ECONOMIC COMMISSION FOR EUROPE

Timber Committee

September 2017 *FINLAND*

MARKET STATEMENT

1 GENERAL ECONOMIC TRENDS

Along with the good performance in both the global economy and trade, the Finnish economy returned to moderate growth in 2016. Even though the main reasons for the starting growth of GDP and economic performance in Finland were the moderate increases in private consumption and investments, also the exports started to recover towards the end of the year. In 2016, the Finnish economy grew by 1.9 percent.

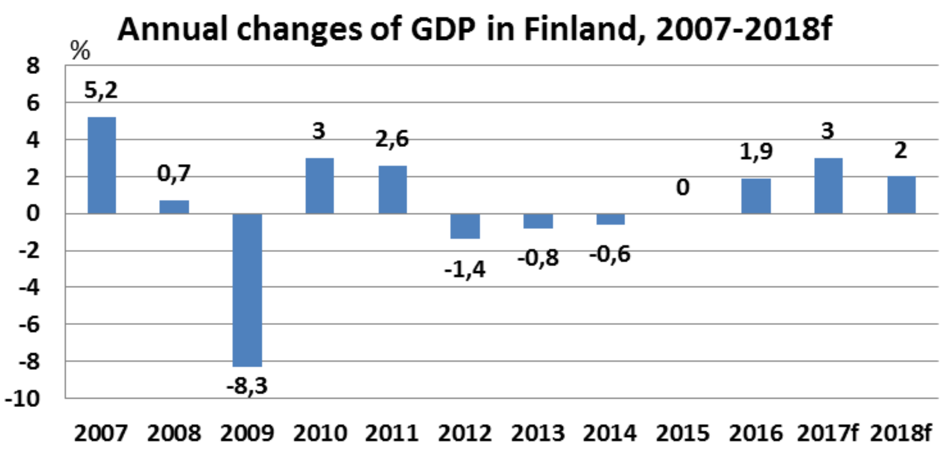
During the past summer and prevailing autumn the business outlooks have strongly revised the growth forecasts for the Finnish economy for 2017. According to preliminary information, the Finnish economy grew slightly above 2 percent during the first half of 2017. The main reason for these upgraded projections is that the exports have recovered to the level seen a decade ago. The growth of exports is wide-ranging consisting of durable and investment goods as well as services. It is noteworthy that the growth is not based only on the larger volumes of sales, but also on the higher value of exports. This, in turn, is mainly due to the brisk growth of the world trade, increased international demand and that the exports from Finland to Russia have again started to grow. Also, the previous key uncertainties concerning, for example, the political elections in Europe and Brexit have not been materialised thus increasing confidence in the economy.

As a part of the general positive economic development in Finland, the private consumption and investments are also growing, albeit at a slower pace with respect to previous year. Even though the level of earnings of the households is not increasing due to the slight increase in consumer prices, the purchasing power will improve modestly because of the improving employment, minor income tax reliefs and low interest rates.

The construction activity, which was one of the main growth accelerators in 2016, is projected to remain reasonably high, even though it will gradually attenuate towards the end of this year. In turn, the investments in machinery and equipment are growing due to the increasing export demand and because of the scarcity of investments during the recent years in order to eliminate the bottlenecks in production.

The recent consumer confidence indicators, released by Statistics Finland in August 2017, reveal that the consumer expectations of Finland's economy and unemployment remained very optimistic. The estimates of households' own economy and savings are also positive. Compared with last year, most of the confidence components strengthened or remained unchanged in August. According to recent business tendency survey in August 2017, released by Confederation of Finnish Industries, the industrial confidence indicator in Finland declined slightly in August, but the cyclical situation, however, was still better than usual and confidence is stronger than the long-term average. The most recent economic outlooks project that the Finnish economy will grow by 2.5–3 percent in 2017.

The economic outlook for Finland in 2018 follows a rather similar pattern than during the current year. However, the purchasing power of households will increase only marginally, slowing down the private consumption growth. Also, the growth of investment activity is projected to slow down with respect to this year. In 2018, the Finnish economy relies heavily on export, which, in turn, is highly sensitive to the economic performance and development of demand in main export areas such as the euro area and Asia. The growth of government expenditures is highly restricted by avoidance of additional public debt. Therefore, the government spending in the coming years is likely to remain close to this year's level. In 2018, the Finnish GDP is projected to grow roughly by 2–2.5 percent.



Sources: Statistics Finland, Nordea (2017f, 2018f)

2 RECENT POLICY MEASURES

In 2013, an internet-based roundwood trade service - Puumarkkinat.fi - was launched by the Central Union of Agricultural Producers and Forest Owners (MTK). The service included mainly stumpage sales based on letters of attorney given by forest owners to their representative forest management associations. In 2015, forest owners decided to join forces with wood buyers and a new on-line service for roundwood sales was planned under Suomen Puukauppa Ltd., a company owned equally by roundwood sellers and buyers. The construction of the service was supported by a significant contribution from the state, in accordance with government strategy on efficient use of forest resource data and digital services.

As a result of the joint development, in May 2017 Puumarkkinat.fi was closed and new service Kuutio.fi was opened. However, this new service has had some starting difficulties. There was a last-minute ownership change in roundwood sellers side, as a number of largest forest management associations replaced former ownership by IT company Silvadata Ltd, which forest owners had sold to Trimble Ltd. However, problems had been already accumulated, and forest management associations were satisfied neither content nor pricing of the service. For these reasons, some of the forest management associations have not yet decided to use the Kuutio.fi.

For an individual forest owner, the use of the Kuutio.fi is free of charge. However, in this case Kuutio.fi downloads and employs the full forest data of an individual forest owner's estate from the official forest information service on Internet, Metsään.fi, managed by the governmental Finnish Forest Centre. When the user of Kuutio.fi is, for example, a forest management association representing a forest owner, Kuutio.fi downloads information only with regard to the respective forest stand intended for stumpage sale bidding. In this so-called professional case of user, the forest management association also pays a fee for using the Kuutio.fi.

Originally, the Metsään.fi service was built on an annual fee of 60 euros per forest owner and its motivation was to offer at least basic forest data for every forest owner, but it was also possible to use the best forest data from forest plans acquired by forest owners. Through the service, it was also possible to give permissions for professional assistance and connect silvicultural works with their operators. However, interest among forest owners to become users of the service was only modest; thus, the service was decided to finance from public funds since 2015. Administrative features like Kemera applications and harvesting announcements have been added for forest owners. The aim of the Metsään.fi service today is to promote the availability and use of forestry information in accordance with the government strategy on efficient use of forest resource data and digital services.

At present, the information content of the Metsään.fi service is required to be published according to the statement by the EU Commission in July 2016. This statement concerns the implementation of the Directive on Public Access to Environmental Information (2003/4/EC), as the Commission has interpreted that the regulating law in Finland is incompatible with the Directive. Due to this reason, the Law on the Information System of the Finnish Forest Center is being reformed. However, due to the government strategy on efficient use of forest resource data and digital services, it seems that the public access to the Metsään.fi forest data is planned be larger than required by the Directive.

