in 13 countries across Europe (Austria, Belgium, Croatia, Denmark, Finland, France, Germany, Latvia, Norway, Romania, Sweden, Switzerland and the United Kingdom) manufacturing sawn boards, timber frames, glulam, decking, flooring, joinery, fencing and several other wood products. Together, they represent 77% of the total European sawn wood output and a turnover of almost 37 billion euros, creating over 259,000 job opportunities annually in the EU.

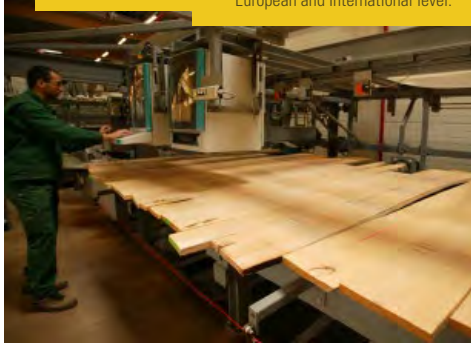
The EOS Messages displayed on the cube :



The European Sawmill Industry plays a key role in mitigating climate change and is the backbone of the bioeconomy. Solid wood products such as sawn timber are eco-friendly building materials as they are derived from a renewable source. What is more, residues from sawmill processes can be converted into a broad range of wood-based products.

Bioeconomy Starts Here

The European Organisation of the Sawmill Industry (EOS) is a Brussels-based non-profit association representing the interests of the European sawmilling sector on European and International level.



6.4 Revision of the EUTR: Amending the product scope of Regulation (EU) No 995/2010 laying down the obligations of operators who place timber and timber products on the market (EUTR)

During the 2017 2nd quarter, a public consultation on the new proposal for Amending the product scope of Regulation (EU) No 995/2010 laying down the obligations of operators who place timber and timber products on the market (EUTR) will take place.

The Regulation (EU) No 995/20101 prohibits the placing of illegally harvested timber on the EU market. For that purpose it regulates the behaviour of those who first place timber products on the EU market so called "operators" and the "traders": those further down the supply chain. The EUTR requires the operators to have a due diligence system in place to minimise the risk of illegally harvested timber entering their supply chain. This system includes a set of measures and procedures that will enable operators to assess, on the basis of information provided to them, the risk of placing illegally harvested timber on the market and to mitigate that risk. Further down the supply chain, traders are then obliged to keep records of their suppliers and customers so as to facilitate traceability.

This Regulation applies to both domestically produced and imported timber and timber products that are listed in the Annex to the EUTR according to the Combined Nomenclature (CN) codes2 (a set of numbers used to identify imported products) and description of products. At the moment, 326 CN codes are covered.

In 2016, the EU Commission published an evaluation of the effectiveness and functioning of the EUTR during its two first years of application. This evaluation was followed by a Report to the European Parliament and the Council. In this context, the Commission evaluated a possible adjustment of the product scope to address gaps and inconsistencies. Indeed, one outcome of the evaluation was that the current EUTR product scope is not optimal as not all products containing wood are included. In addition, the findings of one study on the EUTR product scope showed that 371 relevant CN codes (52%) are out of the EUTR product scope. According to the same study "*the value of out-of-scope imports rose from €43.1 billion (2013) to over €46 billion (2014). The value of in-scope imports rose slightly from €21.7 billion to €23.1 billion. By value, just 33% of products that may contain wood were covered by the EUTR, while 67% were out of scope. By volume, 86% of wood-related products are covered by the regulation*."
The incomplete coverage concerns, but is not limited to, printed books, newspapers, pictures and other products of the printing industry; manuscripts, typescripts and plans (CN 49), as well as other products such as musical instruments (CN 92), wooden coffins (CN 4421) and seats with wooden frames (CN 94), as well as a number of other products that may contain wood under a number of other CN codes.

Amending the EUTR product scope is expected to support the achievement of the objective of the Regulation, namely the fight against illegal logging and related trade as it would include timber products which are currently not subject to the EUTR requirements and as such carry the risk of being derived from illegally harvested timber. By enhancing scrutiny on supply chains and ultimately closing the EU market to illegally logged timber for additional product categories, the amended product scope of the EUTR will also contribute to the fight against forest degradation and deforestation since illegal logging is one of its drivers. It will support biodiversity protection and sustainable forest management, thus positively contributing to sustainable development.

The consultation strategy will consist of targeted and open public consultations to ensure participation of all relevant stakeholder groups (i.e. private and public sector, including NGOs) and a timely feedback to the impact assessment. This will include defining the consultation objectives and scope, stakeholder mapping and, accordingly, the consultation tools.
The launch of stakeholders consultations related to this initiative will be announced in the consultation planning that can be found at http://ec.europa.eu/yourvoice/consultations/index_en.htm

If the amending of the Regulation will be proposed with a delegated act no further legislative actions would be needed as the delegated act will be directly applicable at the Member States' level.

6.5 Timber trade flows and investments between China and six Voluntary Partnership Agreement signatory countries

Disclaimer: *The information reported in this Chapter is directly taken from the Report entitled "Timber trade flows and investments between China and six Voluntary Partnership Agreement signatory countries by Ed Pepke, Jo Van Brusselen, Yitagesu Tekle (European Forest Institute) and Dr Chen Yong (Chinese Academy of Forestry). The EOS Secretariat selected the most relevant issues, in a sawmill prospective. For this reason, this chapter do not necessarily represent neither the view of the European Forest Institute nor of the Chinese Academy of Forestry.*

In March 2016, the European Commission published a Report on "Timber trade flows and investments between China and six Voluntary Partnership Agreement signatory countries". The European Union (EU) Forest Law Enforcement, Governance and Trade (FLEGT) Asia Regional Support Programme contracted this report under the work item of Engagement in FLEGT dialogue with China, contract 03/5133/2015.

As mentioned by the writers, China has become one of the world's forest products trading and producing countries. In 2014, China's forest products imports and exports amounted to USD 99.793 billion, although the import and export market concentration dropped slightly compared to 2013.

The report examines trade flows and investments between China and six Voluntary Partnership Agreement (VPA) signatory countries, namely:

- Cameroon
- The Central African Republic (CAR)
- Ghana
- Liberia
- The Republic of the Congo (Congo)
- Indonesia

As highlighted in the Report, in a global prospective China is a net importer of roundwood commodities, the largest being the Harmonized System (HS) code 440320 for logs, poles, coniferous not elsewhere specified (nes) and HS 440399 logs, non-coniferous nes (see also Annex Figure 24). China's imports have been increasing more rapidly than world exports for all but one of the Roundwood commodities, adding to the pressure on the supply from increasing global demand. The imports of only HS 440349 logs, tropical hardwoods nes, has been increasing less rapidly than world exports. Instead, China's exports of roundwood are insignificant when compared to its imports. In particular, China's foreign timber dependency is close to 50 %, in part because of a lack of required species, poor quality and relatively expensive domestic timber. In the short term, broadleaf wood from tropical regions such as Africa has helped ease the pressure imposed by the growing domestic demand, but the Government of China has realised that such a shortage problem must be solved through their own domestic forests.

Concerning the top 10 importing Countries of Roundwood(HS4403) from VPA countries, Congo, Ghana and Cameroon are the most significant suppliers, with trade from Ghana skyrocketing from close to nothing in 2010 to just under USD 200 million in 2014. Congo is the most important source of "Logs, tropical hardwoods nes" (HS code 440349) while Ghana and Cameroon are the most important sources of "Logs, non coniferous nes" (HS code 440399).

China's log imports from Indonesia dropped dramatically between 2004 and 2014, declining from 100 000 m3 to 18 900 m3. In comparison, China's log imports from African VPA countries increased by 38.7% from around 600 000 m3 to 1.5 million m3 over the same period.
China's log imports from Africa VPA Countries increased from 26.3085 million m^3 to 51.1929 million m^3 from 2004 to 2014. The proportion of China's log imports from Africa increased from 6.28 % to 7.43 %. Though not high, Africa's growing export volume and product mix, which is dominated by tropical broadleaf wood, make it an ideal candidate for a steady supply of wood to China.

Concerning sawnwood - in a global prospective - China is a net importer for all of the sawnwood products listed under HS code 4407. The country's imports have increased more rapidly (for some commodities it has more than doubled) than the world's exports over the five-year period between 2010 and 2014 (Figure 9). The largest sawnwood commodity

(in value) is "Lumber, coniferous (softwood) 6 mm and thicker" (HS code 440710) followed by "Lumber, non-coniferous nes" (HS code 440799) and by "Lumber, oak" (440791). The Study underlines that China's import growth for sawnwood is also larger than the partner countries' export growth to the world. The most significant countries that China imported from (in 2014) were Russia, Canada and the US, each with approximately 18 % of the trade value, followed by Thailand from which China imports about 13 % (in value) of its sawnwood. Figure 10 suggests that China could increase its imports from countries like Brazil and New Zealand, the latter of which already supplies China with significant quantities of roundwood.

The Reports underlines that legality of imported timber is contingent upon the timber exporting country's administrative system. At present, there is neither a single definition of illegal logging in the world nor is there an administrative system and mechanism to coordinate timber legality. The EU made a constructive attempt towards this. In May 2003, the EU launched the FLEGT Action Plan, and is signing VPAs with partner countries. Under the VPA, a timber import license system will be used to ensure that timber products produced by partner countries are in compliance with their laws, thus preventing illegally harvested timber from entering the supply chain. Writers consider that the FLEGT-licensed Indonesian forest products will be soon accepted on the world's forest products market. As China is Indonesia's major forest products partner, imports of forest products bearing various consumer countries approved legal labels will help China to meet its need for legal forest product imports.

The full Report is available at the following link: http://www.euflegt.efi.int/publications/timber-trade-flows-and-investments-between-china-and-six-vpa-countries

From the 15th November 2016, Indonesia started shipping FLEGT-licensed products meaning that **all Indonesian exports to the EU of timber products covered by Indonesia's timber legality assurance system must be accompanied by FLEGT licences**. Products covered by the Indonesian FLEGT licensing scheme include all those for which the EU Timber Regulation (EUTR) requires due diligence. In addition to the minimum requirements of the product scope of a VPA, the Indonesian FLEGT licensing scheme also covers furniture, fuel wood, wooden tools, wooden packing material, builders' joinery and carpentry of wood, wood pulp, paper and paper products, kitchen and tableware, and other products.

The VPA also describes products that cannot be legally exported from Indonesia, such as logs and large dimension sawn timber. These products cannot be FLEGT licensed.

Products made from rattan or bamboo (non-wooden materials), or paper made from recycled material, are excluded from the VPA and the FLEGT licensing scheme because they are not covered by the timber legality assurance system.

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6.6 Wood availability figures: review and comparison of existing studies and databases

Between the months of October 2016 and January 2017, the European Organization of the Sawmill Industry (EOS), the European Panel Federation (EPF) and the European Confederation of Woodworking Industries (CEI-Bois) established an ad-hoc task force to review and compare existing studies and databases to have a clearer picture about wood availability figures.

A list of studies and databases was defined in advance of the review. During the iterative process, more studies were added, which helped define the analysis framework. The geographical scope of the task force was the EU (with the addition of Switzerland and Norway); some studies also included figures about Russia and Turkey. The list of studies and databases utilized is reported below:

- FAO & UNECE databases: http://www.fao.org/faostat/en/#data/FO
- FAO & UNECE studies, including State of Forests, Forests in ECE region, Global Forest Resources Assessment (FRA): http://www.unece.org/forests/fpm/onlinedata.html
- Eurostat & EU databases http://www.eurostat.eu
- Wood Flow study: http://www.cepi.org/system/files/public/documents/publications/forest/2012/CEPIWoodFlowsinEurope2012.pdf
- Optimised cascading use of wood commissioned by the EC: http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item_id=8906&lang=en&title=Study-on-the-Optimised-Cascading-Use-of-Wood
- RECEBIO: http://ec.europa.eu/environment/enveco/resource_efficiency/pdf/bioenergy/KH-02-16-505-EN-N%20-%20final%20report.pdf
- CLIMWOOD: https://www.econstor.eu/bitstream/10419/144794/1/863171028.pdf

The conclusions of the task force are manifold:

1. Since all studies considered and many others are using figures from databases such as UNECE/FAO ones, these databases should be the reference to define the amount of wood available. Furthermore, they have long time-series (some starting from 1961) which allows to have a dynamic picture and see the evolution over the last few decades. The most useful indicator is the “Available Wood Supply”.
2. The analysis shows that, at European level, there is and will be no shortage of wood now and in the coming years. In the first decade of this this century, it emerged that an average of around 65-70% of the net annual increment of wood supply was removed from the forest. However, this percentage is expecting to rise to more than 85% in 2050 as wood removals are expected to rise while wood supply is expected to decline, even though it is still projected to exceed demand.
3. The fact that, overall, in Europe figures do not give reason for immediate concern does not imply that at local level there may be shortages of wood availability, for certain wood species and/or certain wood types, neither it means that wood is always affordable
4. Finally, only wood directly harvested from the forest has been included in this analysis. Neither recycled, nor recovered wood have been considered to define wood availability. Other woody biomass such as landscape wood has not been taken into account either.

