ECONOMIC COMMISSION FOR EUROPE

Timber Committee

October 2021 *FINLAND*

MARKET STATEMENT

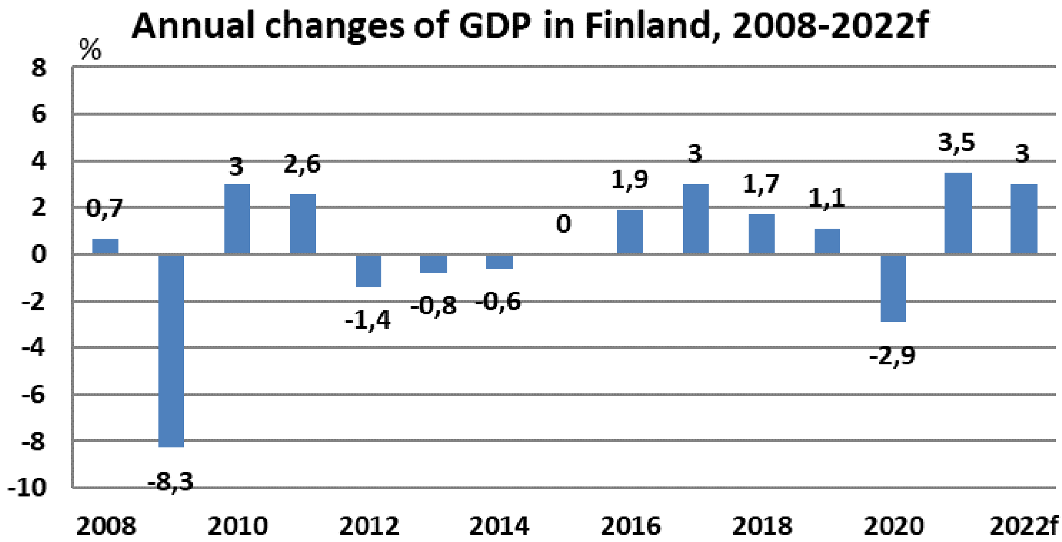
1 GENERAL ECONOMIC TRENDS

Contrary to expectations, the Finnish economy in general suffered from the COVID19-pandemic with relatively little damage, although tourism and restaurants, for example, experienced great difficulties due to imposed restrictions. In 2020, the Finnish economy shrank by 2.9 percent. After a rapid recovery in summer 2020, the recovery slowed during autumn 2020 and winter 2021, with growth of only 0.1 percent in the first quarter of the year compared with the previous quarter. Although daily infection rates rose to record levels in the summer 2021, the economy grew 2.1 percent in the second quarter from the first quarter of the year.

For the rest of the year, the outlook for the Finnish economy is positive. Vaccination rates are growing rapidly and restrictions on business and mobility are expected to be removed completely during October. According to a confidence indicator published by Statistics Finland at the end of September 2021, consumer confidence in both their own and Finland's economy is almost at a record high. Although industrial confidence declined slightly from August, according to confidence indicators published by the Confederation of Finnish Industries in September, industrial confidence remains strong, and the order backlog is above normal. In the construction industry, confidence increased slightly.

The reason for the positive economic development has been, in particular, the growth in private consumption and the return to normal life after strict restrictions. The pent-up savings during the pandemic are dissipating, especially in the demand for services. Consumption growth will also be supported by slowly improving employment and rising earnings, although the rise in consumer prices to almost a couple of percent will play its part this year. Investment and export growth will also start, but clearly slower than consumption. In 2021, the Finnish economy is forecast to grow by 3–3.5 percent.

In 2022, the growth in private consumption will increase slightly from the current year as real earnings are estimated to rise and employment continues to improve. The rise in consumer prices is expected to slow down slightly from the current year. In the markets for Finnish exports, the growth in demand is also accelerating the overall growth of exports, of which exports of services in particular will grow by twenty percent to pre-pandemic level, while exports of goods will grow almost five percent. Although public infrastructure construction is declining, private investment in machinery and residential construction is growing.



Sources: Statistics Finland, Research Institute of the Finnish Economy (2020f, 2021f)

At the beginning of next year, uncertainty about the economic development will be brought about by the expiration of collective agreements in several industrial sectors. In the forest industry, Stora Enso Ltd and Paperiliitto, the association representing paper, pulp, and paperboard workers, reached bargaining agreement as early as the beginning of October 2021. The continuation of the COVID19-pandemic and the partial return of restrictions are also possible. Without significant labour disputes affecting production volumes, the Finnish economy is estimated to grow by about three percent in 2022.

2 RECENT POLICY MEASURES

Although the European Union (EU) does not have a common forest policy, decisions affecting forests are implemented in several other common policies. The purpose of the EU Forest Strategy is to reconcile the views of different policies and Member States on forest use. The new EU Forest Strategy 2030 was published in July 2021 as part of the Commission's “Fit for 55” package, which aims to reduce greenhouse gas emissions by 55 percent. The previous forest strategy from 2013 was largely prepared from the starting points of the member states. The preparation of the new Forest Strategy was based on the European Green Deal programme and the EU Biodiversity Strategy for 2030, and the preparation of the Forest Strategy was largely carried out by the EU Commission. The Slovenian Presidency of the Council of the EU will draw up a strategy on the Council's conclusions, which are due to be adopted by the Agriculture and Fisheries Council in November 2021.