From the beginning of 2017, an automatic entrepreneurial deduction of five percent from taxable income was imposed on small and medium size enterprise owners (SMEs resulting owners' individual taxation) as well as farmers, forest owners and reindeer husbandries. In capital income taxation, which is applied in family forestry, the entrepreneurial deduction reduces the capital income tax rate from 30 to 28.5 percent or from 34 to 32.3 percent. The upper rate is applied, when annual capital income exceeds 30 000 euros. The new deduction is expected to increase slightly the supply of roundwood from family forests.

Due to ageing of forest owners and in order to prevent parcelisation of large forest holdings, the government imposed an act called "forest donation deduction", which came into force as a part of the Income Tax Act in the beginning of the 2017. The aim is to increase the transfers of forest holdings to the next generation by non-agricultural private forest owners, and guarantee the roundwood supply after transfers. In the forest donation deduction, part of the donation tax paid by the next generation forest owner is allowed to be deduced during 15 year period from the wood sales net income. The deduction is not applicable to inheritances or to small and average size forest holdings.

The change in the Act on the Financing of Sustainable Forestry (Kemera Act) was approved and the amended Act came into force in April 2017. The amendment was made to balance the mandate for financing with the annual budget allocations. The change resulted in the restricted project termination period within 12 months in financing applications for the management of young stands. The change in legislation ended the suspension of funding and public support could again be applied from the Finnish Forest Centre. Since spring, the Kemera Act supported works have been implemented normally.

For the current year 2017, support of EUR 56.23 million is allocated in the state budget according to the Kemera Act. In addition, previous year's EUR 11 million of unused funds have been reallocated through an additional budget. In spring, the mandate for financing of new projects was EUR 81.6 million, of which EUR 54.6 million was reserved for early seedling management and for the management of young forests. For 2018, the budget proposal is the same as current year, EUR 56.23 million.

The most hectic discussion during summer and autumn in Finland has focused on the legislative proposal of LULUCF (Land Use, Land Use Change and Forests) given by the European Commission. The Finnish government has a comprehensive strategic target to substantially increase sustainable roundwood use in Finland by promoting industrial investments and roundwood supply. However, substantial increase in harvests in Finland is so far not in line with the LULUCF proposal foundations, which are based on historical reference years. The final LULUCF details will be enacted in the European Parliament during autumn 2017.

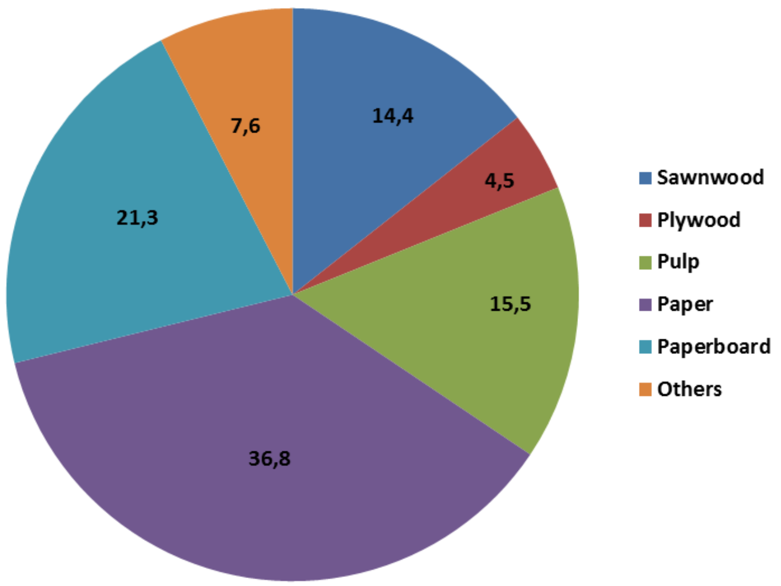
3 MARKET DRIVERS

In 2016, the total export value of the Finnish forest sector products was EUR 11 492 million. Excluding the roundwood trade, the export value of forest industry products was EUR 11 402 million accounting for 22 percent of the total export value of goods from Finland and emphasising the importance of forest sector in the Finnish economy. However, nominally this was 1.6 percent less than in the previous year. Excluding the deliveries of paper and plywood, the export volumes from Finland were slightly increasing with respect to 2015. The descending unit prices of export products were the main reason for the total export value of forest industry products to decline. In 2016, the exports of wood products accounted for 22.9 percent and the exports of pulp and paper products 77.1 percent of the total export value of forest industry products.

In 2016, the demand for paper in the main market area, the euro area, continued to fall, causing a decline in Finnish paper production and exports. However, the capacity cuts both in Finland and abroad, offset the recent declining trend of paper unit prices which remained almost at the previous year's level. Due to the satisfactory demand in the main export areas, Finnish exports of sawnwood increased in 2016 reaching slightly over 8600 cubic meters, which was an all-time-record. The uncertainty concerning Brexit and the weakening of the pound decreased slightly the export volumes of paper and wood processing industry products from Finland to Britain.

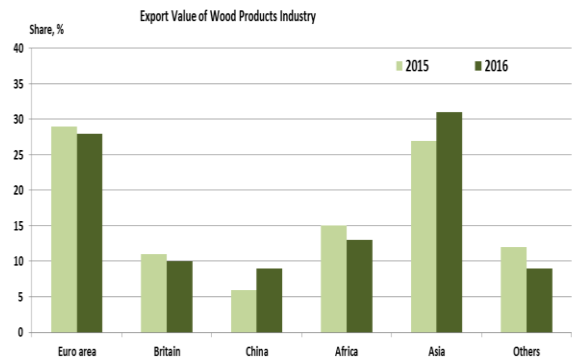
While most of the products manufactured by the Finnish forest industry are exported, the industry is highly dependent on the development and changes in international trade and demand in the main export markets. Also, the development of exchange rates (USD, CAD, SEK, GBP, JPY, RUB, CNY) with respect to euro is an important factor of competitiveness of the Finnish forest industry not only outside of euro area to promote exports, but also inside the euro area when competing against the imports from outside of the euro area. In the Finnish paper industry, about 90 percent of production is exported, while in wood products industry the corresponding share is close to 70 percent. Although target countries of exports slightly differ between the forest products categories, the most important export destinations are Europe, Asia, Near East and North Africa.

