

ECONOMIC COMMISSION FOR EUROPE

Timber Committee

October 2022

FINLAND

MARKET STATEMENT

1 GENERAL ECONOMIC TRENDS

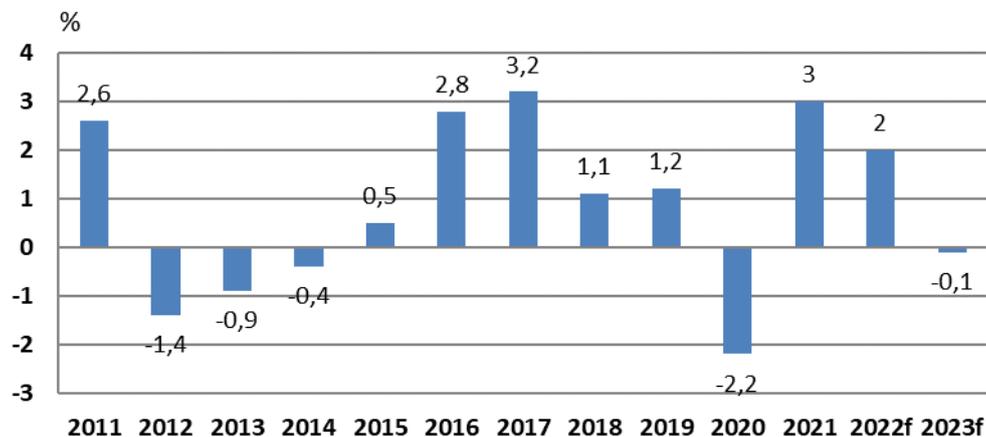
After the height of COVID-19 corona pandemic, the Finnish economy got back on the path to growth last year, when private consumption and exports in particular recovered after the restrictions were lifted and global demand grew. In 2021, Finland's economy grew by three percent. During the beginning of 2022, despite the uncertainties, the growth of private consumption has continued its slow growth as households liquidate their savings created during the COVID-19 related restrictions and as the service sectors recover. Public investments and residential construction have also increased during the beginning of the year. In the first quarter of the current year, the Finnish economy grew by 0.5 percent and in the second quarter by 0.8 percent compared to the previous quarters. On an annual basis, the corresponding figures were 3.9 and 3.0 percent.

However, the outlook of Finland's economic development at the end of the year has quickly darkened. Although, after the inflation spike (7.8%) in summer, the rate of price increase has slowed down a bit, inflation is still high and eats away at the purchasing power of households. Especially strong increases in electricity and food prices reduce other consumption possibilities. Rising interest expenses, on the other hand, specifically affect the loan servicing costs of mortgage borrowers and generally do not encourage investments. Weakening world market demand keeps export performance weak and net exports will turn significantly negative this year. Trade with Russia has practically stopped completely. The weakness of export growth is also partly influenced by the long-lasting shutdowns of UPM's factories at the beginning of the year due to labour disputes. According to the confidence indicator published by Statistics Finland, consumer trust in the Finnish economy collapsed already in March 2022, right after the outbreak of the war in Ukraine. At the end of September 2022, confidence in both one's own and Finland's economic development were the darkest than ever before during the measurement history that began in 1995. Also, according to the confidence indicators published by the Confederation of Finnish Industries, confidence in the industry weakened strongly during the winter 2022. The figures have remained weak during the early autumn, although they are still far from the confidence figures of the corona spring of 2020 and are not as gloomy as consumers' expectations. Although confidence in construction has even improved during August-September 2022, orders in, for example, the sawmill industry have decreased significantly during the early autumn. Although the Finnish economy is predicted to drift into recession during the rest of the year, the good growth figures at the beginning of this year will cause the Finnish economy to grow by approximately two percent in 2022.

The oncoming winter will affect the length and depth of the recession starting at the end of 2022. At worst, a long and cold winter can lead to electricity regulation, which makes industrial production difficult. The size of electricity bills is absent from other household consumption and is reflected in

the profitability of companies. The still rising interest rate will reduce residential construction from the current year. Unemployment also turns to slow growth again. Forecasting agencies, however, estimate that the Finnish economy would turn to slow growth again after the summer of 2023.