Finland's official position on the Forest Strategy was published in September 2021 for the work of the EU Council. According to Finland's position, climate and biodiversity aspects related to forests are well involved and the Forest Strategy is linked to the European Green Deal and the EU Biodiversity Strategy 2030. Instead, the overall potential of forests, forest sector and the economic and social dimensions of sustainability would need an even more balanced approach. The different strategies should contribute to policy coherence. Forestry and the forest sector based on good ecological status of forests form a whole. The roles of different short- and long-lived wood-based products should be identified and seen as part of the whole now and in the future. From the viewpoint of the division of competences, the EU Treaties do not provide a legal basis for a common EU forestry policy. However, the EU has competence in the environmental, agricultural, and energy sectors, which directly or indirectly affect forests. In accordance with the position taken by the Finnish Government in the EU report, forest policy must continue to be a matter for national decision-making, as the EU member states, and their circumstances are different. The Commission is proposing to set up a new 'Closer-to-nature' certification scheme for forestry. Relevant guidance is currently being developed by the Commission and certification would be based on publicly assessed forest management practices. According to Finland's position, the criteria and indicators related to the sustainable management and use of new forests should be based on scientific information and the work of the pan-European FOREST EUROPE process. The Forest Strategy also proposes an EU-wide forest monitoring framework. In Finland's view, the Commission should recognise the role of existing national forest programmes and strategies in promoting forest-related objectives. Data collection and analysis should be based on national forest inventories as well as other forest research, including diversity research. Finland welcomes the importance of the financial framework as an enabler of forest owners' actions and recalls that the promotion of targeted actions must be considered, for example, in the reform of the state aid guidelines and the allocation of EU funding. Finland hopes that the central, functional, and comprehensive role of the Standing Forestry Committee, which consists of representatives of the member states, will be considered in the development of the structures needed to solve the challenges posed by the forest strategy.

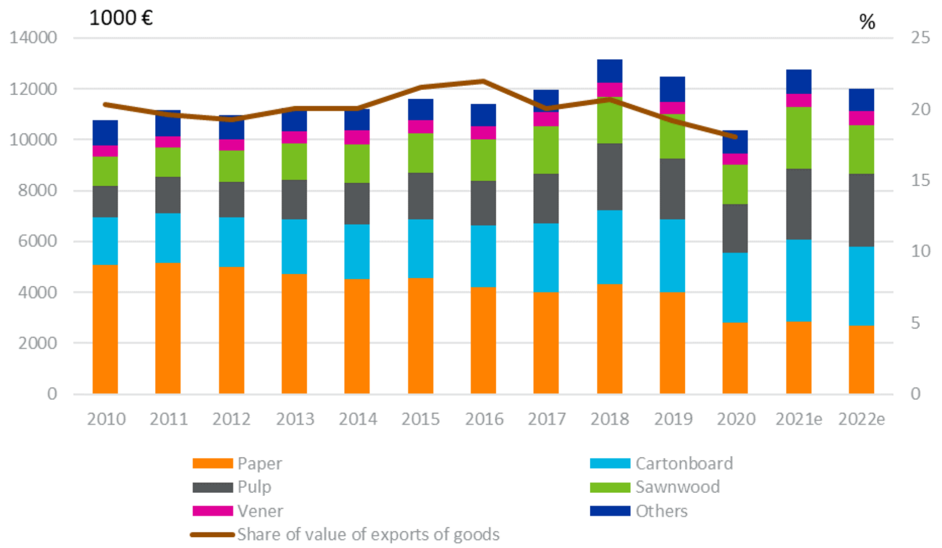
In October 2021, the Finnish Parliament rejected a bill proposing a ban on clear-cutting method in state forests. Forests may continue to be felled using alternative sustainable logging methods which are in accordance with the Finnish Forest Act. The reform of the Act on the Financing of Sustainable Forestry (Kemera Act) is also under way. The biggest changes with respect to the old Kemera Act will concern the management of seedlings, young forests and peatland forests, and the forest road network. In the future, incineration would also be among the nursing jobs to be financially supported. However, according to current assessments, the new support scheme (which has a work name Metka) could enter into force in 2023 or 2024. A new Nature Conservation Act is also under preparation.

3 MARKET DRIVERS

In 2020, the production and export figures of Finnish forest industry were reduced by production shutdowns due to labour disputes at the beginning of the year and a decline in demand due to the COVID19-pandemic. The total nominal value of Finnish exports of forest industry products decreased by almost 17 percent from the previous year to EUR 10.4 billion. At the same time, the nominal value of Finland's total exports of goods fell by almost 12 percent, and the share of forest industry products in the total exports of goods fell by one percentage point from the previous year to 18 percent. The total value of exports of forest industry products was reduced due to the decreased delivery volumes and lower export prices in all main categories compared to previous year. Only the average unit price of sawnwood exports and cartonboard export volumes remained close to the previous year's levels.

In the wood products industry, in 2020, the total nominal value of exports decreased by almost ten percent from the previous year to EUR 2.5 billion. Although the average unit price of sawnwood exports fell by just under a couple of percent, a decline in export volumes of more than eight percent meant a decline in nominal sawnwood export earnings of 10 percent. Plywood export revenues decreased by more than 13 percent.

Nominal values of Finnish exports of forest industry products (million euros) by product group and share of the value of forest industry products of total exports of goods 2011–2022e. The values for 2021–2022 are based on forecasts of export volumes and prices by Natural Resources Institute Finland (Luke).



Sources: Finnish Customs, Luke

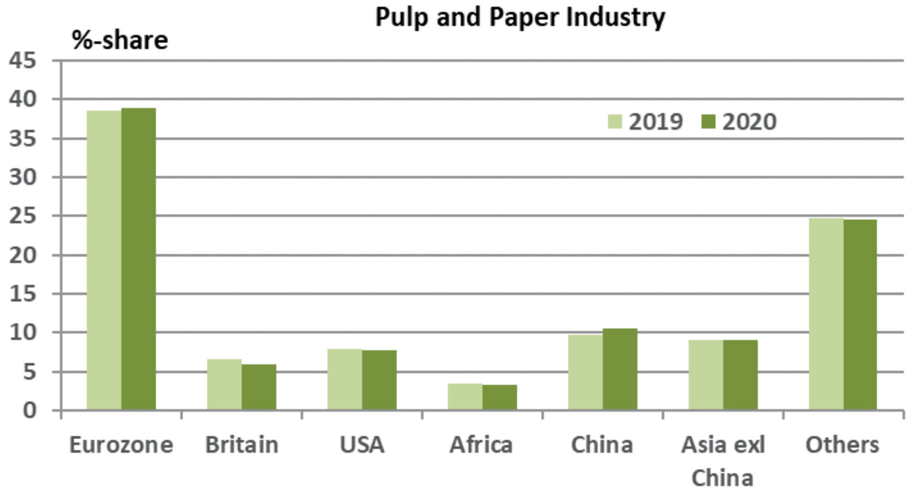
In the pulp and paper industry, the total nominal value of exports fell by almost 19 percent to EUR 7.9 billion in 2020. The total value of exports was reduced in particular because of more than 25 percent lower paper export volumes and seven percent lower average export prices of paper, and more than 18 percent lower export prices of pulp. Exports of both fine and magazine paper fell by more than 28 percent due to the closures of production capacity. The average export price of cartonboard decreased by less than three percent.