6.7 An assessment of the cumulative cost impact of specified EU legislation and policies on the EU forest-based industries

At the end of the 2016, the Study entitled “An assessment of the cumulative cost impact of specified EU legislation and policies on the EU forest-based industries” has been officially published by the European Commission and it is available at the following link:
http://ec.europa.eu/DocsRoom/documents/20285

The aim of the study is to identify the cumulative costs, both direct and indirect, of the most financially burdensome EU legislation and policies - grouped in 8 policy - areas that forest-based industry (F-BI) companies active in the EU28 have to comply with between the years 2005 and 2014.
The eight policy areas identified are the following:

competition, climate & energy, environment, forest-related, employment, product-related, transport, trade. In addition, an analysis of the industries' cost structures was made in relation to key international competitors namely: Brazil, China, and USA. The Study concludes that when all legislation relevant to woodworking companies is cumulated, the estimated average annual total direct cost borne by them during the period 2005-2014 approaches 4.7% of added value, representing around 1.3% of their turnover and 13.7% of the gross operating surplus. Two legislative packages clearly stand out as the main cause of legislative burden, namely the environmental and the climate and energy packages, generating respectively 41.5% and 36.3% of direct regulatory costs for woodworking sectors. Regulatory costs for the sawmill sector reach 0.6% of turnover, 2.6% of added value and 6.9% of gross operating surplus of companies, which can be broken down between legislative packages and cost categories. It should however be noted that there may be a risk of underestimating the cost figures for the sawnwood sub-sector based on the interview data only.

One more time, the EOS Secretariat expresses its gratitude to all Members who have been actively involved and contributed to providing data and information to the EU Commission and to the Consultants in order to obtain a clear picture of the European Sawmill Industry.
Reported below, please find a short synthesis of the key issues that are of major concern for the European sawmill industry.

Cascading use of wood
• The woodworking sector is particularly concerned with the enshrinement of the cascading principle in a detailed legislation and with the revision of the Renewable Energy Directive that may lead to an increase is wood price (i.e. raw material). • The European Commission encourages the multiple use of bio-based materials, such as wood. To develop cascade thinking further, the Commission has recently carried out a study on cascading, primarily focused on wood. Recognising that resource and market conditions vary between and within member states, especially as regards facilities for the collection, sorting and redistribution of secondary raw materials, particularly bulk ones such as wood, the Commission will not be legislating prescriptively on cascading. Guidance for cascading will be done by the EU Expert Group on Forest-based Industries and Sectorally Related Issues. • Nonetheless, concern persists amongst some actors in the EU forest-based sector as a whole that the cascading principle will be enshrined in detailed legislation. For example, the sawmill industry association, as well as a number of companies interviewed, expressed concerns about the consequences regarding the promotion of the cascading use of wood, as all their by-products are dedicated to specific secondary wood users, depending on specific market demands. Companies from the sawmilling sector are willing to sell their products and by-products with their respective best values, whether it is for materials or energy, to various customers across several sectors. • As reported in the summary table, the application of the cascading principle will imply indirect cost and loss of market share.
Renewable Energy
• If from one side the 20% target for renewable energies aims at securing energy supply in the EU and reduces dependency on imports from abroad, from the other, the amount of wood for fuel use, due to the increase in the total wood consumption volume34, would be equivalent to today's total wood harvest in the EU • As a consequence, Europe is likely to face a conflict of interest due to the lack of sufficient raw material supply to be used for both forest-based industries and renewable energy use. A new comprehensive and well-balanced approach is needed, e.g. the raw materials for wood pellets are various by-products of sawmill and wood working industries. Consequently, mobilizing the existing forest resources widely will enhance the cascade [use of wood] concept". • Ultimately, the above-mentioned incentives for renewable energies have de facto created an otherwise inexistent demand for renewable energies. Two mechanisms by which these incentives work are the feed-in tariff and the feed-in premium that applies to electricity generation: the feed-in tariff is a long-term minimum price to generate renewable energies, especially electricity, while the feed-in tariff is a premium added on the top of the market price to consumers. Only recently (2012-2013) these premiums have been reduced by Member States due to the economic downturn.

- Renewable energy levies are charged based on the consumption of electricity. There are however significant differences across countries and also between sub-sectors in the forest-based industries as some Member States exempt some energy-intensive companies from the renewable electricity support levies for competitiveness reasons. In addition, some companies produce their own renewable energy and may receive subsidies for this. In other cases, companies producing their own energy from renewable sources may pay certification fees that are counted as a cost.
- A quantitative estimate of the effect of the competition with bioenergy is hardly possible. The calculation would require an estimation of the equivalent price of the market distortion caused by the subsidies in the EU28 countries under analysis, which is outside of the scope of this report.

Sustainable Bioenergy Policy

- A Sustainable Bioenergy Policy for the period after 2020, currently under preparation, is welcomed by the sawmilling sector as an instrument to address climate change, security of energy supply and to reach significant greenhouse gas savings by generating bio-energy from sustainable sources. While the requirements for sustainability schemes can be adopted by larger energy producers of 1 MW thermal or 1 MW electrical capacity or above, they could lead to additional administrative burden on small-scale producers. It is still not determined which, if any such binding criteria will be applicable and, if so, on which actors of the sector.

Circular Economy

- Other potential regulations linked with the Circular Economy Package, such as the Eco-design and the Extended Producer Responsibility, could increase the direct production costs, according to sawmillers businesses.

EU Timber Regulation

- It should be noted that for the forest-related legislation, in particular the application of the EU Timber Regulation, sawmill companies expressed that is was difficult to estimate the impact of the regulation in terms of costs. In line with previous findings, it has furthermore been noted that large companies may have found it easier to adopt new requirements (e.g. establishing a due diligence system) in contrast to small and medium-sized companies that have comparatively lower turnover to cover additional costs.

Social Issues

- In other parts of the woodworking sub-sector, such as sawmills, planning mills or panel mills, **wood dust** may be a problem. Such issues require a company to invest in measures to solve these types of problems, which may include a risk assessment and improved (or modified) machinery and methods as part of the manufacturing process.

China

- The contribution of the forest-based industries to GDP in China has increased by 11 times since 2000 to 3.9 trillion RMB (at current foreign exchange rates, equivalent to €538 billion) in 2012 (FAO-FRA2015, 2015).
- China is a big player in the global markets, competing directly with EU-based F-BI on the input side on the wood raw material markets, and on the output side with wood-based products destined for the EU and other markets. China also exports many innovative wood-substituting products (e.g. based on bamboo and rattan). China is the world leading producer and exporter of manufactured wood products, including wood-based panels, wooden furniture, plywood, wooden flooring, musical instruments and a variety of other wooden building products and handicrafts.
- Moreover, being a country with very few forestry resources despite being the fastest-growing paper industry, China imports a significant part of its raw materials at world prices. In order **to reduce the dependency on imported raw materials, the Chinese government provides subsidies and loans to support the industry's expansion**.

Market overview/Trade

- Looking at forest resources, Brazil has the biggest forest area and correspondingly also the biggest growing stock. The EU28 while having the smallest area of forest, has the highest net annual increment per hectare and the highest wood removals per annum. Over the past 15 years, China has increased its forest area annually about as much as Brazil has seen its forest area reduced. Brazil has managed to significantly improve wood productivity in forest plantations, thereby reducing its dependency of wood from natural forests.

- The US has by far the highest production of pulp; however, it consumes nearly as much as it produces. China consumes nearly twice as much it produces, taking up surplus production from Brazil and the EU. The biggest surplus production is by Brazil.
- The biggest surplus of paper and paperboard production (i.e. the fraction that is left from apparent consumption) is by the EU28, whereas Brazil, China and US have a production surplus from less than a million tons to about 2 million tons.
- The EU28 is by far the biggest producer of sawnwood, also with the biggest apparent surplus. China and also US rely on imports to fulfil domestic demand.
- The EU28 is the biggest producer and consumer of OSB panels. However, China outperforms the EU28, US and Brazil in the production and consumption of MDF, plywood and veneer.
- Irrespective of its trade defence instruments, the EU has common tariffs for all forest products (Regulation 2658/87, 2015/1754). For most forest products, the tariff level is zero, with the exception of some manufactured wooden and furniture goods. However, this also relates to tariff barriers and duties that applies to exports and protectionist subsidies for rival goods from the non-EU forest-based industries, e.g. export duties on roundwood were raised from 2.5 to 10 € per cubic meter from 2005 to 2010. This may create an uneven playing field that restricts forest products trade, and decrease the forest-based sectors competitiveness. For example, some sub-sectors face both duties on imported raw materials and semi-finished products as fixed by the EU, and tariffs on exports of finished products as fixed by foreign countries (European Commission, 2013).

6.8 The European Trade policy

6.8.1 Free Trade Agreement between the European Union and Japan

The European Organization of the Sawmill Industry (EOS) has been closely monitoring the FTA negotiations between the EU and Japan. Officially launched on 25 March 2013, negotiations were expected to be concluded at the end of 2016. However, talks proved to be more complicated than expected and they are still ongoing. There is a political willingness to conclude the agreement as soon as possible in 2017.

The trade relationship of the EU with Japan is extremely important:

- Japan is the EU's second biggest trading partner in Asia after China.
- Together the EU and Japan account for more than a third of the world's GDP.
- Japan remains a major trade partner for the EU and Europe is a very important market for Japan. Japan is also a major investor in the EU.
- Imports from Japan to the EU are dominated by machinery, electrical machinery, motor vehicles, optical and medical instruments, and chemicals.
- EU exports to Japan are dominated by motor vehicles, machinery, pharmaceuticals, optical and medical instruments, and electrical machinery

Japan is an extremely relevant partner for the European wood-working industry. The European Union in 2015 exported 2.2 million tons of wood-based products to Japan. Sawnwood accounted for almost three quarters of wood-based products exported to Japan.

EOS has participated in several meetings organized by the European Commission with the EU delegation which is negotiating the FTA with Japan. During this meeting, EOS has stressed the fact that there are still many tariff barriers and non-tariff barriers (which will be discussed outside the negotiations of the FTA) which are negatively impacting on the EOS Members Countries' exports to Japan. The strategic importance of Japan as a trading partner was reiterated. All products indicated by EOS have been prioritized in the negotiations.

EOS has made it clear that it is opposed to any safeguard clauses or quotas, which would cause "front-loading" by EU exporters and then a scramble by importers to buy duty-free materials. The details of the negotiations are kept confidential; however, as a result of the agreement, tariffs which are presently applied to EU products entering Japan (for instance Lumber - Harmonized System Code beginning with 440710 -: 4.8%, Glue Lam Timber and edge

glued boards - HS Code beginning with 441890 -: 3.9%, Edge glued panels 6%) will be progressively phased out, though, at present, it is still being discussed how many years it will take for tariffs to be completely phased out. In general, at a minimum, European countries should not have conditions worse than those agreed in the Trans-Pacific Partnership (TTP).

Regarding non-tariff barriers, the EU and Japan are working together to ensure convergence of their standards on adhesives for cross laminated timber (CLT) with a view to facilitating the use of PUR. The EU and Japan are expected also to work together towards the adoption of an international ISO standard that would set up common requirements and specifications for structural timber products.

Discussion on cooperation in the area of CLT has already been taking place among experts of relevant authorities. The Japanese Ministry of Agriculture, Forestry and Fisheries has already approved three adhesives applied by the EU industry in September 2015. The EU and Japan are now continuing dialogue relating to this issue independently outside the negotiations of the Free Trade Area.

In several occasions, the European Sawmills Organisation (EOS) has invited the European Commission to take into consideration 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 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.