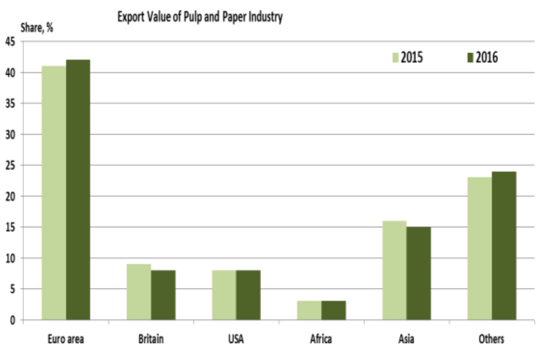
Shares in the value of forest industry exports by industry in 2016



Sources: Finnish Customs, Luke

The outlook for Finnish forest sector products follows closely the similar structure as in the previous years. Production and exports of paperboard and pulp are increasing due to the increase in demand for pulp and packaging materials in the export markets. The completed and ongoing investments, such as Äänekoski biorefinery, in turn, affect positively the future production and export volumes of Finnish forest industry. However, as far as pulp and paperboard export prices are regarded, the worldwide increase in capacity and supply, as well as the substitution possibility between the hardwood and softwood pulp, will affect Finnish export unit prices. Along with the estimated recovery of constructing activity in the euro area and in Finland, the production and exports of Finnish wood products, mainly sawnwood and plywood, are expected to grow also in 2017 and 2018.





Sources: Finnish Customs, Luke.

During the recent years, China has become one of the most important trading partners for the Finnish forest industry. China's importance will continue to be emphasised also in the future. In China, the political objective from the investments and export orientated economic growth towards the more consumption-driven economy can be seen as a promoting pulse for the exports of Finnish forest industry. Along with the rise in standard of living and increasing purchasing power, China requires more raw materials such as sawnwood and pulp in order to produce consumption goods for daily use. For example, the export volumes of sawnwood from Finland to China, and especially spruce sawnwood, which is further processed in furniture industry, are almost quadrupled with respect to 2012.

4. DEVELOPMENT IN FOREST PRODUCTS MARKETS

A. Raw wood

In 2017, the amount of total removals is forecast to grow by 5 percent to 57.4 million cubic metres under bark (u.b.). During 2017, the weather conditions in Finland have been somewhat exceptional with relatively dry winter, dry and cold spring and wet and cold summer, compared to average seasons in the long term. This has had some impacts on roundwood trade, harvesting and transports. Roundwood prices have partly reflected these seasonal conditions, but generally they have remained rather stable during the year.

The price gap in favour of spruce logs compared to pine logs has been prevailing since 2016. This is due to higher market demand for Finnish spruce than for pine sawnwood. Concerning the pulpwood prices, since 2016, the development of pine pulpwood has been more favourable compared to birch, as earlier these pulpwood species have had quite uniform price pattern. Still, pulpwood demand for coniferous species, pine and spruce, as well as for birch is projected to increase in 2017 due to the investments in pulp production. Roundwood imports are assessed to decrease slightly. Approximately four-fifths of roundwood imports originate from Russia, and birch pulpwood dominates the imports.

In 2018, the total removals in Finland are forecast to grow by 3 percent totalling 59.4 million cubic meters u.b., because of the new pulp capacity in Finland. Hand in hand with pulpwood, the sawlog demand is forecast to increase due to growth in sawnwood production. The pulpwood removals are anticipated to grow by 4 percent up to 33.2 million cubic meters u.b. and sawlog removals by 3 percent up to 26.2 million cubic meters u.b. Despite the growth in removals, all stumpage prices are forecast to stay close to current year level. Roundwood import volumes are forecast to stay rather stable.

B. Wood energy

Wood-based energy accounts for 26 percent of all energy consumed in Finland and 80 percent of the Finnish forest industry´s energy consumption (black liquor from the pulp industry, tree bark, sawdust, etc.). Meeting the 2020 goals, (Finland should produce 38 percent of its consumed energy from renewable sources by 2020), depends much on the development of wood processing industry. The Finnish Government has set an ambitious goal for 2030: the share of renewable energy in the end consumption should increase to approximately 50 percent.

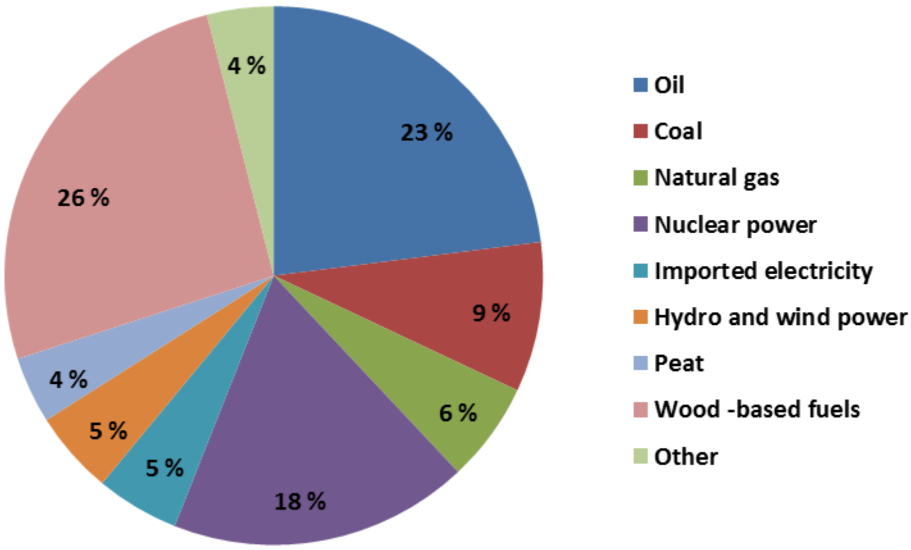
The target for 2020 in Finland is to use 13.5 million cubic meters (m^3) of forest chips annually. In 2016, the use of forest chips was 8.1 million m^3 of which 7.4 million m^3 was used in heating and power plants. The use of forest chips increased by 1 percent from 2015. Small diameter trees are by far the most important raw material source for forest chips in Finland (52 percent of forest chips in

2016), logging residues accounted for 34 percent of raw material, stumps 10 and stem wood 4 percent. The use of forest chips is estimated to increase slowly, 0.6 percent at 2017 and 3 percent at 2018.

The plant price of forest chips in 2016 was EUR 20.9 per megawatt hour, which is 2 percent lower than 2015. In 2017, the average plant prices of wood chips are expected to stay at the same level than 2016.

Domestic production of wood pellets in Finland decreased 10 percent to 271 000 tons in 2016, while domestic consumption increased by 26 percent accounting of 302 000 tons. Accumulated storages were delivered to plants and export of pellets reduced in 2016. Apparent consumption was 286 000 tons (production + import – export). Domestic consumption is estimated to stay at the same level in 2017 and increase 5 percent in 2018. Domestic production of pellets in Finland is estimated to increase 4 percent in 2017 and 1–2 percent in 2018.

Energy consumption in Finland in 2016 by source of energy



Source: Statistics Finland.

The emission trading has a strong influence on the competitiveness of wood-based fuels and their use in energy plants. Increasing the proportion of wood-based fuels is very difficult at the current price level of the EU emission allowances (around 5 €/t CO2). A strong increase in the use of wood-based fuels would require a price level of over 25 €/t CO2 of emission allowances, until the forest biomass can compete with coal. Also, the cheap world market price of fossil fuels (especially coal) has created the situation, where forest biomass is not competitive in some cases.