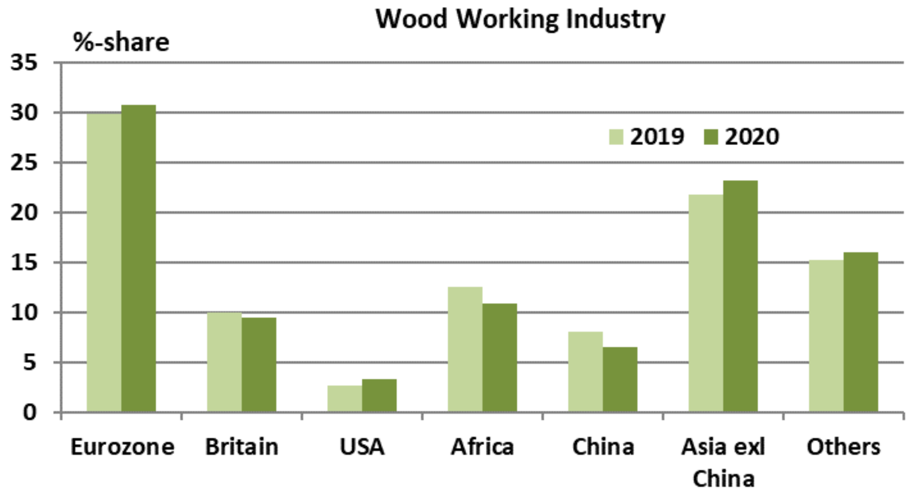
Contrary to previous expectations, cartonboard did not become the most important product of the forest industry in terms of export value in 2020. However, the COVID19-pandemic accelerated the decline in paper demand and the prevailing structural change of forest industry. In 2020, paper accounted for 27 percent of the forest industry's export earnings, which was more than five percentage points less than in the previous year. The share of cartonboard, on the other hand, increased by almost four percentage points to just under 27 percent. In 2020, the wood products industry accounted for 24 percent of the value of forest industry exports and the pulp and paper industry for 76 percent.

The distribution of the value of exports of forest industry products is affected by the market prices and export volumes of the various product groups to the target countries. Looking at consecutive years, there have generally been no major changes in export earnings from the target regions. In the longer term, however, clear trends can be observed, such as the growing importance of China. In 2020, almost 31 percent of the export earnings of the wood products industry came from the euro area. The corresponding share in the pulp and paper industry was 39 percent. In the euro area, exports of forest products to Germany declined by EUR 341 million in nominal terms. In the case of the UK, it is difficult to distinguish between the effects of the pandemic and Brexit on demand, but the decline in paper deliveries in particular cut the value of forest industry exports by more than EUR 200 million compared with the previous year. Pulp export volumes to China increased slightly, but the decrease in the unit price of bleached softwood sulphate pulp, together with the decrease in delivered sawnwood volumes, reduced total export revenues by EUR 178 million from the previous year.

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 working 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.

Distribution of the value of exports of Finnish forest industry products in 2019 and 2020





Sources: Finnish Customs, Luke

4. DEVELOPMENT IN FOREST PRODUCTS MARKETS

A. Raw wood

Roundwood market has been in a boom in Finland during 2021, only approximately two years after the end of the previous peak in 2018. As before, the economic drivers behind the boom are the excellent demand and price level of sawnwood in particular, but also the global demand for pulp. Cumulative roundwood trade has been in high volumes until August 2021. In midsummer, a storm damaged of some two million cubic metres (m^3) of softwood occurred especially in state forests but also in family-owned forests located in the North Ostrobothnian municipalities north of the Kainuu Province. In Autumn 2021, roundwood trade has normalised after exceptionally high summer volumes.

In 2021, fellings of sawlogs are forecast to increase by 15 percent with respect to previous year to 25.9 million and pulpwood fellings by 10 percent to 31.1 million m^3 under bark (u.b.). The average stumpage prices of softwood sawlogs will increase by 10–11 percent, birch logs by 4 percent and pulpwood by 4–6 percent. While imports of roundwood (including wood chips) are anticipated to increase slightly to 11.5 m^3 (u.b.), the total volume of fellings of industrial roundwood and imports of roundwood will increase by 11 percent to 68.5 m^3.

In 2022, both sawlog and pulpwood fellings are forecast to remain almost at the current year's level. The background is the fellings of previously purchased standing reserves, a significant increase in sawmill capacity, and a decrease in roundwood imports from Russia. The average stumpage prices of softwood sawlogs are falling by 4–7 percent in line with declining sawn wood export prices. The decline in the price of pulp will also lead to a fall in pulpwood prices of 3–4 percent. The export policy that secures the supply of wood raw material for Russia's own forest industry and is implemented with the help of high roundwood export duties will practically stop the import of softwood from Russia to Finland. When imports of birch pulpwood to Finland is also assessed to decrease due to close of the Stora Enso Ltd.'s Veitsiluoto Mill, imports of raw wood is estimated to diminish by 12 percent. The total volume of fellings of industrial wood and imports of raw wood will decrease by 2 percent.

B. Wood energy

Wood-based energy accounted for 28 percent of all energy consumed in Finland in 2020. The consumption of wood fuels decreased by six percent, but wood fuels remained the most important individual energy source in Finland. The EU targets for renewable energy are calculated relative to final energy consumption. Calculated in this manner, the share of renewable energy sources in Finland rose to more than 40 percent in 2020 according to Statistics Finland's preliminary data. For the first time in statistical history, the consumption of renewable energy was higher than the consumption of fossil fuels (oil, coal, and natural gas) and peat combined. Finland's target for the share of renewable energy is 38 percent of final energy consumption in 2020, and this share was reached for the first time as early as 2014. The Finnish Government has set an ambitious goal for 2030: the share of renewable energy in the final consumption should be increased to 50 percent.