6.8.2 The Brexit case

On the 23rd of June 2016 the British voted in a referendum to leave the European Union. While this decision will surely have far-reaching geopolitical and economic consequences, it is premature to draw exhaustive conclusions about the impact of Brexit on Europe.

6.8.2.1 Brexit: the possible impact on the sawmill and wood working industries

On 19 July, the EOS Secretariat elaborated some possible implications of Brexit with a special focus on forestry and the wood working industries.

Article 50 of the Lisbon Treaty (TEU) sets out the formal process for leaving the EU, which is not triggered by the referendum, but when the UK formally notifies the European Council of its intention to leave. Once the notification takes place, negotiators have two years to conclude new arrangements. The new UK Prime Minister Theresa May stated that she will not to trigger article 50 before the end of 2016 consequently Brexit may actually take place at the beginning of 2019. On 28 June, the European Parliament in its resolution on the decision to leave the EU resulting from the UK referendum, warned "that in order to prevent damaging uncertainty for everyone and to protect the Union's integrity, the notification stipulated in Article 50 TEU must take place as soon as possible and recalled that any

new relationship between the UK and the EU may not be agreed before the conclusion of the withdrawal agreement".

The **EOS Member, CONFOR**, has pledged to continue to provide strong leadership for the forestry and timber sector after Brexit - and to work with all levels of UK government to deliver the best possible outcome for the industry industries. For these reasons CONFOR has issued a detailed paper on the implications of Brexit for its members; the document examines the key issues which are likely to impact most on the sector as the UK negotiates its exit from the European Union. These are grouped under three main headings:

- **Legislative and regulatory affairs**, including: Environmental Impact Assessments; Birds and Habitats Directive; plant health and quality; employment and health and safety law.
- **Public funding**, including: European Agricultural Fund for Rural Development; European Regional Development Fund and European Social Fund; EU Programmes; state aid. Following the Referendum vote, the future of existing Rural Development Schemes and contracts issued through them is currently an issue of major concern for the UK forestry sector.
- **Trade & markets**, including: goods; labour; timber; renewable energy; land.

Likewise, the British Woodworking Federation[1] outlined 4 possible scenarios as a result of the Brexit negotiations.

- **UK to stay in the European Economic Area**. Main features: freedom of movement of labour, no tariffs, but added bureaucracy from border control and VAT. This is the model used by Norway, Liechtenstein, and Iceland.
- **UK to stay only in the European Free Trade Area**. Main features: similar to the EEA but more limited in scope. It is the model used by Switzerland, who has rejected the EU Policy on Freedom and movement of labour.
- **A Free Trade Agreement**. Main Features: this depends on the outcome of the contingent negotiation. The aim of an FTA would of course be to have a tariff-free agreement and some business freedom in Europe.
- **No agreement at all**. Main features: WTO rules would apply and both tariffs (individually negotiated) and customs borders would be re-established.

Such incertitude will surely contribute to an already worsening economic picture across Europe. In its latest issue (1st-8th July), *The Economist* predicted that the UK GDP would grow by just 0.8% in 2016 (in June the outlook was +2.0%), while in the EU a 1.2% growth was forecast (June: +1.5%). Some economists are not ruling out a fully-fledged recession in the UK. **Immediately after the outcome of the referendum became apparent the British Pound underwent a remarkable devaluation against the US Dollar and the Euro**. One Euro was traded at 1.31 Pound on the 23rd of June, while on the 15th of July at just 1.20 on the 15th of July, having reached 1.16 Pound on the 5th of July. A weaker pound will make export-oriented British manufacturing sectors more competitive but importers will probably suffer. Brexit could also have the effect of weakening the euro, at least vis-à-vis the dollar or the Asian currencies, which would make European exporters more competitive. On the other hand, the uncertain political and economic scenario will surely have negative consequences for European industries.

Having a closer look at the impact of Brexit on the forest-based sector, a recent paper[2] made, inter alia, the following points:

- Being the fourth largest importer of timber in the world (after USA, China, Japan), the UK has often had a different perspective to most European countries with respect to forestry, especially the largest exporters. The UK was a key supporter of the EU timber regulation and **a Brexit would significantly diminish the importer perspective in the European arena**, leaving the Netherlands as the largest net importer in the European Union
- **With a Brexit, the focus on trade and market based mechanism in forest and forest related policy might get weaker**. The UK on global forest policy related issues tends to uphold the free trade ideal. As regards EU environmental and climate policies, the UK position has been frequently marked by the idea of economic efficiency. "With the UK exiting the EU, this focus on market based mechanisms is seen as losing importance compared to more hierarchical approaches, e.g. related to directives and regulations".

Regarding the economic impact on the wood working industries, in the medium term a lot will obviously depend on the kind of agreement which will be negotiated between the UK and the EU. Keeping tariffs at low level or possibly at 0% is in the interest of both parties. **In the short term, it is quite safe to say that**

1 The article mentioned is retrievable here: http://www.bwf.org.uk/news/bwf_pr/british-woodworking-looking-for-the-brexit

2 The paper mentioned is retrievable here: http://ac.els-cdn.com/S1389934116301241/1-s2.0-S1389934116301241-main.pdf?_tid=0a2bfe56-4a70-11e6-82d9-00000aab0f6c&acdnat=1468575754_661a8ad90545b6fa8abbfc1863d30b45

a weakening of the pound will be felt by exporters. For instance, Sweden is the largest timber exporter to the UK: according to Skogs Industrierna, the Swedish Forests Federation, in 2015 shipments to the UK reached 2.7 million m^3, which represents more than one fifth of total Sweden exports. Other notable European exporters of softwood are Latvia (802,000 m^3), Finland (621,000), and Germany (567,000)[3]. Conversely, the UK exports of sawn wood will become cheaper – though the quantity of sawn wood exported by the UK is relatively small (180,000 m^3). **The British consumption is expected to be impacted not only by the weaker pound but also by low consumer confidence due to negative economic prospects**.

6.8.2.2 Brexit: Article 50 has been triggered.

On 29 March 2017, the British Prime Minister Theresa May started the official procedure for withdrawing from the European Union invoking Article 50 of the Lisbon Treaty, starting what it is considered a "*tortuous two-year divorce*" littered with pitfalls for both sides. In addition, in accordance with the same Article 50(2) as applied by Article 106a of the Treaty Establishing the European Atomic Energy Community, Mrs May notified the European Council of the United Kingdom's intention to withdraw from the European Atomic Energy Community.

In the letter that the Prime Minister addressed to the President of the European Council, Donald Tusk, it was clearly stated that the people of the United Kingdom voted to leave the European Union, but this decision was no rejection of the values shared with the Europeans.

Mrs May stated as well that the United Kingdom and the European Union should work towards securing a comprehensive partnership agreement. In particular, the British Prime Minister stressed the need for **a bold and ambitious Free Trade Agreement between the United Kingdom and the European Union**. "This should be of greater scope and ambition than any such agreement before it so that it covers sectors crucial to our linked economies such as financial services and network industries".

What happens now

The withdrawal agreement will be negotiated in accordance with Article 218 (3) of the Treaty on the Functioning of the European Union and it must be completed within two years from the moment Article 50 is triggered. For this reason, on 29 April 2017, an extraordinary European Council will be convened to adopt by consensus a set of guidelines concerning the withdrawal of the United Kingdom from the European Union. These guidelines will define the overall principles that the EU will pursue during the negotiations. After the adoption of the guidelines, the Commission will present to the Council its recommendation to open the negotiations. This will be agreed by the College of Commissioners, 4 days after the meeting of the European Council.

The Council will then need to authorise the start of the negotiations by adopting a set of negotiating directives adopted by strong qualified majority (20 Member States representing 65% of the population of the EU27). Once these directives are adopted, the Union negotiator, as designated by the Council, is mandated to begin negotiations with the United Kingdom. At the end of the negotiation period, the Union negotiator will present an agreement proposal to the Council and the European Parliament, taking into account the framework of the future relationship of the UK with the EU. The European Parliament must give its consent, by a vote of simple majority, including the British Members of the European Parliament. The Council will conclude the agreement, by a vote of strong qualified majority. The UK must also ratify the agreement according to its own constitutional arrangements.

The European Parliament

On 29 March, the Conference of Presidents of the EU Parliament endorsed a motion for a resolution drawn up by the leaders of four political groups and the Constitutional Affairs Committee, in which they set out their conditions for a final approval by the European Parliament of any withdrawal agreement with the United Kingdom.

The motion already highlights some key principles:

- **Continued obligations**. The UK must continue to both enjoy all its rights and respect all its obligations under the EU Treaty until it leaves, including financial commitments under the current EU long-term budget, even if those go beyond the withdrawal date.
- **Sincere cooperation**. It would be against EU law for the UK to begin negotiations on possible trade agreements with third countries before it has left the EU.
- **No better status outside the EU than inside**. The benefits of being a member of the EU cannot be the same for a country which leaves the EU. The future relationship

3 Data referred is taken from FAOstat and the EOS Annual Report

between the EU and the UK could, however, be an association agreement.

- **Transitional arrangements**. The talks can start on possible transitional arrangements based on plans for the future relationship between the EU and the UK, but only if and when good progress has been made towards the withdrawal agreement. A future relationship agreement can only be concluded once the UK has actually left the EU and a transitional arrangement may not last longer than three years.

Points of views on the economic consequences

Britain would face a "*Pandora's box of economic consequences. The UK would face tariffs on 90% of its EU exports by value and a raft of new regulatory hurdles. Let's remember these barriers would hurt firms on both sides of the Channel*" if UK crashed out of the European Union without a new trade deal in place, according to the **President of the Confederation of British Industry**.

Stuart Goodall, **EOS Member Confor**'s Chief Executive considers that in the UK demand for timber is very much dependent on the general economic trends, so it is likely that this will continue: if economy will do well, UK timber demand is expected to grow. Instead, if Brexit affects the whole economy that will affect the demand for timber, too. In particular, if Brexit affected housebuilding it would affect timber demand. Over the last few years, the British government has built as many buildings as possible to counter the housing shortage without focusing on the material. It is expected that in the next few years building with wood will gain traction due to the advantages connected to a lower carbon footprint. At present, less than 25% of UK buildings are timber frame with big regional differences: in Scotland 77% of buildings are timber frame while in the UK only 16%. Though brick may be seen as culturally English there is hope that this will change. Increasing the market share built of timber could have a much bigger impact on UK timber demand. Currencies movements affect the price of imported goods: If Brexit kept sterling low or caused it to fall further, it could make it more expensive to import – particularly softwood.

Kerstin Canby, **Director of the Forest Trade and Finance program at Forest Trend and Jade Saunders Senior Policy Analyst at Forest Trends**: "*A weakened British Pound coupled with a UK-wide recession could reduce the demand for all goods, but it's difficult to predict how Brexit will affect the demand specifically for wood imports. It is safe to say that the impacts of a devalued pound are already being felt by exporters of forest products to the UK.*" Forest Trend estimates possible shift in trends in relation to the furniture market. Once UK will leave the single market, it is likely to import less from EU furniture-manufacturing such as Poland and Romania – opening then the door for non-EU manufacturers. Nevertheless, prior any predictions, it should be noted that the UK aim of negotiating a free trade agreement with the EU — as well as a Customs Agreement. Forest Trend does not foresee any Brexit impact on the capacity of forest owners and wood producers in the remaining EU27 to produce and export wood.

6.8.3 The EU-Canada comprehensive economic and trade agreement

The Comprehensive Economic and Trade Agreement (CETA) is an international treaty between the European Union and Canada.

CETA represents the first trade agreement between the EU and one of the major world economies. According to the European Commission it is also the most far-reaching bilateral trade agreement negotiated to date. The deal addresses a wide range of issues at the Canadian federal and provincial level that affect European exports of goods and services to Canada. The agreement is expected also to make it easier to invest and to create a more predictable business environment, facilitating the access to the Canadian market for EU exporters and helping investors do business in Canada. It will make it easier for European stakeholders to sell goods and provide services on the other side of the Atlantic and will help secure jobs in Europe. **Except for a few sensitive agricultural products, the agreement would remove practically all tariffs on goods exchanged between the two partners**.