Annual changes of GDP in Finland, 2011-2023f



Sources: Statistics Finland, Research Institute of the Finnish Economy (2022f, 2023f)

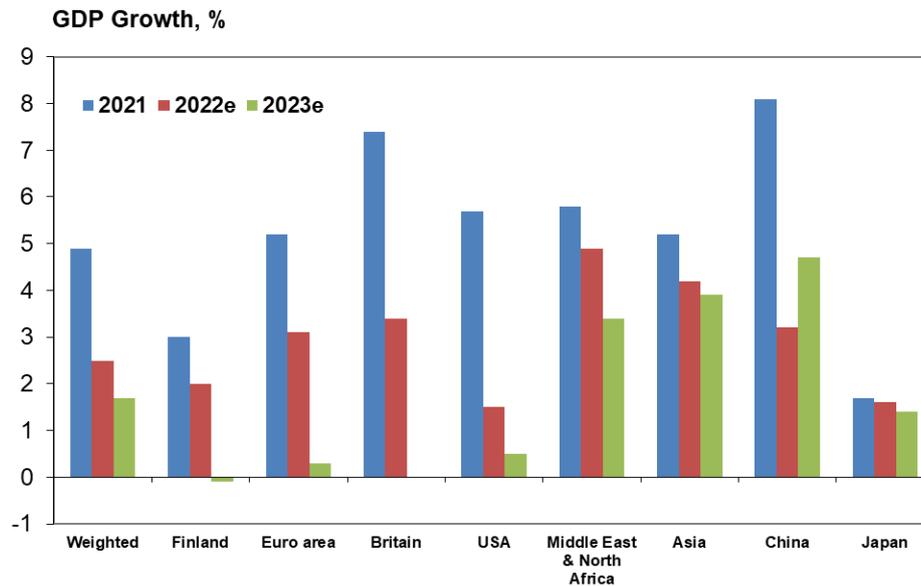
The outlook for the economy in 2023 is foggy. Many issues, such as the further expansion of hostilities, the prolongation of inflation and possibly subsequent tightening of monetary policy, the spring 2023 parliamentary elections in Finland, the government programme of the future government, measures to curb indebtedness and the speed of recovery in export demand, are all issues that together or alone affect Finland economic development. According to the prevailing opinion, the Finnish economy will not grow at all in 2023 or even shrink by a few tenths of a percent.

Russia's attack on Ukraine, the energy crisis, accelerating inflation, rapidly rising interest rates and growing uncertainty are weakening global economic growth. The outlook for Finland's main market for forest industry products in the euro area is particularly bleak, where at worst the economy can drift into a deep recession. Germany's economic growth practically stopped already in the second quarter of the current year, and Germany is estimated to be the first of the major euro countries to drift into recession during the rest of the year. Economic growth will also slow down significantly in other export areas of the forest industry. Weighted by the export shares of the Finnish forest industry in 2021, the global economy will grow by 2.5 percent this year, and less than two percent next year. However, the risks of weaker growth than this are high.

The monetary policy tightening schedule faster than the eurozone in the United States and the threat of a recession in the eurozone have weakened the euro during the current year, so that one euro equals one dollar. The euro is still expected to weaken slightly against the US dollar during the end of the year and the beginning of next year.

The most significant uncertainties related to forecasts and economic development are mainly related to Russia and the consequences of its military actions. The length and coldness of the coming winter in Europe will determine the depth of the energy crisis and possible recession. Other factors of uncertainty are the tensions between China and the United States and the possibility of the emergence of new variants of the corona virus.

Growth percentages of the forest industry's key market areas



Sources: OECD, IMF and Research Institute of The Finnish Economy

2 RECENT POLICY MEASURES

During the beginning of 2022, the Finnish Ministry of Agriculture and Forestry has initiated the renewal of the national forest strategy. The National Forest Strategy 2035 is to be submitted to the Forest Council in December 2022. The new forest strategy will be drawn up as a collaborative and widely inclusive process. The evaluation of the National Forest Strategy 2025 announced at the beginning of the year is also used as support for the new strategy.