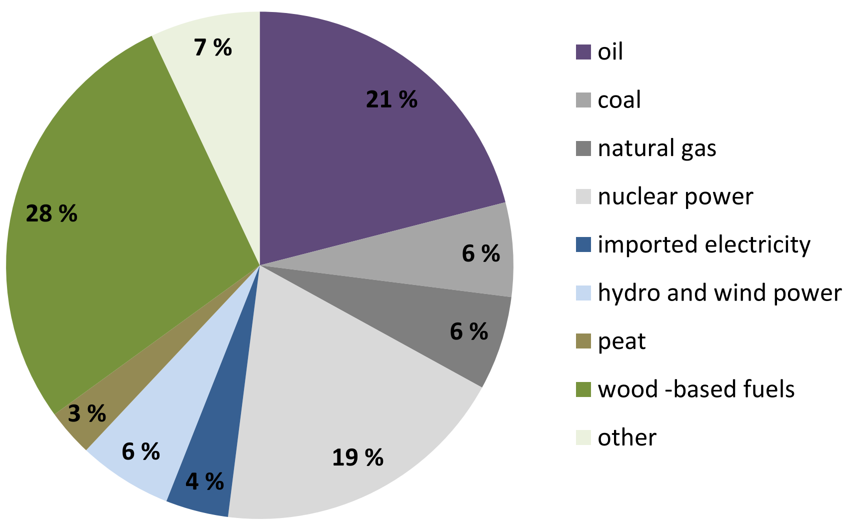
In 2020, the use of forest chips was 8.2 million m^3 of which 7.6 million m^3 was used in heating and power plants. The majority of the forest chips, 4.3 million m^3, was manufactured from small-sized trees, i.e., from pruned and unpruned stems. The consumption of small-sized trees increased by 10 percent from the year before. The use of logging residues as a raw material of forest chips decreased by 15 percent from the year before to 2.5 million m^3. Furthermore, the consumption of large-sized decayed roundwood was 0.6 million and stumps was 0.3 million m^3. The use of forest chips is estimated to increase two percent in 2021, and 4–5 percent in 2022. Decreased use of energy peat increases consumption of forest chips in heat and power plants. The plant price of forest chips in 2020 was EUR 22.2 per megawatt hour, which is six percent higher than 2019. In 2021, the average plant prices of wood chips are expected to increase 3–5 percent.

Domestic production of wood pellets in Finland decreased 11 percent to 322,000 tonnes in 2020. Apparent consumption was 427,000 tonnes (production + import – export). Deliveries by pellet producers based on domestic pellet production, 300,000 tonnes, decreased 10 percent from the year before. The amount of wood pellets delivered to power and heating plants and large buildings decreased by 11 percent. Imports of wood pellets to Finland rose higher than ever before (112,000 tonnes), while the export volume (7,000 tonnes) was the lowest recorded so far.

The prices of EU emission allowances have risen faster than anticipated to record levels. At the beginning of September 2021, EUR 60 per tonne limit was broken. The price of a tonne of carbon dioxide has never been so high. The emission trading has a strong influence on the competitiveness of wood-based fuels and their use in energy plants. Together with rise in world market prices of fossil fuels (especially coal) it has created the situation, where forest biomass is more competitive. However, changes in taxes, subsides and regulations have fast and strong influence on the use of renewable energy sources in bioenergy markets. 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.

In Finland coal-fired power and heating generation will be banned as of 1 May 2029. The coal ban will promote a low-carbon energy system, stimulate the use of renewable energy sources, and ensure healthier living environment. In addition, the taxes for energy-peat have raised and the use of peat for energy decrease by at least half by 2030.

Energy consumption in Finland in 2020 by source of energy



Source: Statistics Finland

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 18.9 million hectares (by mid-2021). This accounts for 93 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 2.2 million hectares or approximately 10.8 percent of the forest area. 2.03 million hectares are double certificated (8/2021).

In 2018, the requirements for the risk assessments of FSC controlled wood were changed. Earlier they were made by the companies buying timber, but after the new requirements, the risk assessments must be done at country level. In Finland, the country level assessment changed the status of some forest areas, especially due to different interpretation of acceptability categories about violation of traditional rights and forests with high conservation values. The debate about these areas' forestry use is ongoing.

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 September 2021 was 242, whereas FSC has granted 157 CoC certificates. 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

In the Finnish sawmill industry, the year 2020 was characterised by labour disputes at the beginning of the year and the COVID19-pandemic, which had unexpected effects. At the beginning of the pandemic, sawnwood producers around the world prepared for a sharp drop in demand as the economic outlook weakened and COVID19 related restrictions were set into force. Although the restrictive measures halted construction sites and hampered transportation in many countries, their effects on construction volumes often remained temporary. The increase in time spent at home led people to renovate their homes and yards. This was reflected in the exceptional growth in demand for sawn timber in the do-it-yourself (DIY) sector. The mismatch between sawnwood demand and supply was reflected in a sharp rise in the price of softwood lumber first in the US market in the late summer 2020. The rise in sawnwood prices that began in the US market has spread to other market areas in the first half of 2021.

In Finland, sawnwood production was particularly affected by the strike in the mechanical forest industry in February 2020, when sawnwood production decreased by 40 percent compared to February 2019. For the whole first quarter of 2020, sawnwood production was almost 25 percent lower than in the corresponding period of the previous year. Sawnwood production recovered as the year progressed, and production volume in the fourth quarter of 2020 was already higher than at any time in the last quarter of the 2010s. Despite the increase in sawnwood production towards the end of the year, the total volume of sawnwood production in 2020, 10.9 million cubic meters, was four percent lower than in 2019.

Finnish sawmill industry in 2020.