On July 5th, the European Commission announced that the CETA with Canada needs to be ratified by the European national parliaments and not only by the European Parliament and European Council alone – according to *The Economist* this decision appears to reverse the stance

earlier adopted by Commission's president Juncker. The Commission, however, stressed that "to allow for a swift signature and provisional application, so that the expected benefits are reaped without unnecessary delay, the Commission has decided to propose CETA as 'mixed' agreement". With this step, the Commission makes its contribution for the deal to be signed during the next EU-Canada Summit, in October. This means that after receiving the green light from the Council and the consent of the European Parliament **it will be possible to provisionally apply the agreement, but the deal will take permanent effect only post the ratification of the EU Member Countries National Parliaments**. According to the Commission, "the objective of CETA is to increase bilateral trade and investment flows and contribute to growth in times of economic uncertainty". A comprehensive trade and investment agreement with Canada would overcome the current disadvantage experienced by EU enterprises on the Canadian markets vis-à-vis US competitors, which benefit from the North American Free Trade Agreement (NAFTA). At present Canada has a share of 1.8% of the EU foreign trade. **Regarding forest products, the agreement, once it takes effect, will eliminate existing tariffs on all forest products. As a result of the CETA, the Canadian Government expects a 3.7% increase (from 88 to 91 million $) of exports of forestry products to Europe and a 1.5% increase (from 6 to 7 million $) of imports**[4].

By value, Canada is the world's leading exporter of softwood lumber, newsprint and wood pulp and the fifth-largest exporter of wood panels. This world-class sector represents a significant component of the Canadian economy and contributed $19.9 billion to Canada's GDP in 2013. The sector employed some 216,500 Canadians, most of them in jobs that tend to be highly skilled.

Most of Canada's wood is turned into value-added products that sell all over the world. Canada considers that the CETA agreement will open up new markets for value-added products like prefabricated buildings, wood veneers and plywood. As a result of increased demand for these products, and given the multiple value-added steps throughout the production process, benefits will be felt throughout the entire sector.

4 http://www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/eu-ue/initialea-ceta-aecg-eeinitiale.aspx?lang=eng

Mr David Lindsay, President and CEO, Forest Products Association of Canada has stated "*We welcome a Canada-EU trade agreement. It will see the elimination of a quota and tariff on Canadian plywood and will help the Canadian industry secure access to key EU markets for its other product lines. As part of its Vision 2020 initiative, the forest products industry has a goal to increase its revenues by $20 billion by 2020 through new markets and new innovations. The government's focus on regions that can provide opportunity for the industry's traditional and future products is important to achieving our goal and to supporting the more than 230,000 Canadians the industry directly employs cross the country". Mr Bruce St. John, Vice President, Lumber Sales and Marketing, Western Forest Products commented "A trade agreement with the EU will further diversify markets and strengthen relationships for coastal B.C.'s forest industry. Market diversity and strong global relationships promote business stability, which means secure jobs and reliable economic contributions from the forest sector*".

The signatory parties stressed the mutual importance of sustainable forest management. Article 24.10 of CETA states that:

1. ***The Parties recognise the importance of the conservation and sustainable management of forests for providing environmental functions and economic and social opportunities for present and future generations, and of market access for forest products harvested in accordance with the law of the country of harvest and from sustainably managed forests.***

2. *To this end, and in a manner consistent with their international obligations, the Parties undertake to:*

   (a) ***encourage trade in forest products*** *from sustainably managed forests and harvested in accordance with the law of the country of harvest;*

   (b) *exchange information, and if appropriate, cooperate on initiatives to promote sustainable forest management, including initiatives designed to combat illegal logging and related trade;*

   (c) *promote the effective use of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, done at Washington on 3 March 1973, with regard to timber species considered at risk; and*

(d) cooperate, where appropriate, in international fora that deal with the conservation and sustainable management of forests.

3. *The Parties shall discuss the subjects referred to in paragraph 2, in the Committee on Trade and Sustainable Development or in the **Bilateral Dialogue on Forest Products** referred to in Chapter Twenty-Five (Bilateral Dialogues and Cooperation), in accordance with their respective spheres of competence.*

The **bilateral dialogue** is a regular update of changes in the respective laws that the parties shall maintain to facilitate trade. Article 25.3 specifically states that:

1. *The Parties agree that bilateral dialogue, cooperation and exchange of information and views on relevant laws, regulations, policies and issues of importance to the production, trade, and consumption of forest products are of mutual interest. The Parties agree to carry out this dialogue, cooperation and exchange in the Bilateral Dialogue on Forest Products, including:*

(a) the development, adoption and implementation of relevant laws, regulations, policies and standards, and testing, certification and accreditation requirements and their potential impact on trade in forest products between the Parties;

(b) initiatives of the Parties related to the sustainable management of forests and forest governance;

(c) mechanisms to assure the legal or sustainable origin of forest products;

(d) access for forest products to the Parties or other markets;

(e) perspectives on multilateral and plurilateral organisations and processes in which they participate, which seek to promote sustainable forest management or combat illegal logging;

(f) issues referred to in Article 24.10 (Trade in forest products);

and (g) any other issue related to forest products as agreed upon by the Parties.

2. *The Bilateral Dialogue on Forest Products shall meet within the first year of the entry into force of this Agreement;*

It is worth to emphasize that some reservations for existing measures and liberalisation commitments have been agreed by the signatory parties.

Below the list of the reservations:

- In British Columbia, all timber harvested from provincial land must be either used in the Province or manufactured within the Province into other goods. However, the Province may authorise an exemption to this requirement if the timber is surplus to the requirements of processing facilities in the Province, if it cannot be processed economically near the harvesting area and cannot be transported economically to another facility in the Province, or if an exemption would prevent waste or improve the utilisation of the wood.

- In British Columbia, the granting of a community salvage licence is limited to specific groups, notably societies and cooperative associations, for purposes such as providing social and economic benefits to British Columbia, contributing to government revenues, providing opportunities for achieving a range of community objectives, including employment and other social, environmental and economic benefits, encouraging cooperation within the community and among stakeholders, providing for the use of qualifying timber, and other factors that the Minister or a person authorised by the Minister specifies in the invitation or advertising.

- In Manitoba, timber cutting rights must be granted in a way that the Minister believes secures the maximum benefit for Manitoba's forestry industry. Manitoba residents or Canadian citizens may be given preference if such grants are made or permits or licences are issued.

- In New Brunswick, subject to certain exceptions every licence or permit authorising the cutting of crown timber shall be granted on condition that all timber cut thereunder must be processed in New Brunswick into lumber, pulp or other wood products.

- Yukon reserves the right to adopt or maintain a measure limiting market access in agricultural land, forest resources and in activities related to forestry and logging products,

with the exception of measures imposing limitations on the participation of foreign capital in terms of a maximum percentage limit on foreign shareholding or the total value of individual or aggregate foreign investment.

- In Québec, all timber harvested in the domain of the State, including biomass volumes, must be completely processed in Québec. However, the Government may, on the conditions it determines, authorise the shipment outside Québec of incompletely processed timber from the domain of the State if it appears to be contrary to the public interest to do otherwise. The Minister may take measures for the development of lands or forest resources in the domain of the State that are under his or her authority in order to encourage regional development or implement any other related policy.

- Moreover, Québec reserves the right to adopt or maintain a measure limiting market access in the forest sector, notably measures related to the forest development, the harvesting of forest resources and the products derived from it (including biomass and non-timber), with the exception of measures imposing limitations on the participation of foreign capital in terms of a maximum percentage limit on foreign shareholding or the total value of individual or aggregate foreign investment. Québec reserves the right to adopt or maintain a measure limiting market access in the marketing or processing of forest resources and the products derived from it as well as any measure limiting market access in the supply of wood processing plants, with the exception of measures imposing limitations on the participation of foreign capital in terms of a maximum percentage limit on foreign shareholding or the total value of individual or aggregate foreign investment. These measures include, imposing public interest tests and taking into account socio-economic factors.

On 30 October 2016, the EU and Canada signed the trade agreement and on 15 February 2017 the European Parliament gave its consent concluding the ratification process at the EU level. This paves the way for CETA to enter into force provisionally, once Canada completes its ratification procedures. In line with EU precedents, provisional application of this trade agreement is meant to allow a meaningful application of its substance. CETA will be fully ratified once all parliaments in the Member States will approve the deal according to their respective domestic constitutional requirements.

At the same time, on October 2016 the Council decided that several provisions are excluded from the provisional application. They concern mainly the following areas:

1) Investment protection
2) Investment market access with regards to portfolio investment
3) The Investment Court System

With regards to trade and sustainable development, labour, and environment, the Council decision includes wording that allows for provisional application of those chapters respecting the allocation of competences between the Union and the Member States.

Mixed agreements will enter into force only once each individual EU country has approved it. Each country's approval procedures may take several years, so in the meantime EU governments can decide in the EU Council to provisionally apply the agreement ('provisional application'). The Provisional application ends after all EU Members notify the Council that they have completed their internal ratification procedures. Only then can CETA fully enter into force.

Copy of the CETA agreement is available here:
http://trade.ec.europa.eu/doclib/docs/2016/february/tradoc_154329.pdf

6.8.4 Meeting with the Delegation from Belarus.

On 27 March the EOS Secretariat hosted a small Delegation from Belarus.

The meeting took place in the facilities of the EOS office and it was attended by the following participants: Mr Valery Bushyla, Chairman of the Republic of Belarus Association of furniture and woodworking enterprises, Mr Sergey Zhuk, CEO of the Company ViLARIO, Mr Aleksey Molchanov, Deputy Director for construction in ASNOVA, Newspaper Plant and Mr Aleh Suhih, Director of the Belarusian Forestry.

Mr Kirill Petrovsky, Commercial Counsellor of the Mission of Belarus to the EU and Mr Pavel Korotkevich from the Mission economic division were both present at this meeting.

In the picture, one moment of the round table discussion during the Meeting with the Delegation from Belarus.

Moreover, the EOS Secretariat invited Mr Antonicoli, Secretary General of CEI-Bois and Mr Bernard Lombard, Industrial Policy Director of CEPI, the Confederation of European Paper Industries to take part in this meeting. EFIC, the European Furniture Industries Confederation and EPF, the European Wood-based panel Federation, was not available on 27 March.

The meeting was organised in order to exchange information on the current activities of the European Organisations and on the European timber market and establish the first step for a future joint collaboration. During the meeting it was highlighted that some National standards on wooden pre-fabricated houses are actually not conform/compatible with the Belarus standards.

Overview of the Belarus trade with the EU:

COUNTRY	Sawn Softwood		
	2014	2015	2016
BELGIUM	57.603	50.555	41.823
CZECH REPUBLIC	1.663	49.337	27.073
GERMANY	248.873	323.016	432.900
ESTONIA	29.036	35.732	48.375
FRANCE	41.187	28.274	8.715
HUNGARY	1.939	7.606	17.942
ITALY	7.371	15.863	19.311
LITHUANIA	157.387	189.596	262.375
LATVIA	121.002	126.088	233.582
NETHERLANDS	69.716	92.528	128.684
POLAND	30.743	67.828	102.581
ROMANIA	2.164	701	1.877
EU28	772.994	993.247	1.334.712

COUNTRY	Sawn Hardwood		
	2014	2015	2016
BELGIUM	8.007	11.406	8.665
CZECH REPUBLIC		195	417
GERMANY	50.669	78.325	54.906
ESTONIA	2.884	7.413	5.794
FRANCE	40		
HUNGARY		172	50
ITALY	226	120	255
LITHUANIA	8.689	12.628	12.720
LATVIA	1.184	4.197	3.097
NETHERLANDS	3.283	4.027	3.990
POLAND	1.760	7.228	8.469
ROMANIA			1.161
EU28	77.127	125.916	99.715

As follow-up of this meeting and as positive result of this first exchange of views, Mr Petrovsky has kindly expressed his interest in inviting the EOS Board Members and/or EOS Companies in participating in a mission to Belarus (possibly in May/June 2017), giving to EOS the opportunity to meet companies and/or factories of major interests.

According to the preliminary draft plan, the mission to Belarus will be 2 days long (excluding the travelling) due to the distances from Minsk to the companies, moreover in the morning of the first day of the mission, the EOS Secretariat together with the Mission of Belarus to the EU would like to organise a meeting with the Delegation of the European Union to Belarus in order to give an official European added value to this visit.

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Forestry contractors: greatest asset for sustainable and qualitative wood

For a sawmill, to get the right raw material at the right time requires the use of the right providers. Total fellings in EU-28 forests were 522,3 million cubic meter by 2010. More than two third is harvested by private forestry contractors. Moreover in addition to these activities, they provide a wide range of service to their customers: silviculture, wood harvesting and energy wood delivery services to wood-based industry, cooperatives and private forest owners, bioenergy industry, local authorities and public institutions.