In bioenergy markets, changes in taxes, subsides and regulations have fast and strong influence on the use of renewable energy sources. In the European Union, there are several directives concerning the usage of solid and gaseous biomass in energy production under construction. Uncertainty with emission trading together with different directives are postponing investment decisions and making future planning difficult and highly challenging. However, during the recent years, there have been few new investments and plans of new biofuel plants in Finland. Also, several large scale CHP

(Combined Heat and Power) plants using forest biomass have been launched in Finland, and in addition there have been reconstructions in old plants in able to use more forest biomass.

C. Certified forest products

In Finland, the current amount of certified forests endorsed by the international Programme for the Endorsement of Forest Certification schemes (PEFC) is about 17.7 million hectares. This accounts for 87 percent of the forests used for wood production. After introducing the Finnish certification standard in 2011, the forest area certified under Forest Stewardship Council (FSC) scheme has increased to 1.47 million hectares or approximately 7.2 percent of the forest area. 1.23 millioin hectares are double certificated.

The use of forest certification labels in forest products has experienced only modest changes over the last year. The number of PEFC Chain of Custody (CoC) certified companies in mid-2017 was 231, whereas FSC has granted 122 CoC certificates. Both certification bodies have recently introduced their own group certification schemes, where companies that meet the strict turn over or number of employees criteria can share the CoC certificate. Both forest and CoC certificate schemes contribute to the sustainable wood material criteria of the Nordic Ecolabel (The Swan), a widely recognised consumer oriented eco-label in the Nordic countries.

D. Value-added wood products

E. Sawn softwood

The Finnish sawnwood production is overwhelmingly dominated by softwood sawnwood (pine and spruce), while the production of hardwood sawnwood (mainly birch) accounts for under 0.5 percent of total sawnwood production annually. In 2016, the exports of softwood sawnwood grew by 9 percent year-over-year and the export volumes hit a new all-time record of 8.6 million m^3. The production of softwood sawnwood increased slightly slower, by 5 percent, to 11.4 million m^3. Accordingly, the share of exports of sawnwood production rose to 76 percent. During the recent years, the export orientation of the Finnish sawmilling industry has been growing due to the downward trend of domestic sawnwood consumption. Before the global 2007–2008 financial crisis, the domestic sawnwood consumption varied between 5.0 and 5.5 million m^3 annually, whereas by 2015, the consumption level had fallen to less than 3.2 million m^3, a drop of over 40 percent from the pre-crisis level.

Year 2016 was a turning point, when the domestic sawnwood consumption increased slightly as construction gained pace in Finland. The growth was most pronounced in the construction of multi-storey residential housing, whereas the construction of detached houses, of which the majority are wooden in Finland, grew only marginally. There is an increasing interest towards wooden multi-storey residential buildings, the construction volumes of which have started to increase. The effect of new wooden high-rise projects on the domestic sawnwood consumption is still a minor one, but obviously, the positive atmosphere towards wooden large-scale buildings has promoted investment decisions in engineered wood products, such as CLT and LVL, in Finland.

The fast growth in total sawnwood exports in 2016 was mainly attributable to the 67 percent increase in sawnwood exports to China, which totalled nearly 1.1 million m^3. In terms of volumes, China became, just after Egypt, the second most important and in terms of value, the most important export target for the Finnish sawmilling industry. The majority, 84 percent or 890 thousand m^3, of the sawnwood exports to China consisted of spruce sawnwood, the main demand for which is in the Chinese furniture industry. However, in 2016, also the Finnish exports of pine sawnwood to China started to grow rapidly as they doubled to 155 thousand m^3 from the relatively low level of 2015. Marked reason for this phenomenon was the development in the traditional main export market area for pine sawnwood, i.e. in North Africa, where unstable political situation continued, exchange rates fluctuated, importers were suffering from liquidity problems and prices of sawnwood were falling. Thus, Finnish, as well as Swedish, and Russian exporters were actively seeking new market opportunities for lower grade pine sawnwood that previously was exported to North Africa and managed direct export flows to China. The situation in the European export market for pine sawnwood was also not completely satisfactory in 2016. Although the Finnish sawmills managed to increase export volumes to Europe, tight competition especially with the Swedish sawmills lead to falling export prices. In 2016, the average export price of pine sawnwood was 7 percent lower than in 2015, while the average export price of spruce sawnwood remained unchanged.

Overall, market development was more favourable for spruce sawnwood than for pine sawnwood in 2016. Accordingly, both the exports and production of spruce sawnwood grew faster than the production and exports of pine sawnwood. Pine sawnwood has traditionally dominated both the production and exports of Finnish sawmilling industry, but during the 2010's, the situation has started to change gradually. In 2016, the production of spruce sawnwood exceeded the production of pine sawnwood by 0.5 million m^3. Simultaneously, the export volume of spruce sawnwood remained ca. 150 thousand m^3 below the export volume of pine sawnwood. However, increasing volumes of processed spruce sawnwood, such as planned spruce sawnwood and glulam beams, were exported in 2016.

Deliveries of Finnish coniferous sawnwood and plywood in 2016, 1000m^3

	Sawnwood		Plywood	
	1000 m^3	%	1000 m^3	%
Production	11360	100	1140	100
Domestic consumption*	2736	24	200	18
Exports:	8624	76	940	82
European Union	3172	28	748	66
Africa, of which	2184	19	8	1
Egypt	1339	12	0	0
Asia, of which	3112	27	48	4
China	1067	9	8	1
Japan	942	8	6	1
North-America	4	0	33	3
Others	152	1	103	9

apparent consumption = production - exports

Sources: Finnish Customs, Luke

Outlook for years 2017 and 2018

The growth in Finnish softwood sawnwood exports experienced in 2016 has continued during the first half of 2017, but with a slightly slower pace. In January-June 2017, the year-over-year growth rate of sawnwood exports was 7 percent, and once again, the spruce sawnwood exports grew brisker (9 percent) than the exports of pine sawnwood (2 percent). The exports grew fastest to the Asian markets (36 percent), and growth was also attained in the exports to Europe (7 percent). However, the development in sawnwood exports to North-African markets was quite the opposite, a drop of over 20 percent, as the difficulties continued in the area. Egyptian importers were still facing problems related to financing of shipments, whereas Algerian importers did not get import licenses. As a result, the Finnish exporters directed increasing volumes of pine sawnwood to other markets than North Africa, mainly to China. In the first half of 2017, the Finnish pine sawnwood exports to China almost tripled compared to the first half of 2016. Above average growth rates were registered also in some traditional target countries of Finnish pine sawnwood exports, such in the UK (10 percent) and in Japan (4 percent).

The average export price of pine sawnwood continued its downward trend in the beginning of 2017. However, the slope was less steep than year ago. In the late summer of 2017, positive signs emerged related to North-African sawnwood markets: financial problems of Egyptian importers seemed to be facilitated and due to the rather healthy underlying demand for sawnwood, pressure on raising the prices grew. The anticipated gradual positive development in the North-African market would further flatten the decrease in the pine sawnwood export price towards the end of 2017.