	Sawnwood 1000 m^3	Share of production %	Volume change 2020/2019 %
Production, of which	10 916	100	-4
Domestic market*	2 698	25	10
Exports, of which	8 218	75	-8
Euro area	2 153	20	0
Germany	*495*	*5*	*3*
France	*423*	*4*	*-10*
Estonia	*392*	*4*	*12*
Others	*844*	*8*	*-2*
Other Europe	1 155	11	-4
United Kingdom	*790*	*7*	*-6*
Others	*364*	*3*	*-1*
Asia	2 999	27	-8
China	*959*	*9*	*-22*
Japan	*780*	*7*	*-13*
Saudi Arabia	*588*	*5*	*24*
Israel	*395*	*4*	*10*
Others	*276*	*3*	*-6*
Africa	1 806	17	-21
Egypt	*1 171*	*11*	*-23*
Algeria	*312*	*3*	*-30*
Others	*323*	*3*	*2*
North America	91	1	134
Others	14	0	-31

*Apparent consumption of sawnwood production in Finland = production – exports. Sawnwood includes softwood and hardwood sawnwood.
Sources: Finnish Customs, Finnish Forest Industries Federation.

Also, in Finland, the demand for sawnwood was supported by the popularity of DIY construction, and in 2020, the share sawnwood production that remained in the domestic market grew. Instead, the Finnish sawnwood exports decreased by eight percent from the previous year, and relatively large declines were experienced in the exports to China and North Africa. Sawnwood exports to the Middle East, on the other hand, performed well in 2020. Export volumes to some European countries, such as Estonia, Germany, and Austria, also increased. The high price level of softwood sawnwood in the US market also attracted some Finnish sawnwood producers to direct their exports across the Atlantic. Finland's exports of sawnwood to the United States more than doubled in 2020 compared to the previous year, but the share of the United States in the total volume of sawnwood exports remained at just over one per cent.

Outlook for years 2021 and 2022

Demand for sawnwood, especially in the European market, has been strong during 2021. In the first half of the year, Finnish sawnwood exports to the EU increased by 54 percent compared to the corresponding period in 2020. Exports to the UK increased by 109 percent, and the UK is becoming the most important single export country for Finnish sawnwood exports this year, both in terms of volume and value. Exports of sawnwood to the Middle East have also performed well. In North

Africa, the development of sawnwood exports has been twofold. In the first half of 2021, exports to Egypt decreased by 38 percent but increased to both Algeria and Morocco, and overall sawnwood exports to North Africa remained almost at the level of the first half of 2019. Export volumes to both China (-38%) and Japan (-17%) decreased in the first half of 2021 compared to the same period in 2020.

Reflecting the price development in the export markets, the export price of Finnish sawnwood began to rise in the spring 2021, and the rise has been very sharp during the summer months. According to customs statistics, in July 2021, the average export price of sawnwood was already EUR 337 per cubic meter, and compared to March 2020, the price per cubic meter had risen by almost EUR 160. Compared to the highest monthly export price quotation in the cyclical peak of 2007, the export price in June 2021 was EUR 88 higher in nominal terms and EUR 19 higher in real terms. Higher real export prices are only to be found in the oil crisis years of the 1970s.

In the export markets, the prices of softwood sawnwood are under downward pressure, and in many areas the price peak has been passed during the autumn of 2021. The price changes in the export markets are reflected with a delay in the export price of Finnish sawnwood, and the export price is expected to start declining towards the end of the year. However, the average export price for the whole year of 2021 is expected to rise by almost 40 percent above the 2020 level.

Although the price peaks in the sawn timber export market have mainly been passed, the Finnish export demand for Finnish sawnwood is expected to remain strong towards the end of the year. The volume of exports in 2021 is forecast to increase by 12 percent from 2020 to 9.2 million cubic meters. Correspondingly, softwood sawnwood production will rise to 12.0 million cubic meters this year, and the production volume will be the highest since the financial crisis.

In 2022, the global economic recovery will continue, which will be reflected in construction volumes and demand for sawnwood. Euroconstruct forecasts that construction in Europe will grow by three percent next year, which is slightly slower than this year. However, growth in construction would be faster than average in the UK, whose importance as a destination country for Finnish sawnwood exports has risen rapidly. Tourism is expected to recover finally, which, together with rising oil prices, will support economic growth in North Africa and the Middle East. The export demand for softwood sawnwood is expected to remain strong also in 2022, and Finnish sawnwood exports will grow by two percent to 9.4 million cubic meters. However, the average export price of softwood lumber is expected to fall by twenty percent next year from this year’s peak figures. In euro terms, however, the export price is expected to remain higher than, for example, in 2019 or 2020. Softwood sawnwood production is forecast to rise to 12.2 million cubic meters in 2022. Growth in both the production and export volumes will focus on pine sawnwood, primarily due to the increase in pine sawnwood production capacity.

In Finland, independent sawmills have made investments in the last few years aimed at modernising dryers, log feeding, sorting, and sawmill lines, among other things. The pace of investment has been accelerated by improved cash flows and the strengthening of balance sheets due to the increase in the price of sawnwood. As a result of the investments to be introduced during the current year (Veljekset Kuusisto, Orasko, Kieppi Sawmill, Westas Raunio), the sawnwood production capacity is estimated to increase by more than 300,000 cubic meters. In the third quarter of 2022, Metsä Wood's 750,000 cubic meter pine sawmill in Rauma will be commissioned. In 2022, the Versowood’s sawmill line in Heinola will also be renewed. In 2023, two large completely new sawmills will be completed: the Junnikkala 300,000 cubic meter sawmill in Oulu and the Koskisen 400,000 cubic meter sawmill in Kärkölä, which will replace Koskisen's current sawmill in Kärkölä. In addition, in 2023, Kuhmo Ltd's new main saw line will be commissioned in Kuhmo. As a result of the investments, sawnwood production capacity is estimated to increase by approximately 1.5 million cubic meters in 2022–2023, with an emphasis on sawing pine. With the introduction of new efficient sawing capacity, old production capacity may also be shut down.

F. Sawn hardwood

Hardwood sawnwood is a marginal product in Finland. Currently, there is only one hardwood sawmill of industrial scale sawing birch. The estimated production volume of hardwood sawnwood was 36 000 m^3 in Finland in 2020.

G. Wood-based panels

In 2020, Finnish plywood production, export volume, and export price decreased, and the decline was stronger than for sawnwood. DIY sector did not support demand for plywood like sawnwood, and especially in the birch plywood market, supply was plentiful relative to demand. For softwood plywood (incl. laminated veneer lumber (LVL)), the market situation started to improve, especially in the British and German markets, as construction recovered towards the end of 2020 and the export volume and price increased. The positive development has continued during 2021. In the first half of 2021, the export volume of softwood plywood was 38 percent higher and the export price five percent higher than in the corresponding period of 2020. According to customs statistics for July 2021, the export price of softwood plywood had already risen to EUR 470 per cubic meter, an increase of 18 percent compared to July 2020.