Forestry contracting companies are mostly micro, small or medium size companies and many of them family owned companies. Typical forestry contracting company employs 1-10 workers, in some specialized and seasonal work they might need tens of workers temporarily for shorter periods. They are now about 50,000 in numbers and 100,000 active people, present at all stages of the development of forests.

Forestry works are exercised by entrepreneurs in strict compliance with safety rules of the employees and protection of the environment. Forestry contractors implement on the ground the principles of sustainable management of forests. At the same time, forest certifications (PEFC or other schemes) grow continually in the sector. Forestry contractors ensure the provision of quality timber production, a simplified management of the plots, the qualitative stand improvement and growth of the most beautiful trees. Some entrepreneurs are diversifying their activities to forest management, supply of wood energy, selling firewood, logistics and transportation.

The European Confederation of Agricultural, Rural and Forestry Contractors, established in 1961, represents about 100,000 companies and nearly 500,000 workers. It aims to represent the interests of land-based rural contractors in Europe. In relation to forestry contractors, CEETTAR is regularly bringing together national advisers from Belgium, Bulgaria, Denmark, Finland, France, Germany, Latvia, Portugal, Spain, Sweden, The Netherlands and United Kingdom. The debates allow the organisation to advocate the interest of forestry contractors towards EU institutions and other stakeholders in many topics such as forest management, illegal work, big data, forest certification or wood measurement…

CEETTAR expertise is recognised at EU level. Our organisation is notably a member of the civil dialogue groups on CAP, Rural Development and Forestry & Cork, of the Expert group on Forest-based Industries and Sectorally Related Issues, of the working Group on Agricultural Tractors and Machinery Directive Working Group. In addition, CEETTAR has an observer seat at international level with PEFC International and ForestEurope.

7. High Level Conferences co-organized by EOS

7.1 The International Softwood Conference, Paris 2017

On the 13th and 14th October 2016 the 64th edition of the International Softwood Conference was held in the facilities of the Paris Marriott Rive Gauche Hotel & Conference Center. This year's conference had one of the highest attendance ever - almost 200 participants -, and it was hosted by the French Timber Trade Association (Le Commerce du Bois - LCB), the French National Organization of Sawmills (Fédération Nationale du Bois - FNB), and, as usual, by the European Organization of the Sawmill Industries (EOS) and the European Timber Trade Federation (ETTF).

MAIN ELEMENTS: The Conference opened with the traditional market analyses provided by authoritative experts in the sector. It was emphasized that 2016 is set to be the year on record with the highest amount ever of sawn softwood traded at global level. The analysis of production and consumption suggests that the moderate growth which was observed in 2016 is expected to continue into 2017. Indeed, from 2011 to 2015 the production grew by 14% at global level. North America, which along with Europe remains the most relevant macro-area of the world in terms of production, is the main driver of the rise in global production. Also in Europe, at any rate, the situation can be described as moderately positive with the market showing positive signs of stability. The availability of raw material at European level is overall positive though some challenges persist locally and on average 2017 may see a slightly lower logs' availability than 2016.

Therefore, overall, the picture at global level is quite rosy. The long term potential of the market is impressive as per capita consumption in some of the fastest growing countries

One moment of the ISC Gala Dinner held at the Château de Versailles, Paris.

In the picture: Mr Sampsa J. Auvinen, EPS President and CEO of Norvik Timber Industries.

in the world is still very low compared to North America and North European countries.

In spite of this, some areas of concerns persist and include the Middle East and North African countries. The MENA region already represents a very relevant export market for several European countries and with its growing and youthful population and need of housing has an even higher potential. However, years of political instability have taken their toll as in the last few years sawn softwood imports have been stagnating. Due to high political and economic volatility, it remains difficult to make forecasts for the future but it is likely that the present challenges will cast their shadow even in the years to come.

Another area of concern is the British market. Commenting on the Brexit vote, the EOS President, Mr Sampsa Auvinen stated that the effect of this political decision on the European and British market is quite unclear and it will be difficult to make realistic forecasts, nevertheless business activity has been very good in the first 8 months of the current year with housing starts being very strong. Clearly, as Mr Auvinen highlighted, because of the Brexit, the United Kingdom will face an uncertain environment. As it has often been the case over the last few years, the industry will remain highly dependent on currency fluctuations. Rapid and sudden changes in currency quotations cause shocks and can redirect trade flows in unpredictable ways.

Evaluating wood availability, Mr Auvinen stated that "in Europe there is an ongoing threat of overcapacity in pulp logs, bark and sawdust. In Finland forest chips are being subsidized, putting pressure on sawmills" by-products. Moreover, the situation has worsened also due to cheap fossil fuel prices and a couple of warm winters. The threats related to the dramatic low demand for sawmill by-products was stressed and one more time emphasized during the panel discussions moderated by Mr Döry, in which CEOs coming from different countries - such as Germany, Sweden, Finland, The Netherlands, France, and Latvia - expressed the same concerns.

"The economic recovery that is taking place will continue into 2017 and will have a positive impact on the timber market in the EU. The demand for timber product is expected to grow but it is linked with and dependent on the construction market. At the moment wood in construction is spreading everywhere. A continuous balance and stability in the market is appreciated by all players in the market." As the President of ETTF, Mr von Möller stated.

In the second and final day of the Conference, it has been reiterated that China and Japan will remain strategic and strong markets for the European exporters while India has a big potential because of its favorable demographics and rapid real estate growth, coupled with relatively easy conditions of market access.

The next edition of the International Softwood conference will take place in Germany –Hamburg – in October 2017. For more information and to download the 2016 ISC presentations please visit the website www.isc2016.fr

7.1.1 Statistical Market Overview, Rupert Oliver (Forest Industries Intelligence)

The presentation of Mr Oliver is the first one and he tackles the market from the broadest possible perspective as he analyzes trade and production at global level.

The most significant take-home messages of his presentation are the following:

- Regarding global sawn softwood production, there was

a consistent increase from 280 million m^3 in 2011 to 319 million m^3 in 2015. This figure, however, is still a bit short of the global production peak which was observed in 2007, though the rebound from the financial crisis is solid

- North America with a 3.8% growth and 100.8 million m^3 of production in 2015 looks set to overtake Europe in the coming years as the area with the highest production in the world. Europe had a flat year and its production was stable at 102.7 million m^3. Slow growth in CIS production was observed (up 1.1% in 2015 to 37.1 million m^3), while in China strong growth levelled off at 30.5 million m^3 in 2014 and 2015.
- Similar situation for consumption: Europe had a 1.4% growth in 2015 and reached 90.6 million m^3 but North America with 4.6% growth sharply narrowed the gap to reach 89.1 million m^3. China was stable at 53.2 million m^3 (+0.8%); this however represents a massive increase in the medium term as its consumption was at 32 million m^3 in 2011. The potential for consumption growth is impressive as 5.56 billion (77% of world's population) of people live in countries with annual per capita consumption < 0.04m^3, including China.
- 2016 is set to be the year with the highest ever traded quantity of sawn softwood at global level. A factor that fosters this situation is definitely the strength of the dollar vis-à-vis other currencies, including those of important producing countries such as the Russian Ruble. Compared with 2009 exports are 46% higher
- Largest exporters remain Canada (one third of all world exports which are steadily increasing since 2009, in 2015 exports to the US grew by 9% but exports to China shrank by 12% due, inter alia, to the Ruble weakness, which fostered Russian exports), Russia (which exported 25 million m^3 vs not even 15 million in 2005), Sweden, Finland, Germany
- US still the largest importers (25% of global imports), imports grew by more than 10 million m^3 in four years to reach 35 million in 2015. China imported 25 million m^3 in 2015, in 2009 it was just 5 million. Other very large importers are: Japan, UK, Egypt
- The market size of top global construction markets is expected to grow over the next 15 years, with the exception of Japan and Western Europe. In China it is expected to be twice as much as now. Cross-laminated timber will offer new opportunities in construction

7.1.2 Market developments - European production, Sampsa Auvinen (European Organisation of the Sawmill Industry President)

The second presentation is given by EOS President Sampsa Auvinen; Mr Auvinen focuses his presentation on the European producers. He starts by ascertaining whether his own forecasts made during the ISC of 2015 were true.

- He correctly predicted that unpredictability will continue to hamper the slow economic recovery of Europe after the global financial crisis; exchange rate fluctuations continue to affect the industry and contribute to redirect trade flows as currencies appreciate or depreciate
- He analyzes production in Europe with a particular focus on the EOS countries, where total production of sawn softwood increased by 0.3% in 2015 and reached 80.3 million m^3. In 2016, production is expected to increase 1.9 % to 81.8 million m^3. Germany expects some positive years due to growth of internal consumption. Austria's production will increase this year to level in 2017, while France and Switzerland will have slight growth. Sweden, due to closure of some mills in the Southern part of the country, will exhibit a slight dip in production but it is expected to rebound in 2017 while Finland will have a slight growth in 2016 and a stable 2017. After 4 years in a row of growth, probably in 2017 Norway's production will shrink a little, while Romania is expecting a stable year. In the Baltics, Latvia's production growth in 2016 will likely be followed by a drop in 2017 to the 2015 levels, while Estonia is on a growth path.
- Sawlog prices decreased in 2015 (though they have rallied a little at the beginning of 2016) and a weighted average analysis of wood availability across the various EOS Members suggests that this was normal in 2016, while a very slight decrease is expected for 2017. The building markets are doing fine, with Nordic countries performing particularly well; the outlook is positive even for the next couple of years
- The macroeconomic situation in Europe looks improving and economic growth should continue, albeit at a slow pace. Overall the sawmills prospects look moderately positive, but there are several sources of uncertainty:
- The most glaring one is Brexit, whose effects are difficult

to foresee as it never happened before that a EU country left the EU; business activity has been very good in the first 8 months of the year with housing starts being very strong but order books of the construction industry are getting thinner. Need for house building in the UK has not disappeared but the Brexit negotiation, or lack of it, is creating uncertainty. Sawn timber prices in GBP have been unsatisfactory due the drop of the GBP; a weak pound could make local producers more competitive

- Another source of uncertainty is the MENA area: the MENA region's importance for European sawmilling industry is vital. Rumors about the devaluation of the Egyptian Pound and decrease of oil revenue in Algeria have kept the Pine outlook challenging. Long term outlook for the region remains positive – a lot of new houses will need to be built to accommodate a burgeoning population, but the political unrest and low oil price will cause challenges.
- China instead is a pleasant surprise and denied the predictions made by some as the Chinese housing market showed signs of slowing in 2014 and 2015 but activity picked up at the end of 2015. A McKenzie analysis predicted that about 300 million people are going to move to urban areas during 2015-2025. This will be a significant driver for the construction industry. Europe is facing intense competition by Russian timber as Russian exports to China grew by 90% in 2016, but also some European countries such as Finland has seen its exports to China grow by 40%;
- The US market has become a steady but small market for the European sawmills, primarily the German and Swedish producers.
- With the housing start growing and nearing 1.5 million starts per annum, the US market is expected to become more important for the European producers. The USD/EUR and USD/SEK rates play an important role on the viability of the exports from Europe to the US market.
- A factor that could hamper sales is the current difficulty to place by-products on the market, which is affecting some countries and which has been caused by cheap energy prices and three consecutive mild winters; as a result, there is an oversupply in pulp logs, bark and sawdust. In Germany the producer price index for chips is at a 6 year low, while in Finland forest chips are being subsidized, putting pressure on sawmills' by-products.
- In sum, overall, the financial performance of the European sawmilling industry has improved in 2016 but remains unsatisfactory in many parts of Europe. The moderate increase in production has enabled the industry to perform relatively well. European demand is expected to continue to increase, albeit slowly. Demand from the overseas markets will continue to play an increasingly important role for the European sawmilling industry. Brexit and the political instability in MENA are sources of concern for the foreseeable future.

7.1.3 Market developments - European users, Andreas von Möller (European Timber Trade Federation President)

The President of ETTF, Mr von Möller, analyzes the softwood market from the user side. He starts his presentation by focusing on construction activity, which at EU level is still 5% lower than in 2010 and 20% lower than in 2008. France and Italy are especially suffering, while Germany and UK are doing fine. However, post Brexit a dip in construction confidence was observed in the UK, while confidence in Germany and the Netherlands remains high. Building permits have been increasing for almost two years but remain way below 2010.