In the first half of 2017, the spruce sawnwood exports have grown both in the Asian and European markets compared to the previous year’s figures, 17 and 4 percent, respectively. As to the spruce sawnwood exports to China, the growth of 35 percent was lower than usual during the last couple of years. However, the growth rate is still remarkably high, and taking into consideration the rocketed exports of pine sawnwood to China in the first half of 2017, China will be by far the most important single target of Finnish softwood sawnwood exports this year. Simultaneously, the dependence Finnish sawmilling industry on development of Chinese markets is growing rapidly.

Competition in the Chinese softwood sawnwood markets is likely to tighten as it is expected that Canadian producers of sawnwood will seek sales opportunities in Asia due to the escalated Canada-U.S. softwood lumber dispute and the concurrent countervailing and antidumping duties imposed on Canadian softwood imports into the U.S. in April and July 2017. The Canadian softwood sawnwood exports to the U.S. diminished during the first half of 2017, while the demand for sawnwood was increasing in the U.S. market due to the reviving construction. European sawnwood producers have noticed the changed situation, and sawnwood exports from Europe to the U.S. increased rapidly in the first half of 2017. Relatively, the fastest growth, 530 percent, occurred in the Finnish sawnwood exports to the U.S. The high growth rate reflects the low level of sawnwood exports from Finland to the U.S. in 2016 and despite the positive development during the beginning of 2017, the share of the U.S. of the total Finnish sawnwood exports is still marginal.

In Finland, the growth of total construction continues in 2017. It is expected that also the construction of detached houses will start to increase gradually. This would affect positively the domestic consumption of sawnwood which has been historically low during the recent years. The positive drive in many export markets and the expected gradual recovery of domestic demand has encouraged companies, such Keitele Timber Ltd, Versowood Group Ltd, and Isojoen Saha Ltd, to invest in enlarging sawnwood production often by removing bottlenecks.

It is anticipated that in 2017, the Finnish sawnwood exports will grow by 5 percent to 9.0 million m^3 thus hitting the record of 2016. The production of softwood sawnwood is expected to increase by 6 percent to 12.0 million m^3. Despite the rather fast export-driven growth of sawnwood production during the recent years, the predicted production level in 2017 will still be far below the record of 13.6 million m^3 in 2002.

In 2018, the positive development of sawnwood exports and production is expected to continue, yet with a slower pace than in 2016 and 2017. The growth of construction is forecast to continue in Europe as well as in Finland, but the growth rate is to diminish slightly. Despite to intensifying competition in Chinese markets, it is expected that the positive trend in Finnish sawnwood exports to China will continue. Sawnwood consumption in China is growing, and China's shift towards consumption economy supports the growth of demand for furniture. It is predicted that in 2018, the Finnish sawnwood exports will grow by 2 percent to 9.2 million m^3, whereas the sawnwood production is expected rise to 12.3 million m^3.

F. Sawn hardwood

In Finland, hardwood sawnwood is a marginal product, the estimated annual production volume of which was 40 000 m^3 for several years. According to the updated estimate, in 2016, the production of hardwood (mainly birch) sawnwood was 50 000 m^3, which accounted for 0.4 percent of the total sawnwood production in Finland.

G. Wood-based panels

In Finland, the production of plywood accounts for ca. 90 percent of the total production of wood-based panels. The remaining 10 percent consist of particle and fibre board, which both are currently produced in one mill only. Due to privacy reasons, official production data on particle and fibre board are no longer available. The Finnish plywood production is dominated by softwood (spruce) plywood with a share of 70 percent of the total plywood production. Hardwood (birch) plywood accounts for the remaining 30 percent. Spruce plywood (incl. LVL) is used mainly in construction, whereas birch plywood has special applications e.g. in transport industry. This is reflected in the average export price of birch plywood, which is roughly twice as high as the average export price of spruce plywood. Over 80 percent of the plywood production is exported. The main export market area is Europe with a share of 90 percent of the total annual plywood exports.

In 2016, the Finnish exports of plywood decreased by 4 percent year-over-year to 940 thousand m^3, while the production of plywood decreased by 1 percent to 1139 thousand m^3. The decrease in exports and production was partly due to the active adjustment of plywood production by the companies in the beginning of 2016 as a response to the previous increase in South-American plywood imports into Europe. However, as to the whole year of 2016, the overall market situation and demand for both softwood and hardwood plywood can be described as satisfactory in Europe, and the average export price of plywood remained on the same level as in 2015.

Outlook for years 2017 and 2018

Year 2017 has begun with quite a speed in the Finnish wood-based panel industry. In the first half of 2017 the production of plywood was 8 percent and exports of plywood 7 percent higher than during the same time a year earlier. The growth was more pronounced, 16 percent, in the exports of birch plywood than in the exports of softwood plywood, which grew by 2 percent. Market situation in Europe is described as satisfactory as increasing construction supports the demand for softwood plywood and the demand for birch plywood is expected to remain brisk in transport industry. The export price of softwood sawnwood was in the first half of 2017 on the same level than a year earlier, whereas the export price of birch plywood decreased slightly. It is expected that for the whole year of 2017, the production of plywood will grow by 4 percent to 1180 thousand m^3 and the export of plywood will show the same growth rate.

In 2018, the positive trend of plywood production and exports will continue. The main driver is the expected increase in construction in Europe. However, and similarly to the case of sawnwood, the development in production and exports of plywood is forecast to slow down slightly in 2018 compared to 2017. Generally, as far as construction in Europe is concerned, the fundaments, such as availability of funding, increasing household income and demographic development, seem to support the positive development of demand for wood products also beyond 2018.