Along with the Forest Act, the Nature Conservation Act is the most important laws affecting forests. The reform of the Nature Conservation Act has progressed to a new nature conservation act presented by the government in May 2022. With the help of the new law, among other things, the financing of the management of biodiversity is specified and the possibility of ecological compensation is added, where a project that weakens nature can be compensated by actions carried out elsewhere. In order to strengthen the protection of nature types, their list, definition, and means of protection will be updated and expanded. The protection of living species is clarified, and the conservation of threatened species is increased through assisted propagation. Efforts are being made to make the means of protection of nature types and biological species better support each other. The new law provides for administrative issues more comprehensively than before and also considers adaptation to climate change. The new Nature Conservation Act is scheduled to enter into force in June 2023.

The European Union does not have a common forestry policy, but several other sectoral policies, especially common agricultural policy and environmental, climate and energy policies affect the operating environment of forestry. The increasing effects of EU programmes, strategies and sectoral policies on forestry have been discussed a lot recently. Due to the time span, the short-term effects of regulation and various proposals have so far often increased uncertainty, as detailed regulation has been seen to be able to affect forestry and bioenergy production practices in surprising and significant ways in the longer term.

In the EU, the background of regulation is especially the green development programme Green Deal, where the goals are carbon neutrality and the transition of the economy away from activities that consume environmental resources. The EU's environmental goals are listed in the biodiversity strategy announced in 2020, which mentions, among other things, strict protection of 10 percent and strict and broader protection, a total of 30 percent of the land and marine areas. In addition to nature protection, the goal is the restoration of natural habitats and the improvement of the natural state, for which the Commission proposed a Regulation for Nature Restoration (Nature Restoration Law) in June 2022. An important tool that is already in use is the EU's climate act, which entered into force in the summer of 2021, with the help of which the 55 percent reduction goal of net greenhouse gas emissions by 2030. In July 2021, as part of the Fit for 55 package, named after the goal of reducing greenhouse gases, a plan containing significant biodiversity and climate goals was also published in the new EU forest strategy. The EU Council's conclusions on the new forest strategy were published in November 2021. They also emphasised that the environmental, social, and economic aspects of sustainable forest management must be balanced and that it is important to respect and maintain the diversity of forests and forest management practices in different member countries. and regions.

In addition, forests are affected by EU sector legislation, for example, the Renewable Energy Directive and the LULUCF regulation related to land use and land use changes. The taxonomy regulation for sustainable development financing of the EU is also part of the economic transition away from activities that consume environmental resources. There has been a discussion about how financial regulation affects private forests in particular. From a total of six technical regulations related to the environment in the Taxonomy Regulation, the so-called climate taxonomy was approved at the end of last year. In other respects, the preparation of these delegated acts has been delayed. The purpose of the technical regulation is to help financiers identify sustainable investment targets in the area of the regulation in question.

The Biodiversity Strategy, the Nature Restoration Law and the Forest Strategy will all have an impact on the use of forest bioenergy in the future, for example what kind of biomass can be used and where it can be obtained. The European Parliament has aligned its position on the update of the Renewable Energy Directive (RED3) and it was approved in a vote on 14 September 2022. Bioenergy is the most significant part of renewable energy in the EU, and the directive regulates the criteria by which it is considered to be sustainably produced.