Outlook for years 2021 and 2022

Demand for birch plywood started to improve in 2021 as the transport industry recovered. Birch plywood export volumes have also increased in the first quarter of 2021 and the export price has risen, but relatively less than softwood plywood. After a moderate increase at the beginning of the year, the export price of birch plywood rose to EUR 881 per cubic meter in July 2021, and the increase compared to June was EUR 50 per cubic meter. Birch plywood has been reported to be in short supply in Europe, especially due to problems with the availability of Russian birch plywood. The situation of Russian plywood on the European market is also affected by the imposition of provisional anti-dumping duties in June, which have made buyers cautious, especially in Germany and the Netherlands. If anti-dumping duties were to be made permanent, they would weaken the price competitiveness of Russian birch plywood in the EU market.

Although the increase in the export price of both softwood and birch plywood accelerated in the summer, for the whole of 2021, it is expected that the increase in the average export price of plywood will be moderate, five percent. Thanks to the strengthening of demand for plywood in 2021, Finnish plywood exports are expected to grow by 17 percent and production by 18 percent to 1.17 million cubic meters. In 2022, plywood export and production volumes as well as the export price are expected to decrease slightly from the current year.

Finnish plywood industry in 2020.

	Plywood 1000 m^3	Share of production %	Volume change 2020/2019 %
Production, of which	990	100	-9
Domestic market*	162	16	-6
Exports, of which	828	84	-10
Euro area	362	37	-13
Germany	*127*	*13*	*-10*
Netherlands	*118*	*12*	*-15*
Others	*116*	*12*	*-14*
Other Europe	330	33	-14
United Kingdom	*108*	*11*	*-22*
Sweden	*93*	*9*	*-12*
Denmark	*40*	*4*	*-11*
Norway	*40*	*4*	*-14*
Others	*48*	*5*	*5*
Asia	38	4	9
Africa	3	0	-13
North America	59	6	9
Others	36	4	26

* Apparent consumption of plywood production in Finland = production – exports.
Sources: Finnish Customs, Finnish Forest Industries Federation.

In the plywood industry, investments have focused on the production of LVL and birch veneer sheets in recent years. LVL investments also seem to be continuing, as in September 2021, Metsä Group announced that it was planning to build a new LVL mill with a capacity of 150,000 cubic meters in Äänekoski. The plant would be constructed in stages during 2022–2026, but no final investment decision has been made.

H. Pulp and paper

As a result of declining demand and reduced capacity, both paper exports and production decreased last year by about a quarter from the previous year level. Paper machine occupancy rates were also low. In January-April this year, exports fell further by about seven percent in year-on-year terms, but during the summer the recovery started to some extent, and overall, the volume of exports in the first seven months of the year was about three percent higher than in the corresponding period of the previous year. The increase was thus about the same as the increase in demand in Europe as a whole. Compared to the corresponding period in 2019, however, Finnish exports were still 25 percent lower.

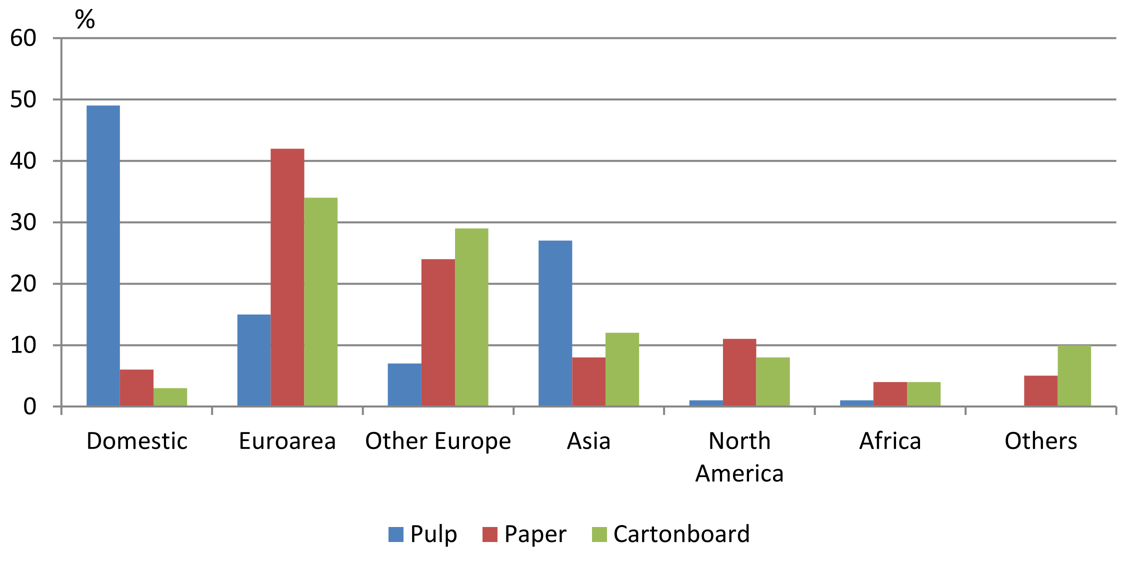
In 2021, the figures for Finnish paper production will continue to be affected by last year's capacity closures. In autumn 2020, Stora Enso Ltd. closed two fine paper machines in Oulu. The total capacity of the machines was about one million tons. One of Oulu's paper machines was converted to produce kraftliner. By the end of last year, United Paper Mills Ltd. (UPM) closed the Kaipola mill in Jämsä, which produced 0.45 million tonnes of newsprint and 0.27 million tonnes of coated mechanical printing paper. This year's and next year's production volumes in Finland will also be affected by the closure of Stora Enso's Veitsiluoto plant in the autumn of this year. The mill's three machines had an annual production capacity of a total of 0.79 million tonnes, mainly uncoated fine paper, but also magazine paper and paper for various packaging applications.