H. Pulp and paper

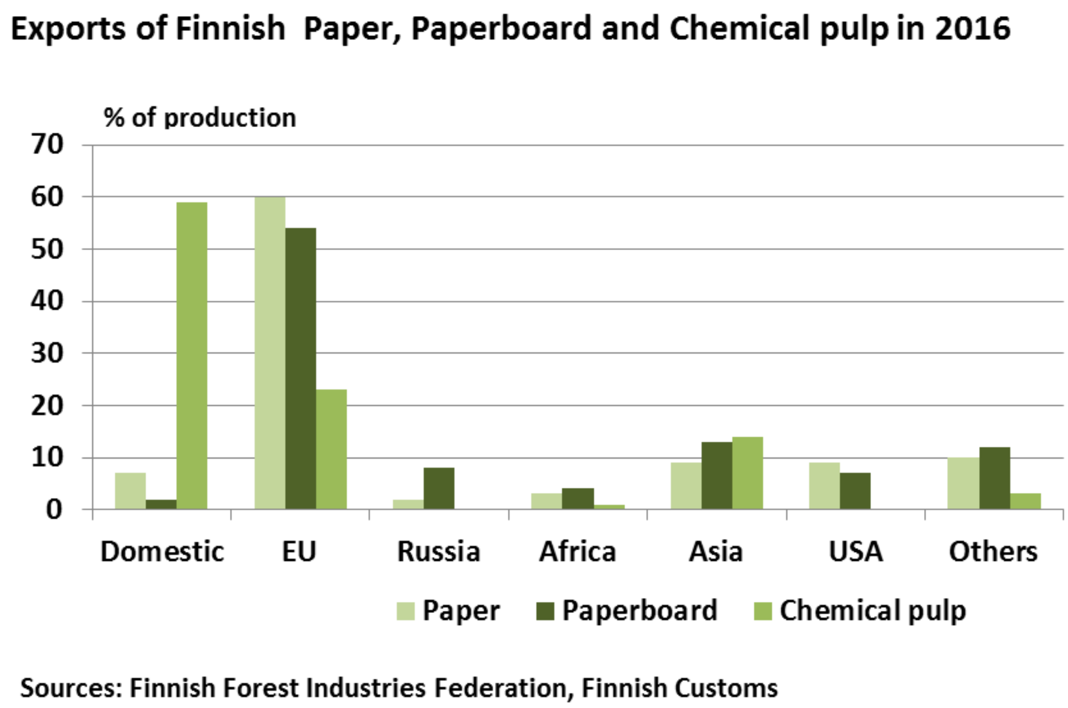
Finnish paper and paperboard industries are highly dependent on the changes in international demand. In 2016, more than 90 percent of the Finnish paper and paperboard production was exported. The orientation of exports has been quite stable for a long time. The main destination is the European Union, others being North America, Asia and Africa. An important single export market for paperboard outside the EU is Russia. Capacity investments in chemical softwood pulp have enabled increments in market pulp exports, but still about half of production volumes are used by domestic paper and paperboard industries. The main export destination of pulp is the EU, even though the export growth to satisfy China’s increasing needs for softwood pulp has been rapid.

Because of the decreasing demand for graphic papers in western export markets, the Finnish industry is redirecting its production. Printing and writing papers have still an important role in the forest industry’s exports, but new capacity investments for paperboard and softwood pulp will change the structures gradually. In 2016, the share of export value of printing and writing papers declined to 37 percent from the previous year’s 39 percent due to the capacity closings completed in 2015. In future, the bioenergy and new biomaterials offer versatile future possibilities for the Finnish forest industry business.

Production capacity of paperboard has increased significantly in Finland through the conversions of two large paper machines to paperboard. Stora Enso’s investment in Varkaus (390 000 t/year, kraftliner) is presently in full production and Kotkamills’s (400 000 t/year, folding boxboard) unit was opened in July 2016. Production of chemical softwood pulp is experiencing kind of a boom in Finland. Two capacity investments (in Varkaus by Stora Enso and in Kymi by UPM, 240 000 t/year all together) were completed in the end of 2015. The new Äänekoski biorefinery of Metsä Group (capacity increase 780 000 t/year, total capacity 1.3 mill t/year) started in August 2017 and it is planned reach full production in 2018. In addition, there are other plans and preliminary planning stages to increase pulp production capacity and production of wood-based energy Finland.

In 2016, the Finnish paper production declined to 6.8 million tonnes, representing a 6 percent drop from the previous year. At the same time exports decreased 8 percent. Finnish paper and pulp industries are highly export-driven, and these declines were due to decreasing paper demand in the exports markets as well as capacity closings in Finland in 2015. Instead, production and exports of pulp and paperboard increased in 2016 due to good demand in the export markets and higher production capacities in Finland. Growth in paperboard exports was 8 percent, while chemical pulp exports increased 4 percent 2016 compared to 2015. China has become an important destination for Finnish pulp exports. In 2016, 0.9 million tonnes softwood chemical pulp were exported to China representing 18 percent growth in volumes compared to 2015.

The growth in production capacity of chemical pulp and declining production of graphic papers enable increased export volumes for market pulp. However, a part of the production increase is needed for growing paperboard production. The market pulp exported from Finland is mainly softwood pulp. In total pulp production, the share of chemical pulp has been about two thirds.



Although the development of export volumes was rather positive with the exception of paper, the price development of all products was weak. The average monthly unit price of total paper exports in euros from Finland followed broadly the falling market price development of printing and writing papers. For the whole year 2016, the average export price remained at the same level as in 2015. Paper markets suffer from overcapacity, declining consumption and hard competition between the producers. In pulp exports, Finnish average export prices (unit price of bleached softwood pulp) fell about 13 percent following the drop in world market prices. In paperboard markets, global demand is going up with increasing internet-trade, and in the Europe the annual demand growth is estimated to be 6 percent up to 2020. However, the supply has also increased considerably, which has kept the price development only modest. In recent years, it has been common to modify paper machines to produce board and board materials, and as a result the European markets are threatened by oversupply. In 2016, Finnish average export unit value of paperboard was 3 percent lower than in 2015.

Outlook for 2017 and 2018

The outlook for Finnish pulp and paperboard for 2017 and 2018 is characterised by significant changes in the orientation of production. Paper production is decreasing after capacity closings, while possibilities to increase paperboard and chemical pulp production are expanded by the new capacity. The impacts of the new capacity investments affect production and exports in 2017–2018.

In the graphic paper markets, the demand development follows what we have seen during the recent years. In Europe, the key export market for Finnish paper, total demand for graphic papers declined 3 percent in the first half of 2017 compared to the respective period in 2016. Consumption was down especially in newsprint and coated paper markets.

In the long term, the downward trend of the graphic paper consumption will continue. However, during the first half of 2017, the moderate economic growth slowed the rate of this decline. At the same time, Finnish exports and production of paper slightly decreased and the same development is projected to continue also in 2017 and 2018. The volumes of paper production are estimated to end up to about 6.7 million tonnes in 2017 (in 2016: 68 million tonnes) and to 6.5 million tonnes in 2018.

The average export unit price of paper from Finland is estimated to fall slightly both in 2017 and 2018. In the European markets the prices of wood free papers have gone up slightly, and the fall in mechanical papers' prices have slowed during the first half of this year. One reason for this has been higher material costs; rising prices of chemical wood pulp and recycled fibre. Therefore, the Finnish export unit prices are estimated go up slightly towards the end of this year, but due to the last year's falling development, the prices end up slightly lower for the whole year 2017 compared to 2016. The downward price tendency is assumed to continue in 2018 under declining demand and continuing oversupply in paper markets.

Capacity closures in the European and North American markets have been extensive, which have supported levels of market prices, but price increases have not materialised under declining demand trends. In the UNECE region, capacity of graphic paper dropped by 1.5 million tonnes in 2016, and it is expected to decline by 2.0 million tonnes in this year.

Packaging materials, paperboard, packaging paper, household papers as well as tissue papers for personal hygiene have promising outlook for forest industries. Demand for these products is growing in Europe, especially in Eastern part of Europe, and in Asia. Still, the main markets for the Finnish paperboard are in Europe, where Germany and Britain are the most important destination countries. During the first half of 2017, the export volumes to the EU increased by 8 percent and to Asia the growth was even higher, 19 percent, when compared to export volumes at the same time in the last year. To Britain, exports grew 18 percent.