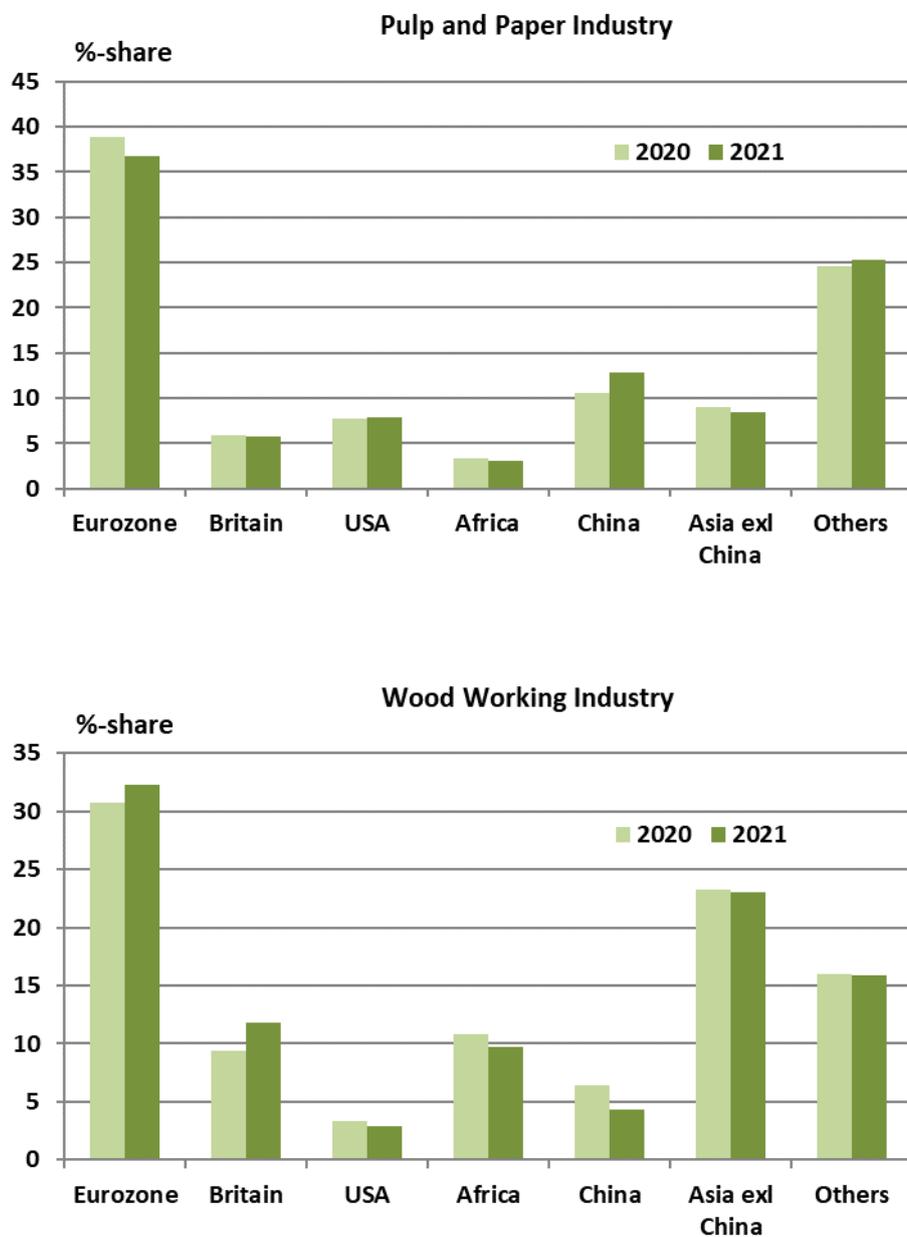
In Finland, the reform of the Act on the Financing of Sustainable Forestry (Kemera Act) is also under way. On September 19, 2022, the Finnish Government presented a proposal to the parliament as a law on the new temporary incentive system for forestry, METKA. The new METKA system will replace the current Kemera support system. The goal is for the new law to enter into force on January 1, 2024 and be valid until the end of 2029.

3 MARKET DRIVERS

Finland's forest industry experienced a strong economic peak in 2021. The nominal value of the export of forest industry products increased as much as 27 percent compared to the previous year. The nominal value of Finland's total exports of goods increased by almost 20 percent compared to 2020, and the share of forest industry products increased by one percentage point to 19 percent last year. The forest industry's export income was increased by both the increase in export volumes and the increase in export unit prices. Of the main products, only the export volumes of fine paper and the average export prices of magazine paper decreased.