The door sector at EU level is recovering ground (+7% in 2015 vs 2014), with Germany, UK, Poland and Spain doing particularly well. France and Austria are instead suffering. Wood windows production is also on the rise (+1.6%), with Italy, Poland and the Netherlands growing, while Germany, France, and especially Austria and the UK declining. Both sectors' are below by more than 20% compared with the pre-crisis period.

After an analysis of sawn softwood trade and consumption Mr von Möller goes on to make a one-by-one country review.

- In France, he argues, there is a positive general perception. Housing starts are +10% and after a strong decrease over the last 3 years imports are levelling off in 2016, with domestic production gaining market share vs. imports
- The recovery in Italy is unstable and though GDP will finally grow in 2016 the market is still nervous. Difficult access to credit for enterprises but marked improvement in real estate sales (+21% Q1 2016 vs Q1 2015)
- In Denmark, construction still not at pre-crisis level, however real-estate market has improved, which gives

a positive effect on the consumer market. Softwood imports are on the rise

- In the Netherlands, there was a sharp fall in housing - 40% from 2008 to 2013. Turnaround since 2015. After a period of decline, softwood market is recovering
- In Spain, macro-economic figures continue to improve, but very slowly and from very low. Construction is continuing its recovery
- In Germany, the economy is growing slowly, but the prospects for the timber market are good in 2016 due to lively construction activity. In 2016 over 300,000 building permits were granted (in 2009 less than 2009)
- Due to Brexit, it is difficult to analyze the situation in UK; at present the forecast for 2017 is low growth in production and plateauing of imports and exports
- Finally, in Belgium, though the fundamentals stay positive, and the demand is stable, there are payment problems due to difficulties in getting credit

In sum, Mr von Möller argues that, agreeing with Mr Auvinen, the general situation has improved in 2016. Demand and consumption increased, and financial conditions improved. What is more, wood in construction is slowly spreading. Though there are some concerns and the recovery is slow, its outlook for the future is overall upbeat.

7.1.4 Canada (André Beaulieu, Irving Retail Sales Director)

Mr Beaulieu's presentation is focused on North America, in particular on Canada. It is estimated that North America will consume in 2016 85 million m^3 of lumber. Of this, 38% will be consumed by the repair/remodel sector, 32% by the industrial sector, and 30% in new construction. Housing starts prospects are positive in the US with 1.2 million housing starts in 2015, and they are projected to grow to 1.8 million in 2020. The market is changing as in 2005 single family houses made up 83% of the market while in 2015 that share fell to 64%. Prices are expected to be volatile due to the underlying softwood lumber dispute between the US and Canada (the heart of the dispute is the claim that the Canadian lumber industry is unfairly subsidized by federal and provincial governments, as most timber in Canada is owned by the provincial governments. The prices charged to harvest the timber are set administratively, rather than through the competitive marketplace, the norm in the United States). Most probably a duty or quota will be imposed on Canadian lumber.

Regarding production and export, Canada exported less in 2015 to China, but in 2016 exports to China look like picking up. Overall, at present, supply and demand are in balance. Domestic consumption and production will increase, while net exports are expected to fall to follow demand. Multi housing remains strong, there are nice opportunities for CLT, while pulp and paper industry will have difficult times ahead.

7.1.5 USA (Marc Brinkmeyer, Idaho Forest Group Chairman)

Mr Brinkmeyer presentation is also about North America, but his focus is rather on the US. At macro-economic level he emphasizes that the present economic recovery, although steady, is quite underwhelming in historical terms. It is a debt-fuelled recovery, which adds to the sources of concern. Regarding timber, Mr Brinkmeyer also stresses that the repair/remodeling sector has been doing well for the last four years. Overall the home construction market is steadily, albeit slowly, growing.

He predicts that imports from Europe, which are of course extremely low compared to imports from Canada, will at any rate triple over the next few years. This is due, inter alia, to the underlying tensions with Canada, where, unlike the US, prices are set by the government and not by the market. Moreover, the Canadian government controls 80% of production. In short, the Canadian system of controlling timber prices to benefit its sawmilling industry results in non-market pricing that does not respond to market forces. The negotiation process to renew the Softwood Lumber Agreement with Canada is underway.

Mr Brinkmeyer also tackles a recurring topic of the International Softwood Conference in 2016: the low per-capita consumption of timber of several fast-growing countries such as India and China offers great opportunities

to exporters. A potential major export programme to take advantage of these opportunities will be set up. In spite of the difficulties with Canada, such programme will be a joint North American one.

7.1.6 North Africa (Guillaume Hotelin, Comarbois Deputy CEO)

Mr Hotelin presentation is about the MALT region (Morocco, Algeria, Libya, Tunisia). In 10 years exports of sawn softwood from Europe and North America to the region grew by 79%. However, over the last few years, due to political instability and population unrest, exports to the region actually decreased. North Africa, because of its young and dynamic population and urgent need of housing, will remain nevertheless a very important export market for Europe.

61% of the softwood imported in the region is red pine, mainly used for furniture, doors, windows, interior designs, and concrete forming, while 33% of the softwood imported is spruce, mainly used in construction and concrete forming. Sweden is the largest exporter to the region with 39% of softwood supplied, followed by Austria-Slovenia (29%), Finland (27%) and Germany (5%).

Overall, in 2016 exports to the region will reach 3.2 million m^3, which is 400,000 less than the 2014 peak. In the next few years growth is expected to resume but the outlook remains uncertain due to the above-mentioned instability.

Mr Hotelin goes on to analyze the countries which make up the region:

- Morocco: relatively stable country, 34 million of people, very young population. Growth should exceed 4% a year over the next 5 years. They have been importing around 1 million m^3 of sawn softwood in the last 5 years. In 2010 they passed a Social Housing Programme which envisaged the construction of 1 million new apartments but to date only 95,000 have been completed
- Algeria: 39 million people, country hampered by red tape and lack of industry, very oil-dependent economy, growth is projected to be a little lower than 3% a year over the next 5 years. Softwood imports after a peak of almost 2.05 million m^3 in 2014, are projected in 2016 to reach 1.76 million m^3. The consequences of a possible increase to 19% of the VAT tax will have to be assessed
- Libya: sparsely populated country devastated by 5 years of revolution and civil war; low oil price represents an obstacle to rebuild the country. After a peak of almost 400,000 m^3 in 2013, imports of sawn softwood will be around 85,000 m^3 this year.
- Tunisia: only democracy in the area, facing massive problems after terror attacks of 2015 which reduced tourism, an important source of revenue. Prospects look positive anyhow, with growth expected to exceed 4% a year over the next 5 years. Sawn timber imports around 360,000 in 2016 after 2012 peak of 450,000 m^3.

An interesting opportunity in the next few years may be represented by Ethiopia, which is a country of 90 million people situated in the Horn of Africa, which has seen its GDP grow by 15% in 2015. It imported 45,000 m^3 of sawn softwood, which is still a low figure, but ten years ago its imports were just 5,000 m^3 a year, so the growth potential is impressive.

7.1.7 Egypt, Ibrahim Elshal (Elshal Timber CEO)

Mr Elshal presentation is about Egypt.

Egypt is a very important export market for several European countries. Overall Egypt imports 5 million m^3 of sawn softwood, which represents one of the highest figures in the world and 62% of total imports of North African countries.
The political situation makes Egypt a very difficult country to understand and to do business with. Data looks confusing and hard to be analyzed. Since the revolution of 2011 and the successive toppling of Presidents Mubarak and Morsi, the economic situation is very tense, which unlike other countries of the region is bereft of oil. Egypt is short of cash and had to ask for help to foreign donors such as Gulf Countries or the International Monetary Fund. The government has introduced austerity measures such as the introduction of a VAT tax to ease the pain. The Egyptian pound has been massively depreciated and the difficulty to get dollars made the black market flourish and made life for importers extremely difficult.

However, the assets of Egypt are manifold, including a youthful and growing population (94 million people at present, projected to reach 180 million in 2050) in urgent need of housing and a complete dependence on imports due to absence of forests. Moreover, in spite of a lack of forests, traditionally Egyptians like to use wood as a building material. The challenging environmental and climatic conditions force Egyptians to live in a small portion of their territory (98% of the population lives on 5% of the territory) making the inhabited parts of Egypt among the most densely populated regions in the world. To ease the pressure on the very intensively populated areas, the government came up with the idea of building a new capital, which would accommodate 5 million people. This represents a very nice opportunity for builders but due to the above-mentioned financial problems the project at present remains on paper. Other very large infrastructure projects are not being built because of the huge economic problems of the country.

In short, Mr Elshal argues, the Egypt construction market is very promising but the financial issues are currently keeping down the consumption of sawnwood. 70% of imported sawnwood is consumed by the construction industry.

In the first seven months of the year shipments to Egypt decreased by 11% to 2.8 million m^3 compared with January-July 2015. Approximately three quarters of imported sawn softwood is redwood while the remaining is whitewood. The largest exporter remains Russia (1 million m^3 in Jan-Jul 2016), followed by Finland (850,000 m^3), Sweden (711,000 m^3) and Latvia (166,000 m^3). Finland overtook Sweden in the second place and is the only country which saw its exports grow – by 16%.

Other European exporters are Romania, Germany, Austria-Slovenia, and Estonia, which added together shipped to Egypt 30,000 m^3.

7.1.8 Russia, Svyatoslav Bychkov (ILIM Timber Managing Director)

Mr Bychkov centers his presentation on Russia. The challenging macroeconomic situation of the country caused a massive devaluation over the last two years of the Ruble.

The growing stock of Russia stand at 82 billion m^3, while in 2015 out of the 717 million m^3 of available cut, 205 million m^3 were actually harvested. Softwood harvesting in 2015 is over 145 million m^3. Annual available cut in Siberia & Russian Far East is less than 20% utilized while utilization rate in NW Russia exceeds 60%. Softwood saw log production was 72.9 million m^3 in 2015, which is 2% more than 2014, but the export of logs was at 10.3 million m^3, which is a figure well short of the value observed in 2014 (11.7 million m^3). Pine makes up 46% of the logs exported, followed by spruce (26%) and larch (25%).

China absorbs 90% of Russia softwood logs. In Europe, which imported 630,000 m^3 in 2015, logs are shipped mainly to Finland (61% of total logs export to Europe), Sweden (15%), and Germany (13%). Overall, exports of logs to China are much lower than they were some years ago. For instance in 2007 they exceeded 20 million m^3.

Regarding sawn softwood, exports increased by 4.7% in 2015 to 22.4 million m^3, courtesy also of the weak Ruble. Exports to China reached 9.8 million m^3 and they represent 44% of the total, followed by the CIS area (4.2 million), MENA (3.7 million) and Europe (3.2 million). Exports to China from Canada decreased because of competition from Russia. Because of logistical advantages China mainly imports wood from Siberia and the Far East.

To prevent illegal exports mainly to China, the Duma adopted in July a set of amendments to the Forestry Code first adopted in 2006. A GPS system surveying the forest stands, reports on the use of forests and reports on reforestation will all serve this purpose. Moreover, a year ago, an electronic system for monitoring of round wood turnover on federal level started to operate.

In sum,

- China remains the key market for Russian log and lumber with increasing share of lumber export
- Modernization of Russian sawn timber industry and redistribution of volumes from CIS markets leads to growth of lumber export from Russia primarily to China
- Harvesting volumes will remain the same in NW Russia and will grow gradually in Siberia and Far East regions, securing supply to China

7.1.9 Overview of Softwood Lumber Market in China, Richy Zhang (Zhejiang Materials Industry Senhua Group Co. Ltd. Deputy General Director)

Mrs Zhang gives an overview of the softwood lumber market in China.

Mrs Zhang starts her presentation by introducing the market size and imports of China. After years of impressive growth, in 2015 sawn softwood imports stalled at 17.5 million m^3. In the first six months of this year, 10.8 million of sawn softwood were imported, a figure which represents 69% of all sawnwood imported. Compared with the first half of 2015, sawn softwood imported this year is 24% more than previous year. Overall, the total timber imported in 2016 (therefore including also hardwood) is expected to reach 29 million m^3 (in 2015 total timber imported was 26.6 million m^3). Regarding sawlogs, China imported 30 million softwood logs in 2015, which is approximately two thirds of total logs imported.

Pinus Sylvestris and white pine are the most imported species of sawn softwood (39% each of share), followed by Pinus Radiata (5%).