Due to increasing demand in the export markets and the capacity increments completed in 2015–2016, Finland's paperboard production is estimated to increase by 8 percent in 2017 and 3 percent in 2018 totalling 3.7 million tonnes in 2018. The export volumes from Finland are estimated to increase with the similar rates in 2017 and 2018. Instead of highly positive volume growth, the development of average unit prices has been weaker. Although the demand is rising, high level of supply in the European markets limits possibilities for market price increments. On the other hand, the rise in pulp and recycled paper prices increase the production costs causing also upward pressures to market prices of paperboard. Finnish average export unit price is estimated to rise slightly in 2017 and 2018 compared to 2016. However, when analysing the aggregate price development for the whole paper or paperboard segment, it is necessary to note that the segments include various kind of products with varying qualities and price levels.

In Finland, production of mechanical pulp has decreased during the recent years after declines in mechanical paper production. Instead, chemical pulp has increased its share in the total wood pulp production satisfying the increasing demand both in the Finnish paperboard industries and global markets. During the first half of 2017, Finnish production of chemical pulp increased slightly compared to the same time last year. Much of this increase was targeted to the growing paperboard production, and exports to the main markets, into the EU, decreased. However, exports to China increased. China has become an important export destination for the Finnish bleached softwood market pulp, and currently China’s share of the export volumes is about one third. For the whole year 2017 Finnish production of chemical pulp is estimated to increase slightly. The start-up of Metsä Group’s Äänekoski pulpmill in August 2017 creates opportunities to increase production and exports considerably in 2018. In 2018, pulp production is estimated to be as much as 8.2 million tonnes.

According to the most recent outlooks, the global demand for bleached softwood pulp as well as for eucalyptus kraft pulp continues at a high level, and economic forecasts indicate demand growth also for 2018. During the first half of 2017, monthly market prices of bleached softwood pulp (from Scandinavia and Canada) have been rising up in the US dollars, but the devaluation of US dollar against euro turned the euro-prices downwards in June. Similar adjustment was seen in the markets of bleached eucalyptus pulp (from South America).

Finnish export prices of chemical pulp follow closely the global market prices. Also, the changes in exchange rates affect strongly on the export earning of Finnish pulp industry. In the first half of 2017, Finnish average export price of bleached chemical pulp was 4 percent higher than in the same time last year. The projection is that increasing global demand will remain the price levels higher in the whole year 2017 than in 2016. In 2018, the world market prices are challenged by new capacities, and Finnish average export price of pulp is assessed to fall slightly. In 2018, Metsä Group’s Äänekoski pulp mill is planned to reach its full production, and capacity is increasing also in Sweden. In addition, capacities are increasing further in the markets of bleached eucalyptus. For example, second pulp line in Fibria’s Tres Lagoas mill in Brasil started in August 2017, although the full production (1.95 million tonnes) will probably not be reached until 2020.

I. Innovative wood products

In Europe, the enthusiasm for multi-storey residential buildings as well as for other large-scale wooden constructions is reflected on the production of engineered wood products. Currently, there seems to be a boom in investments in cross laminated timber (CLT) capacity. According to the announcements of investments decision and investment plans, the European CLT capacity will be doubled to 1.2 million m^3 by 2019. In Finland, the first CLT plant in Kuhmo entered production in the late 2014. In February 2017, CLT Finland Ltd opened its CLT plant in Alajärvi. The plant has an initial production capacity of 40 thousand m^3 which can be increased via extra investments to 70 thousand m^3. CLT Plant Ltd planned to start its CLT production in Kauhajoki during the autumn of 2017. However, the schedule has been delayed and the opening of a CLT plant with an initial capacity of 20 thousand m^3 (later 40 thousand m^3) is expected to occur in 2018.

Production of laminated veneer lumber (LVL) is also growing in Finland. Stora Enso Plc’s Varkaus LVL plant with a capacity 100 thousand m^3 entered production in the second quarter of 2016, and full production will be reached in the middle of 2018. Metsä Wood, the wood products industry division of Metsä Group, replaced two older LVL lines in Lohja with one new line increasing the annual production capacity of LVL by 20 000 m^3. In September 2017, Metsä Wood released an announcement concerning its plan to invest in a new LVL line in its Punkaharju mill site. This line would have a production capacity of 65 m^3.

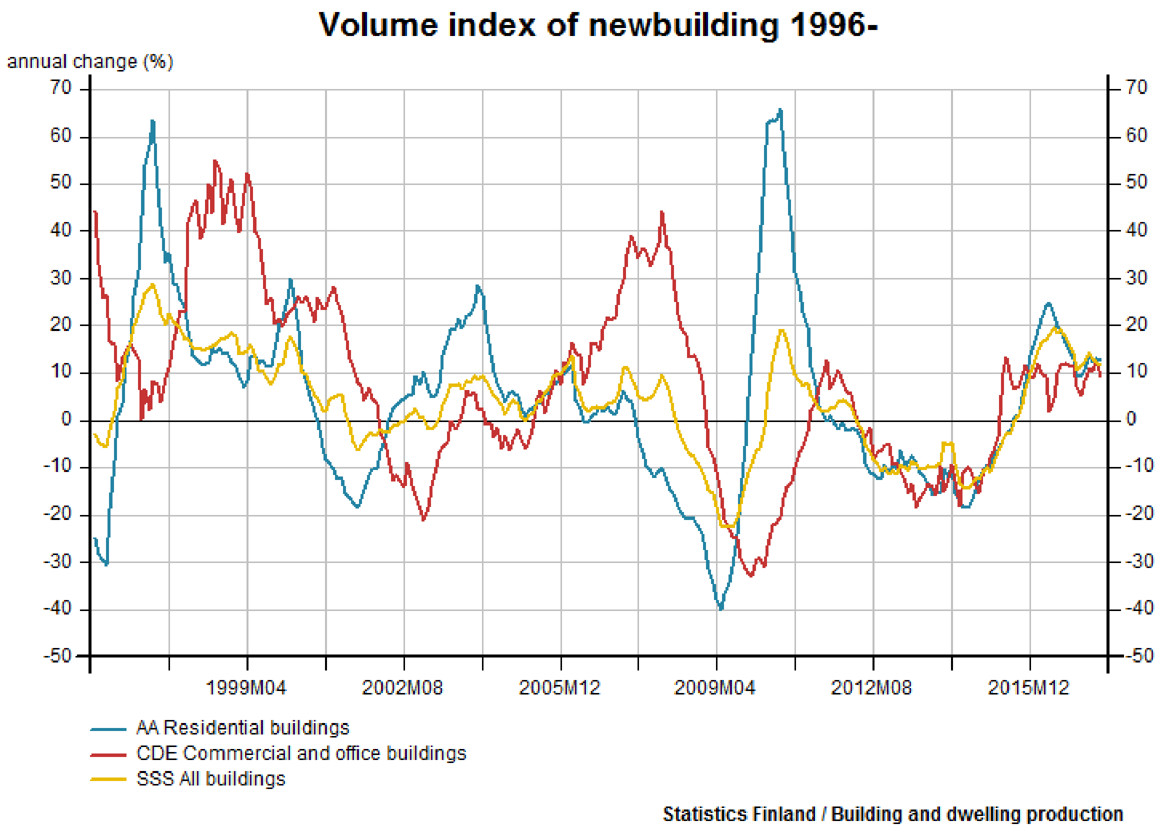
In Finland, there exists several large-scale plans to investment in production of wood pulp and in processing the by-products of pulp production innovatively in order to create value added. These modern pulp mills are often referred as wood-based biorefineries and bioproduct or bio pulp factories. Metsä Fibre, pulp industry division of Metsä Group, started its bioproduct factory in Äänekoski in August 2017. Other mills are planned to be situated in Kuopio (Finnpulp Ltd), Paltamo (KaiCell Fibers Ltd), Kemijärvi (Boreal Bioref Ltd and CAMCE Ltd) and Haapajärvi (Nivala-Haapajärvi development company). The stages of the other projects than the Äänekoski mill vary, but the common factor is the lack of final investment decision.