In the wood products industry, the total nominal value of exports in 2021 increased by 55 percent from the previous year to almost 3.9 billion euros. This was especially due to the unprecedentedly good demand in the sawnwood market. The total value of sawnwood exports increased by 65 percent, export volumes by 6 percent, and the average unit price of exports by 55 percent. The export unit prices of pine, spruce and planed sawn goods all increased by more than 50 percent from the previous year. The total export value of planed sawnwood almost doubled from the previous year to more than 400 million euros. Revenues from exporting plywood increased by 26 percent. Unit prices for the export of softwood plywood rose more than for hardwood plywood.

Distribution of the value of exports of Finnish forest industry products in 2020 and 2021



Sources: Finnish Customs, Luke

In the pulp and paper industry, the total nominal value of exports increased by 18 percent to 9.3 billion euros in 2021. The most important factor in the increase in export income was the increase in world market prices for pulp. Export deliveries of pulp only increased by a little over six percent, but the unit price of exports increased by 32 percent. Paper export volumes remained at the previous year's level, but the average export unit price increased by almost four percent. The value of cardboard exports increased by almost a fifth from the previous year, which was mainly due to the increase in export volumes of cardboard products.

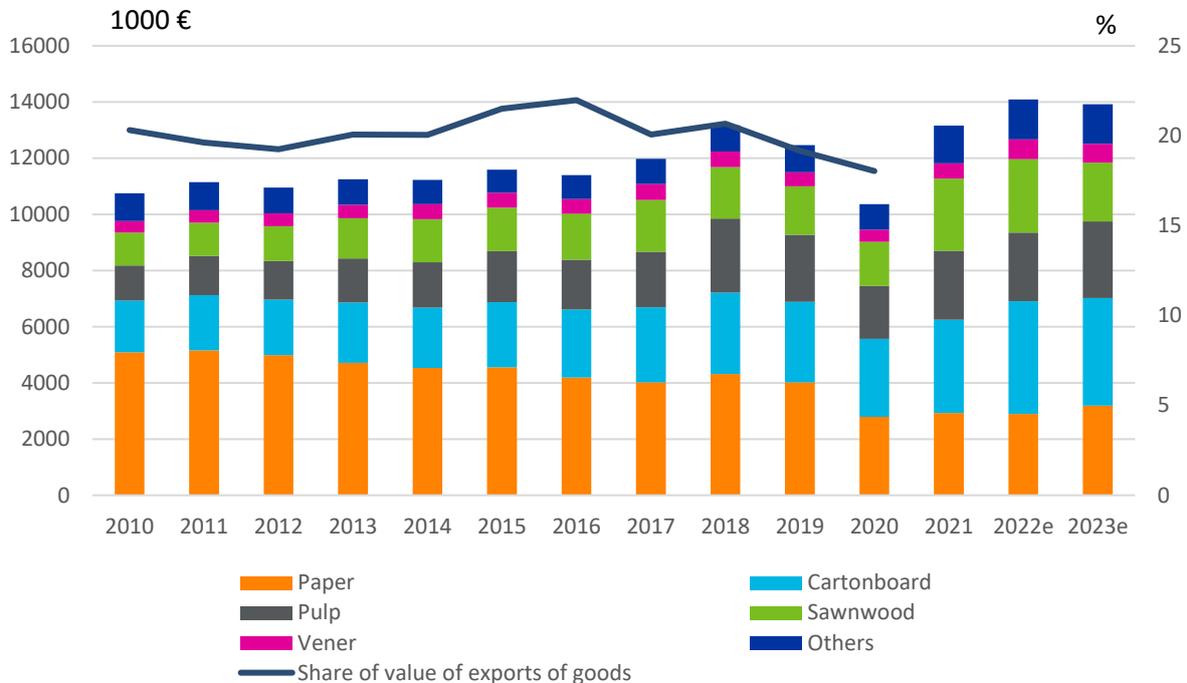
In 2021, the wood products industry's share of the value of the export of forest industry products was 29 percent, and the pulp and paper industry's share was 71 percent. Driven by the boom in sawnwood markets, the share of the wood products industry increased by five percentage points compared to the previous year. Among the main products of the forest industry, cardboard became the most important product measured by the total export value. Cardboard was exported for 3.3 billion euros. The export revenue from paper was 2.9 billion and from pulp 2.6 billion. The nominal value of sawn timber exports increased by more than a billion euros from the previous year to almost 2.6 billion euros.