According to Metsä Board Ltd.'s semi-annual report, cartonboard deliveries in early 2021 have been record highs due to strong demand for both white-top kraftliner and folding boxboard. Average cartonboard prices also rose in the second quarter. Demand for kraftliner is boosted in particular by growth in retail and e-commerce. Demand for folding boxboard has been strengthened by growing demand for food and pharmaceutical packaging. This effect will be seen in both types of cartonboard this year and next.

During the first seven months of this year, cartonboard exports from Finland increased by 14 percent. The increase in cartonboard exports is explained in particular by the start of Stora Enso's Oulu kraftliner production, but also because of last year's industrial action, which reduced exports in the comparison period. The average price of cartonboard has fallen by two per cent in January-June.

Pulp production in Finland decreased by almost eight percent in 2020 with respect to previous year. Exports also decreased by almost the same amount. The decrease was the result of lower total demand due to the corona and low industrial action by the forest industry in the early part of the year. However, according to the Finnish Forest Industries Association, pulp production in the first half of this year increased by more than 11 percent from the previous year. Pulp exports in the first seven months of the year were about 14 percent higher than in the corresponding period of the previous year. In Europe, pulp deliveries in the first half of the year were about two percent higher than in the corresponding period of the previous year, but globally deliveries fell by four percent.

Domestic Use and Exports of Finnish Pulp, Paper, and Cartonboard in 2020 (% of production)



Sources: Finnish Customs, Luke, Finnish Forest Industries Association

Outlook for 2021 and 2022

As a result of the growth of the global economy, the demand for paper has started to rise in Europe since the collapse in last year. Finnish exports have also recovered, and massive closures of paper machines are less visible in export volumes than expected. Paper production and exports will grow one percent this year from last year but will decline again next year. The average export price of paper will increase also by one percent both in this and next year as a result of improved demand, reduced supply, and higher raw material costs. Significant capacity cuts in Europe have clearly increased machine occupancy rates from the last year.

The corona pandemic has increased the demand for cartonboard products. This is expected to continue next year as the growth of e-commerce and the growth in demand continues. The Finnish cartonboard production capacity will significantly increase this year with the ramp up of Stora Enso's kraftliner production in Oulu, which will be directly reflected in the growth in cartonboard exports. Prices have risen sharply in Europe this year, which will also raise the average price of Finnish cartonboard exports, despite the fact that the share of kraftliner, which is cheaper than folding boxboard, will increase. This year, cartonboard will rise past paper to become Finland's most important forest industry product in terms of export value.

Pulp exports have risen this year as demand for end products has strengthened. Finnish exports will continue to grow next year, but more moderately than this year. The price of pulp has been high and Finland's average export price this year will be 36 percent higher than last year. However, price increases in Europe have already levelled off and in China prices have been falling for some time. The export price of pulp will be lower next year than this year. The total production of wood pulp (including also mechanical pulp in addition to chemical pulp) will clearly increase this year from last year. Next year, changes in production will be minor.

I. Innovative wood products

In Finland, there are several R&D projects, start-ups, investment plans as well as testing and pilot plants focusing on developing and producing of new, innovative wood based-based products. An overview of wood-based products being developed in Finland can be found on the portal: https://forest.fi/tag/innovations/?post_types=products-services

In 2018, Spinnova Ltd. built its pilot plant to produce textile fibres directly from wood pulp without dissolving chemicals in Jyväskylä. In 2021, Spinnova was listed in Helsinki Stock Exchange, and with its largest owner Brazilian pulp and paper company Suzano, it announced an EUR 50 million investment plan to build a new commercial scale textile plant in Jyväskylä. The plant is to be opened in 2022.

Stora Enso invested EUR 10 million in a pilot mill to produce bio-carbon for batteries from lignin at Sunila mill in Kotka in 2019. The mill was completed at the beginning of 2021. Furthermore, in the end of 2020, Stora Enso announced to invest EUR 14 million in a lignin granulating plant in Sunila. The granulating plant is to be completed in 2022.

In February 2021, Metsä Group decided on investing EUR 1.6 billion in a new bio-product factory in Kemi. The main products of the Kemi bio-product factory are softwood and hardwood pulp. Other bio-based products are pine oil, turpentine, product gas, and sulphuric acid to be processed further. The other large-scale investment plans in pulp production with emphasis on new innovative wood-based products in Kemijärvi, Paltamo, and Kuopio are in different stages and no final investment decision have been made.

J. Housing and construction

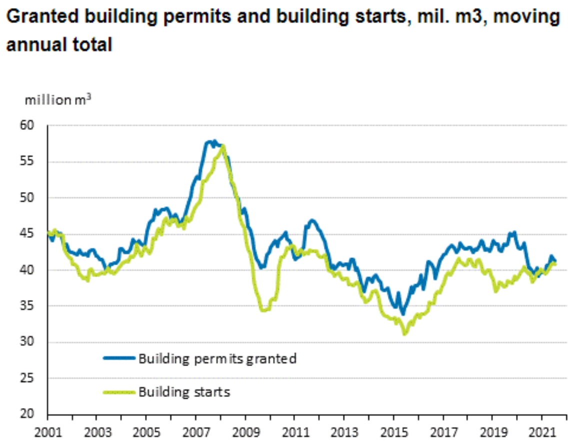
In 2020, the housing construction decreased by 2.3 percent while the total construction activity decreased by 4.1 percent. According to most recent assessments of Confederation of Finnish Construction Industries RT in October 2021, the construction activity has begun to slowly recover. Driven by the Finnish economy, construction is turning to growth, but due to the weak start of the current year, growth will remain at one percent this year, but will accelerate to two percent in 2022. Housing construction will remain high in both years of the forecast period. Commercial construction is recovering, and renovation construction is returning to a growth trajectory. Land and water construction will decrease next year. Cost development remains the single greatest risk in construction. The anticipated slowdown in economic growth in 2023 will also be reflected in construction.