The main suppliers' situation is rapidly evolving: New Zealand exporters have taken market share from Russian logs and are now the largest providers of softwood logs to China (34% New Zealand, 30% Russia); while Russia has increased the sawn timber supply. When adding together softwood logs and sawn timber, Russia is the main exporter to China.

The sawn softwood supplying countries ranking is the following: Russia (55%), Canada (26%), Finland (5%), Sweden (5%), Chile (3%), others (8%). Due to labor costs' increases, and the cost of transportation's increase, China market will tend to import sawn timber more than logs in the future.

Overall, Mrs Zhang argues, the golden age of real estate in China is over, but still China offers many opportunities. In February 2016, with a number of laws passed, the government signaled its intent to make green building a relevant part of China's construction industry's future.

An interesting development in the Chinese market is the substitution of the building material of many kinds of products: for reasons connected to price, softwood as building material of beds, furniture, doors is getting more and more widespread and partly replacing hardwood. Another interesting feature is the rapid increase of Internet purchases, which is causing a massive growth of package such as pallets to deliver these goods.

Finally, European exporters' opportunities will be boosted by the sharply improved infrastructures that connect Asia with Europe. The railway from China to Europe shrank the transportation time from 65 days (Ocean freight to main Ocean port then transportation from Shanghai to Chinese Midwest city) to 12-18 days.

7.1.10 Overview of Softwood Lumber Market in Japan, Yuichi Shinohara (Shinohara Group Senior Managing Director)

Mr Shinohara's presentation is focused on the Japanese market. In 2014 Japan has utilized 75 million m^3 of timber (of which, 70% was import): the Government has put in place a program to be increasingly self-sufficient. 45% of imported timber is from Europe.

For the future there will be a sharp decline in population due to negative demographic developments, which is expected to heavily affect the market. Wood consumption has started to decrease at the end of the Nineties.

However, the Japan market remains very interesting because of the Japanese traditional interest in building with wood, which has been further reinforced in the last few years: in the last 10 years housing starts have overall shrunk but the market share of wooden structures has sensitively grown to reach 56% of the total (it was 43% in 2006).

The "remodeling" market is the fastest growing sector. As in the case of North America the timber begins to be increasingly sold in large retail chains.

Two nice opportunities for the future are represented by the cross-laminated timber, which has yet to be developed in Japan and the 2020 Olympics, which will be held in Tokyo.

7.1.11 German Market, Andreas von Möller (European Timber Trade Federation President)

Mr von Möller's second presentation is completely centered on Germany.

Germany is situated in the heart of Europe, occupying its geographical centre. It is the most populated country of the continent (excluding Russia) and the largest economy in Europe (and the fourth largest in the world). Despite not being known as a "forest-country", 32% of its surface is actually covered with forests. In addition to that, forests are growing – annual growth is 120 million m^3, of which 76 million are harvested. 56% of the forests are softwood. Forestry and its industries are the base of the future national Bio- Economy Agenda and are responsible for 1.1 million jobs (448,000 in the timber industry including furniture, 391,000 in the paper and related sectors, 200,000 joinery and carpenters, and 69,000 in forestry), which is more than sectors such as machinery and plant engineering, and the automotive industry.

German apparent sawn softwood consumption as given by the sum of production (21.5 million m^3) and imports (4.7 million m^3) minus exports (7 million m^3) is 19.2 million m^3; this figure seems to be realistic. The furniture industry has a long tradition in Germany and at present it employs 130,000 workers, having an annual turnover of almost 18 billion Euros.

Regarding construction, Germany has a long tradition in timber frame housing though today other materials prevail. However, the wood based housing is on the rise (16% at present, with local shares in the south of 27%). Wood is increasingly appreciated as a building material.

7.1.12 Indian Market, Prashanth Reddy (FunderMax GmbH Managing Director)

Mr Reddy presents the situation in India. A rapidly-growing, English-speaking democracy, India has a population of 1.2 billion people with a middle class of 267 million people. Its GDP is the seventh largest in the world and with a yearly GDP growth of more than 7% its potential is huge, though as of yet largely untapped. Indeed, India is ranked at just the 130th place in 'Ease of Doing Business' global ranking. Prime Minister Narendra Modi has however vowed to make red tape cutting one the landmark actions of its government.

Regarding forestry and the sawnwood industry, 22% of India is covered with forests. The forest cover has stabilized in the last 15 years, after having undergone decades of deforestation. Severe logging restrictions are in place and a Supreme Court ruling of 1997 mandated that only the central government can use forest land for non-forestry purpose. As a result the local timber production is low and therefore the country has to massively rely on imports to meet its consumption. The local industry is unorganized and uses outdated technology.

23% of imported sawn softwood is sourced from Chile, 20% from the US, 20% Canada, and 19% from Sweden. With the exception of MDF boards, wood and wood products can be imported without quantitative restrictions.

In sum, Indian softwood market is ripe for entry because of:

1. Ease of market access – low duty at 9.5%, no quantitative restrictions, no license needed;
2. Impending entry of foreign players like IKEA which would lead to more demand;
3. Rising demand due to:

- Acceptance of newer softwood applications
- Favorable demographics – increasing income levels, modern lifestyle
- Rapid real estate growth
- Rapid growth of ecommerce portals and design firms

7.1.13 Wood in Social Housing, Anna Cremnitzer (French architect)

Mrs Cremnitzer' presentation is the final one of the International Softwood Conference 2016 and it is about social housing in France. In the construction industry there is constant increase of use of wood products. The use of CLT and of cladding for external coatings is rising. In 2015 a national agreement for quality wooden constructions has been signed. Moreover, a national brand for reduction of green house gas emissions has been promoted, through which several public projects are being realized. The approach is to highlight the reduction of emissions both at the stage of realization and final use. The authorities of the French social housing are specifically advising the use of wood in many provinces, which is a very important opportunity for the sector.

7.2. The 2017 International Hardwood Conference: SAVE THE DATE

This year the International Hardwood conference will be organised in the fascinating city of Venice, in Italy from the 15th to 17th November. The conference, that will be enriched by collateral events, offers an exclusive view on the global timber and provides a unique high level networking in this sector.

As per previous years, a large number of delegates from over 20 countries around the world are expected to represent companies, industry associations, NGOs and media. A wide variety of qualified speakers will be able to highlight the dynamics of the global and regional timber market and provide important updates on the major issues that go through the hardwood world.

The conference will be divided into two sessions. The first part will be focused on the analyse of the market, in the second part, issues such new applications of hardwood species, wood certification and innovation in the sector will be largely discussed. The conference program also includes side events, specifically the welcome cocktail opening, the gala dinner in a prestigious Venetian palace and a tour for discovering some of the most beautiful places in the Italian lagoon.

The event is jointly organised by European Organization of the Sawmill Industries (EOS), the European Timber Trade Federation (ETTF) and the Italian Timber Trade Federation, FEDECOMLEGNO.

The International Hardwood Conference will be organised in the MOLINO STUCKY HILTON HOTEL, a prestigious conference venue. The Molino Stucky is a Neo-Gothic building, on the western end of Giudecca island, near the ancient village Fortuny. It was built between 1884 and 1895 as a flour mill supplied by boats across the lagoon and also operated as a pasta factory. This hotel and conference centre has 379 rooms, a rooftop swimming pool and a two-thousand seat conference room.

The gala dinner will be held on the 16 November in an ancient and noble palace located in the in the heart of Venice.

VENICE ON WOOD! The city of Venice is made up of 117 islands that are linked together by water canals, numerous small bridges, as well as 3 large bridges of the Grand Canal. Due to his urban peculiarities and for the invaluable artistic heritage Venice is included in the UNESCO World Heritage List. The city is loaded with buildings of beautiful architecture that date back to the middle of the first millenium A.D. Probably, not everybody knows that Venice stands on wood! Indeed, the foundation that supports this city are made of wood, mostly hardwood. The wood was gathered in forest far away in the mountains of Slovenia, Croatia, and Montenegro. The timber was then transported by water to Venice. The Venetians used vertical wood pilings in the salt water for a foundations system without the wood rotting because wood is not exposed to oxygen and it became petrified due to a constant flow of mineral rich water around and through it. As a result, the wood becomes a hardened stone-like structure.

EOS expresses gratitude to FEDECOMLEGNO for hosting this event.

8. European Standardisation – Update

CEN/TC 124 “Timber structures”

***Chairperson* : Mr Frédéric Rouger**
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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	Barbara Sogato
CEN/TC124/WG 5	Prefabricated wall, floor and roof elements	Simon Aicher
CEN/TC124/WG 6	Wood poles	Willie Clason

Published standards

Reference	Date	Title
EN 14374:2004	2004-11-24	Timber structures - Structural laminated veneer lumber - Requirements
EN 13271:2001/AC:2003	2003-09-24	Timber fasteners - Characteristic load-carrying capacities and slip-moduli for connector joints
EN 12512:2001/A1:2005	2005-09-28	Timber Structures - Test methods - Cyclic testing of joints made with mechanical fasteners
EN 409:2009	2009-04-01	Timber structures - Test methods - Determination of the yield moment of dowel type fasteners
EN 15736:2009	2009-08-19	Timber Structures - Test methods - Withdrawal capacity of punched metal plate fasteners in handling and erection of prefabricated trusses
EN 14229:2010	2010-10-06	Structural timber - Wood poles for overhead lines
EN 26891:1991	1991-02-21	Timber structures - Joints made with mechanical fasteners - General principles for the determination of strength and deformation characteristics (ISO 6891:1983)
EN 14592:2008+A1:2012	2012-05-23	Timber structures - Dowel-type fasteners - Requirements
EN 14545:2008	2008-10-01	Timber structures - Connectors - Requirements
EN 1912:2012	2012-04-18	Structural Timber - Strength classes - Assignment of visual grades and species
EN 14081-3:2012	2012-01-25	Timber structures - Strength graded structural timber with rectangular cross section - Part 3: Machine grading; additional requirements for factory production control
EN 14250:2010	2010-01-27	Timber structures - Product requirements for prefabricated structural members assembled with punched metal plate fasteners
EN ISO 8970:2010	2010-06-15	Timber structures - Testing of joints made with mechanical fasteners - Requirements for wood density (ISO 8970:2010)
EN 16351:2015	2015-10-14	Timber structures - Cross laminated timber - Requirements
EN 15497:2014	2014-04-30	Structural finger jointed solid timber - Performance requirements and minimum production requirements
EN 14080:2013	2013-06-26	Timber structures - Glued laminated timber and glued solid timber - Requirements
EN 336:2013	2013-10-02	Structural timber - Sizes, permitted deviations
EN 16737:2016	2016-05-25	Structural timber - Visual strength grading of tropical hardwood
EN 338:2016	2016-04-06	Structural timber - Strength classes
EN 14358:2016	2016-06-22	Timber structures - Calculation and verification of characteristic values
EN 384:2016	2016-08-31	Structural timber - Determination of characteristic values of mechanical properties and density
EN 1075:2014	2014-12-17	Timber structures - Test methods - Joints made with punched metal plate fasteners

Reference	Date	Title
EN 408:2010+A1:2012	2012-07-25	Timber structures - Structural timber and glued laminated timber - Determination of some physical and mechanical properties
EN 16784:2016	2016-06-29	Timber structures - Test methods - Determination of the long term behaviour of coated and uncoated dowel-type fasteners
EN 14081-2:2010+A1:2012	2012-11-28	Timber structures - Strength graded structural timber with rectangular cross section - Part 2: Machine grading; additional requirements for initial type testing
EN 383:2007	2007-01-10	Timber Structures - Test methods - Determination of embedment strength and foundation values for dowel type fasteners
EN 1382:2016	2016-02-17	Timber Structures - Test methods - Withdrawal capacity of timber fasteners
EN 1383:2016	2016-02-17	Timber structures - Test methods - Pull through resistance of timber fasteners
EN 14081-1:2016	2016-02-10	Timber structures - Strength graded structural timber with rectangular cross section - Part 1: General requirements
EN 1912:2012/AC:2013	2013-08-21	Structural Timber - Strength classes - Assignment of visual grades and species
EN 1381:2016	2016-02-17	Timber structures - Test methods - Load bearing stapled joints
EN 1380:2009	2009-04-01	Timber structures - Test methods - Load bearing nails, screws, dowels and bolts
EN 15737:2009	2009-08-19	Timber Structures - Test methods - Torsional resistance of driving in screws
EN 15228:2009	2009-03-25	Structural timber - Structural timber preservative treated against biological attack
EN 789:2004	2004-10-20	Timber structures - Test methods - Determination of mechanical properties of wood based panels
EN 14251:2003	2003-12-03	Structural round timber - Test methods
EN 912:2011	2011-07-13	Timber fasteners - Specifications for connectors for timbers
EN 12512:2001	2001-11-21	Timber structures - Test methods - Cyclic testing of joints made with mechanical fasteners
EN 595:1995	1995-03-22	Timber structures - Test methods - Test of trusses for the determination of strength and deformation behaviour
EN 594:2011	2011-06-29	Timber structures - Test methods - Racking strength and stiffness of timber frame wall panels
EN 596:1995	1995-03-22	Timber structures - Test methods - Soft body impact test of timber framed walls
EN 380:1993	1993-07-18	Timber structures - Test methods - General principles for static load testing
EN 13271:2001	2001-11-21	Timber fasteners - Characteristic load-carrying capacities and slip-moduli for connector joints