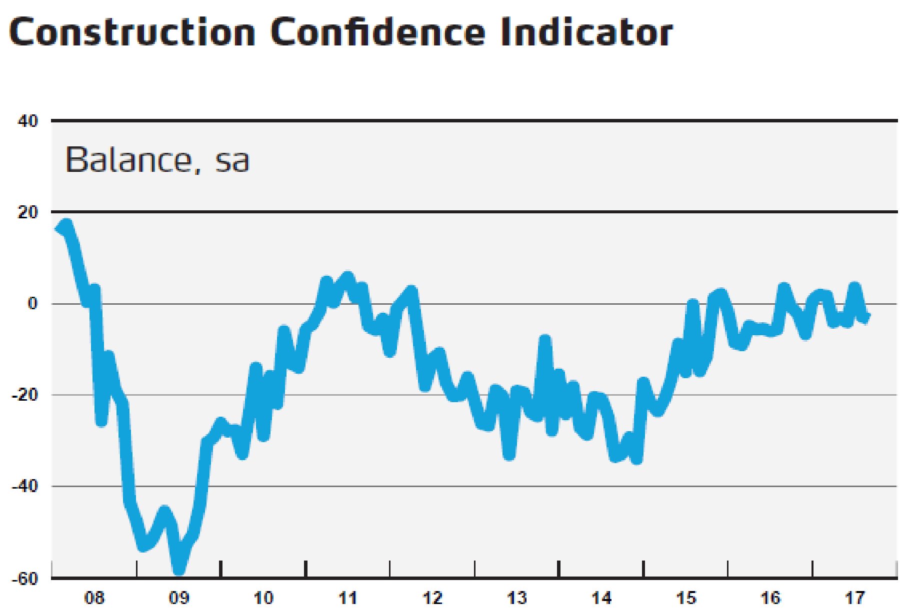
There exist also several plans to investment in biorefineries producing wood-based liquid biofuels, the largest of which is Kaidi Finland's project in Kemi. However, in many cases, the final investment decisions have been postponed due to the uncertainties related to the profitability and production technologies of wood-based second generation biofuels.

J. Housing and construction

According to the Statistics Finland, the total construction in Finland grew as much as 4.9 percent in 2016. During the first half of this year, construction has continued to be brisk, and in the second quarter the construction activity grew 9.1 percent in year-to-year terms. Therefore, the projection released by the Confederation of Finnish Construction Industries RT in March, of 2.5 percent growth of total construction growth in 2017, seems to be out-of-date and needs clear upwards revision. The rise is projected to continue also in the next year, even though the growth rate will be clearly more moderate. Especially, growth in residential construction will begin to fall slightly in 2018. However, the growth of construction activity requires that Finland's economic growth will remain moderate and that any main uncertainties concerning the international demand, trade and politics will not materialise.

The start of building construction is expected to reach 36 million cubic meters in this year. In addition to housing construction, especially the construction of business premises and public buildings, including schools, are growing. Released by the Confederation of Finnish Industries, this insight is also supported by the recent indicators and business tendency survey of industries, which clearly show strong confidence for construction. In August, the construction sector confidence index remained unchanged, but the indicator still stands above its long-term average.





Source: Confederation of Finnish Industries

5. TABLES

A. Economic Indicators

Key economic indicators	2016	2017f	2018f
Gross domestic product growth, %	1.9	3,0	2,0
Consumer price index change, %	0.4	0,9	1,0
Wage and salary earnings change, %	1.2	0,2	1,1
Unemployment rate, %	8.9	8,6	8,3
Current account surplus/GDP, %	-1.4	-0,9	-0,8
Industrial output change, %	1,1	4,2	3,0
EUR/USD (at the end of period)	1,06	1,17	1,,20

Source: Nordea Economic Outlook 6.9.2017

B. Production and Trade

1. Forest Industry Production in Finland

Product	Unit 1000	2015	2016	2017e	2018f
Sawn softwood	m^3	10 600	11 360	12 000	12 300
Plywood	m^3	1 150	1 140	1 180	1 200
Particle board	m^3	92	92	92	92
Fibreboard	m^3	47	48	48	48
Mechanical pulp	ton	3 450	3 460	3 460	3 460
Chemical pulp	ton	7 000	7 460	7 700	8 200
Pulp, total	ton	10 450	10 920	11 160	11 660
Paper, total	ton	7 255	6 809	6 670	6 470
Paperboard	ton	3 065	3 336	3 600	3 720
Paper & Paperboard total	ton	10 320	10 145	10 270	10 190

Sources: Finnish Forest Industries Federation (2015–2016)
Natural Resources Institute Finland (wood products, pulp and paper 2017e–2018f)

2. Exports of Finnish Forest Industry Products

Product	Unit 1000	2015	2016	2017e	2018f
Sawn softwood	m^3	7 867	8 606	9 030	9 180
Plywood	m^3	981	940	980	995
Particle board	m^3	21	21	22	22
Fibreboard	m^3	47	42	46	46
Mechanical pulp	ton	365	365	370	370
Chemical pulp	ton	2 771	3 039	3 100	3 400
Pulp, total	ton	3 136	3 404	3 470	3 770
Paper, total	ton	6 830	6 320	6 200	6 000
Paperboard	ton	3 020	3 254	3 500	3 600
Paper & Paperboard, total	ton	9 850	9 574	9 700	9 600

Sources: Finnish Customs and Finnish Forest Industries Federation (2015, 2016),
Natural Resources Institute Finland (wood products, pulp and paper 2017e–2018f).

3. Imports of Forest Industry Products

Product	Unit 1000	2015	2016	2017e	2018f
Sawn softwood	m^3	404	475	480	480
Plywood	m^3	82	93	93	93
Particle board	m^3	101	109	112	112
Fibreboard	m^3	157	158	158	158
Pulp, total	ton	408	422	422	300
Paper, total	ton	145	133	133	123
Paperboard	ton	232	233	220	220
Paper & Paperboard, total	ton	377	366	353	343

Sources: Finnish Customs and Finnish Forest Industries Federation (2015, 2016),
Natural Resources Institute Finland (wood products, pulp and paper 2017e–2018f).