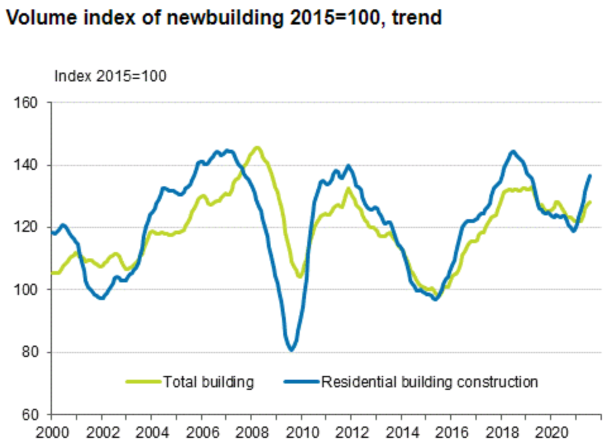
According to the recent statistics released by Statistics Finland in September 2021, the building permits were granted for a total of 11.1 million cubic metres in May to July 2021, which was 6.8 percent higher than in the corresponding period one year ago. The cubic volume allocated to residential construction increased by 26 percent while the cubic volume allocated to non-residential construction decreased by 0.7 percent. The recent business tendency survey of industries, released by the Confederation of Finnish Industries (CFI) in September 2021, revealed also recovering in construction sector. The construction confidence indicator scored +7 in September, which is two points higher than the corresponding figure in August. The indicator is above its long-term average which is -7. The order backlog increased from the previous month's level and is above normal. The number of staff is estimated increase in the coming months. In August, however, the confidence indicator for Finnish construction was weaker than the EU average.

	2019	**2020**	**2021e**	**2022f**
Construction, change in volume, %	-5.1	-4.1	1.3	2.6
Renovation construction	-0.8	-0.4	1.0	2.0
Construction investments, change in volume, %	-1.4	-0.4	1.3	0.9
Building construction	-0.7	-2.3	1.4	1.3
Land and water construction	-5.3	10.7	1.0	-1.0
Starting up of building construction production, mill. m^3	38.7	40.2	40.4	40.9
Residential buildings	11.6	12.6	13.8	12.9
Free-time residential buildings	0.6	0.7	0.9	0.8
Commercial and office buildings	4.7	4.4	4.7	4.8
Public service buildings	5.6	5.6	4.7	5.0
Industrial and warehouse buildings	10.9	10.7	11.8	13.0
Agricultural buildings	3.5	4.1	2.4	2.4
Other buildings	1.8	2.1	2.2	2.0
Number of housing production start-ups	37 400	40 500	44 000	40 000
Non-subsidised	29 600	31 300	35 000	32 000
State-subsidised housing	7 800	9 200	9 000	8 000

Source: Confederation of Finnish Construction Industries RT, October 2021

Similar outlook was given by The Research Institute of the Finnish Economy (ETLA) in its September 2021 forecast. According to ETLA's report, construction as a whole is forecast to grow slightly this year. Construction companies' turnover and sales have increased over the spring, and construction companies' confidence was restored in August and September, albeit by slower than in the other industries. According to construction industry's housing survey, construction companies anticipate housing production to remain high level throughout the year. The directions of residential construction and other building construction developments, however, have been slightly different this year. The recent data from Statistics Finland confirm that housing production has continued slightly better with respect to last year. Although the building permits and the started construction projects have increased from a year ago, the reason for strong growth is residential construction. Despite the permits granted, there are possible increase in raw material prices and the availability of labour which can limit the housing construction starts. ETLA forecast that the residential construction is growing by 2.8 percent and other building construction will shrink by 1.5 percent this year.





Source: Statistics Finland, 28 September 2021

5. TABLES

A. Economic Indicators

Key economic indicators	2020	2021f	2022f
Gross domestic product growth, %	-2,9	3,6	3,0
Consumer price index change, %	0,3	1,8	1,6
Wage and salary earnings change, %	1,9	2,2	2,5
Unemployment rate, %	7,7	7,8	7,0
Current account surplus/GDP, %	0,7	0,3	1,0
Industrial output change, %	-3,3	3,7	2,8
EUR/USD (at the end of period)	1,14	1,18	1,18

Source: Research Institute of the Finnish Economy (ETLA) 20.9.2021

B. Production and Trade

1. Forest Industry Production in Finland

Product	Unit 1000	2019	2020	2021e	2022f
Sawn softwood	m^3	11 360	10 880	12 000	12 200
Plywood	m^3	1 090	990	1 170	1 140
Particle board	m^3	92	88	88	88
Fibreboard	m^3	49	49	49	49
Mechanical pulp	ton	3 275	2 840	3 028	2 951
Chemical pulp	ton	8 320	7 680	8 290	8 380
Pulp, total	ton	11 595	10 520	11 318	11 331
Paper, total	ton	6 000	4 520	4 550	4 240
Paperboard	ton	3 708	3 690	4 200	4 300
Paper & Paperboard total	ton	9 708	7 827	8 330	8 140

Sources: Finnish Forest Industries Federation (2019–2020)
Natural Resources Institute Finland (wood products, pulp and paper (2021e–2022f)

2. Exports of Finnish Forest Industry Products

Product	Unit 1000	2019	2020	2021e	2022f
Sawn softwood	m^3	8 955	8 198	9 200	9 400
Plywood	m^3	918	828	970	940
Particle board	m^3	21	20	30	30
Fibreboard	m^3	47	42	47	47
Mechanical pulp	ton	290	393	446	465
Chemical pulp	ton	4 229	3 940	4 290	4 470
Pulp, total	ton	4 519	4 333	4 736	4 935
Paper, total	ton	5 689	4 243	4 250	3 960
Paperboard	ton	3 600	3 585	4 080	4 180
Paper & Paperboard, total	ton	9 289	7 827	8 330	8 140

Sources: Finnish Customs and Finnish Forest Industries Federation (2019, 2020),
Natural Resources Institute Finland (wood products, pulp and paper (2021e–2022f).

3. Imports of Forest Industry Products

Product	Unit 1000	2019	2020	2021e	2022f
Sawn softwood	m^3	562	569	480	480
Plywood	m^3	118	128	120	120
Particle board	m^3	120	125	126	126
Fibreboard	m^3	143	156	148	148
Pulp, total	ton	347	224	220	220
Paper, total	ton	83	95	80	80
Paperboard	ton	220	224	240	240
Paper & Paperboard, total	ton	303	319	320	320

Sources: Finnish Customs and Finnish Forest Industries Federation (2019, 2020),
Natural Resources Institute Finland (wood products, pulp and paper (2021e–2022f).