Pending standards

Project	Title	Status	Initial Date	Forecasted voting date
EN 14081-3:2012/prA1(WI=00124166)	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
prEN 14081-2(WI=00124156)	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
prEN 14374(WI=00124137)	Timber structures - Laminated veneer lumber (LVL) - Requirements	Under Approval	2015-10-20	2017-04-19
prEN 14592 rev(WI=00124149)	Timber structures - Dowel-type fasteners - Requirements	Under Approval	2015-05-12	2018-04-03
prEN 16929(WI=00124160)	Test Methods - Timber flooring systems - Determination of vibration properties	Under Approval	2015-05-12	2016-09-29
prEN ISO 8970(WI=00124165)	Timber structures - Testing of joints made with mechanical fasteners - Requirements for wood density	Under Drafting	2015-10-13	2017-11-28

CEN/TC 175 “Round and Sawn Timber”

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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	Date	Title
EN 1313-2:1998/AC:1999	1999-06-30	Round and sawn timber - Permitted deviations and preferred sizes - Part 2: Hardwood sawn timber
EN 14220:2006	2006-11-08	Timber and wood-based materials in external windows, external door leaves and external doorframes - Requirements and specifications
EN 14221:2006	2006-11-08	Timber and wood-based materials in internal windows, internal door leaves and internal doorframes - Requirements and specifications
EN 13183-2:2002/AC:2003	2003-09-17	Moisture content of a piece of sawn timber - Part 2: Estimation by electrical resistance method
EN 13183-1:2002/AC:2003	2003-09-17	Moisture content of a piece of sawn timber - Part 1: Determination by oven dry method
EN 13227:2002/AC:2007	2007-06-27	Wood flooring - Solid lamparquet products
EN 14342:2013	2013-07-10	Wood flooring and parquet - Characteristics, evaluation of conformity and marking
EN 1316-1:2012	2012-10-17	Hardwood round timber - Qualitative classification - Part 1: Oak and beech
EN 1316-2:2012	2012-10-17	Hardwood round timber - Qualitative classification - Part 2: Poplar
EN 1927-2:2008/AC:2009	2009-04-01	Qualitative classification of softwood round timber - Part 2: Pines
EN 13556:2003	2003-06-25	Round and sawn timber - Nomenclature of timbers used in Europe
EN 1611-1:1999/A1:2002	2002-08-21	Sawn timber - Appearance grading of softwoods - Part 1: European spruces, firs, pines, Douglas fir and larches
EN 1534:2010	2010-10-27	Wood flooring - Determination of resistance to indentation - Test method
EN 13629:2012	2012-04-11	Wood flooring - Solid individual and pre-assembled hardwood boards
EN 14076:2013	2013-12-11	Timber stairs - Terminology
EN 1927-1:2008	2008-03-26	Qualitative classification of softwood round timber - Part 1: Spruces and firs
EN 1927-2:2008	2008-03-26	Qualitative classification of softwood round timber - Part 2: Pines
EN 1927-3:2008	2008-03-26	Qualitative classification of softwood round timber - Part 3: Larches and Douglas fir
EN 844-3:1995	1995-03-07	Round and sawn timber - Terminology - Part 3: General terms relating to sawn timber
EN 844-8:1997	1997-03-19	Round and sawn timber - Terminology - Part 8: Terms relating to features of round timber
EN 844-9:1997	1997-03-19	Round and sawn timber - Terminology - Part 9: Terms relating to features of sawn timber
EN 844-12:2000	2000-11-22	Round and sawn timber - Terminology - Part 12: Additional terms and general index
EN 1438:1998	1998-08-19	Symbols for timber and wood-based products

Reference	Date	Title
EN 1313-2:1998	1998-11-18	Round and sawn timber - Permitted deviations and preferred sizes - Part 2: Hardwood sawn timber
CEN/TS 13307-2:2009	2009-12-02	Laminated and finger jointed timber blanks and semi-finished profiles for non-structural uses - Part 2: Production control
EN 975-1:2009/AC:2010	2010-09-29	Sawn timber - Appearance grading of hardwoods - Part 1: Oak and beech
EN 14298:2004	2004-11-03	Sawn timber - Assessment of drying quality
EN 13442:2013	2013-03-13	Wood flooring and wood panelling and cladding - Determination of the resistance to chemical agents
CEN/TS 15717:2008	2008-04-16	Parquet flooring - General guideline for installation
EN 16449:2014	2014-03-12	Wood and wood-based products - Calculation of the biogenic carbon content of wood and conversion to carbon dioxide
EN 16485:2014	2014-03-26	Round and sawn timber - Environmental Product Declarations - Product category rules for wood and wood-based products for use in construction
EN 844-1:1995	1995-03-07	Round and sawn timber - Terminology - Part 1: General terms common to round timber and sawn timber
EN 844-2:1997	1997-03-19	Round and sawn timber - Terminology - Part 2: General terms relating to round timber
EN 844-4:1997	1997-03-19	Round and sawn timber - Terminology - Part 4: Terms relating to moisture content
EN 844-5:1997	1997-03-19	Round and sawn timber - Terminology - Part 5: Terms relating to dimensions of round timber
EN 844-6:1997	1997-03-19	Round and sawn timber - Terminology - Part 6: Terms relating to dimensions of sawn timber
EN 844-7:1997	1997-03-19	Round and sawn timber - Terminology - Part 7: Terms relating to anatomical structure of timber
EN 844-10:1998	1998-04-22	Round and sawn timber - Terminology - Part 10: Terms relating to stain and fungal attack
EN 942:2007	2007-03-14	Timber in joinery - General requirements
EN 1309-1:1997	1997-04-23	Round and sawn timber - Method of measurement of dimensions - Part 1: Sawn timber
EN 1312:1997	1997-02-19	Round and sawn timber - Determination of the batch volume of sawn timber
EN 13183-1:2002	2002-04-17	Moisture content of a piece of sawn timber - Part 1: Determination by oven dry method
CEN/TS 15912:2012	2012-04-18	Durability of reaction to fire performance - Classes of fire-retardant treated wood-based product in interior and exterior end use applications
EN 14915:2013	2013-09-25	Solid wood panelling and cladding - Characteristics, evaluation of conformity and marking
EN 16481:2014	2014-06-18	Timber stairs - Structural design - Calculation methods
EN 975-1:2009	2009-03-18	Sawn timber - Appearance grading of hardwoods - Part 1: Oak and beech
EN 13489:2002	2002-12-18	Wood flooring - Multi-layer parquet elements
EN 13227:2002	2002-12-18	Wood flooring - Solid lamparquet products
EN 975-2:2004	2004-07-07	Sawn timber - Appearance grading of hardwoods - Part 2: Poplars
EN 13488:2002	2002-12-18	Wood flooring - Mosaic parquet elements
EN 13990:2004	2004-02-11	Wood flooring - Solid softwood floor boards
EN 13696:2008	2008-12-10	Wood flooring - Test methods to determine elasticity and resistance to wear and impact resistance
CEN/TS 15680:2007	2007-11-28	Prefabricated timber stairs - Mechanical test methods
CEN/TS 14464:2010	2010-07-21	Sawn timber - Method for assessment of case-hardening
CEN/TS 12169:2008	2008-01-30	Criteria for the assessment of conformity of a lot of sawn timber
CEN/TS 15676:2007	2007-11-21	Wood flooring - Slip resistance - Pendulum test
CEN/TS 15679:2007	2007-11-28	Thermal Modified Timber - Definitions and characteristics
EN 1910:2016	2016-04-27	Wood flooring and wood panelling and cladding - Determination of dimensional stability
EN 1313-1:2010	2010-01-27	Round and sawn timber - Permitted deviations and preferred sizes - Part 1: Softwood sawn timber
EN 13226:2009	2009-05-27	Wood flooring - Solid parquet elements with grooves and/or tongues
EN 12246:1999	1999-06-23	Quality classification of timber used in pallets and packaging
EN 12248:1999	1999-06-23	Sawn timber used in industrial packaging - Permitted deviations and preferential sizes
EN 12249:1999	1999-06-23	Sawn timber used in pallets - Permitted deviations and guidelines for dimensions
EN 1309-2:2006	2006-03-15	Round and sawn timber - Method of measurement of dimensions - Part 2: Round timber - Requirements for measurement and volume calculation rules
EN 13183-2:2002	2002-04-17	Moisture content of a piece of sawn timber - Part 2: Estimation by electrical resistance method
EN 13183-3:2005	2005-03-16	Moisture content of a piece of sawn timber - Part 3: Estimation by capacitance method
EN 1611-1:1999	1999-08-18	Sawn timber - Appearance grading of softwoods - Part 1: European spruces, firs, pines and Douglas firs
EN 14762:2006	2006-02-15	Wood flooring - Sampling procedures for evaluation of conformity
EN 14761:2006+A1:2008	2008-07-09	Wood flooring - Solid wood parquet - Vertical finger, wide finger and module brick
EN 13647:2011	2011-05-18	Wood flooring and wood panelling and cladding - Determination of geometrical characteristics
EN 14951:2006	2006-03-15	Solid hardwood panelling and cladding - Machined profiles elements

Reference	Date	Title
EN 844-11:1998	1998-04-22	Round and sawn timber - Terminology - Part 11: Terms relating to degrade by insects
EN 1315:2010	2010-01-27	Dimensional classification of round timber
EN 13307-1:2006	2006-11-08	Timber blanks and semi-finished profiles for non-structural uses - Part 1: Requirements
EN 13756:2002	2002-12-11	Wood flooring - Terminology
EN 15146:2006	2006-12-13	Solid softwood panelling and cladding - Machined profiles without tongue and groove
EN 13228:2011	2011-05-18	Wood flooring - Solid wood overlay flooring elements including blocks with an interlocking system
EN 1533:2010	2010-08-04	Wood flooring - Determination of bending strength under static load - Test methods
EN 1311:1997	1997-04-23	Round and sawn timber - Method of measurement of biological degrade
EN 1310:1997	1997-04-23	Round and sawn timber - Method of measurement of features
EN 14519:2005	2005-12-21	Solid softwood panelling and cladding - Machined profiles with tongue and groove
EN 15644:2008	2008-12-10	Traditionally designed prefabricated stairs made of solid wood - Specifications and requirements

Pending standards

Project	Title	Status	Initial Date	Forecasted voting date
EN 14915:2013/FprA1:2016(WI=00175161)	Solid wood panelling and cladding - Characteristics, requirements and marking	Under Approval	2014-06-19	
FprEN 13227(WI=00175166)	Wood flooring - Solid lamparquet products	Under Approval	2014-06-20	2017-01-27
FprEN 13489(WI=00175164)	Wood-flooring and parquet - Multi-layer parquet elements	Under Approval	2014-06-20	2017-01-30
FprEN 16755(WI=00175155)	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	2016-12-22
prEN 1309-3(WI=00175147)	Round and sawn timber - Methods of measurements - Part 3: Features and biological degradations	Under Approval	2014-06-19	2017-05-23
prEN 13756(WI=00175165)	Wood flooring - Terminology	Under Approval	2014-06-20	2015-12-21
prEN 14298(WI=00175167)	Sawn timber - Assessment of drying quality	Under Approval	2015-02-24	2017-03-28
prEN 17009(WI=00175162)	Flooring of lignified materials other than wood - Characteristics, evaluation of conformity and marking	Under Approval	2014-06-19	2017-05-09

Notes

ANNUAL REPORT **2016/2017**

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 2017” 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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Printed in Belgium

EUROPEAN ORGANISATION OF THE SAWMILL INDUSTRY

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