The distribution of the value of the export of forest industry products is influenced by the market prices of different product groups and the export volumes to the target countries. Looking at successive years, there have generally been no major changes in the export earnings from the target areas, but in the longer term, clear trends can be observed, such as the growing importance of China. In 2021, China's share of the export value of the pulp and paper industry increased by a couple of percentage points to 1.2 billion euros. Although the value of exports to the euro area increased by 360 million euros, the corresponding export share decreased by a couple of percentage points. The shares of other main market areas in the pulp and paper industry's export earnings remained almost unchanged. In the wood products industry, the development was the opposite. The euro area's share of export earnings increased by one and a half percentage points, while China's corresponding share decreased by a couple of percentage points. Also significant was the almost doubling of the value of wood product industry exports to the UK from the previous year.

From the point of view of the forest industry's competitiveness and export earnings, the monetary policy's tightening measures at different times affect the exchange rates of currencies. Although it is difficult to predict the development of exchange rates, in general, the determination of exchange rates is influenced by the current account balances of currency areas, growth expectations of economies, the lightness of monetary policy and the level of interest rates in relation to other currency areas, as well as speculation about future changes in exchange rates. The faster economic growth of the United States and the tightening pace of monetary policy faster than in Europe have weakened the euro by almost 14 percent between August 2021 and August 2022. At the end of September 2022, the exchange rates were almost at parity, i.e., one euro equals one dollar. The increase in the interest rate differential with the United States and the prospect of the euro area drifting into recession may further weaken the euro slightly against the US dollar during the rest of the year and next year. However, forecasts expect the euro to strengthen against the dollar back to parity during the next 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. A more detailed description of the development of the forest industry branches this year and next year and the factors affecting the development is shortly presented in the next chapter.

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 2010–2023e. The values for 2022–2023 are based on forecasts of export volumes and prices by Natural Resources Institute Finland (Luke).



Sources: Finnish Customs, Luke

4. DEVELOPMENT IN FOREST PRODUCTS MARKETS

A. Roundwood

Roundwood market has been in a sequential boom in Finland during 2022, only a year after the previous peak in 2021. Recovery from the COVID-19 pandemic has turned to the economic consequences of Russian invasion to Ukraine on February 24, 2022.

In March 2022, the three largest forest companies in Finland, United Paper Mills Plc. (UPM), Stora Enso Plc. and Metsä Group ceased their roundwood imports from Russia. Forest certification organisations PEFC and FSC cancelled their labels for Russian and Belorussian wood and wood products. Russia stated a list of unfriendly countries including Finland and introduced export bans for roundwood. Finally, the fifth EU package of economic sanctions came into full force on July 10, 2022 after a transitional period and prohibited Russian roundwood and wood products to enter the EU markets.

In 2022, fellings of sawlogs are forecast to decrease by six percent with respect to previous year to 24.6 million and pulpwood fellings by two percent to 31.2 million cubic meters (m³) under bark (u.b.). The average stumpage prices of softwood sawlogs will increase by 7–8 percent, birch logs by six percent and pulpwood by 4–8 percent. Imports of roundwood (including wood chips) have already strongly decreased due to cessation of Russian roundwood imports. As only minor substitution from other countries is expected, roundwood imports are anticipated to collapse by 70 percent to 3.5 mill.

m³ (u.b.). The total volume of fellings of industrial roundwood and imports of roundwood will decrease by 15 percent to 59.3 m³ (u.b.)

In 2023, fellings of sawlogs are forecast to remain almost at the current year's level at 24.7 million m³ (u.b.) The backgrounds are the decrease in harvested sawlog reserves and the significant increase in sawmill capacity by Metsä Group and several independent sawmilling companies. Pulpwood fellings are forecast to increase by eight percent to 33.8 million m³ (u.b.) to substitute the decreased roundwood imports. Roundwood imports (including wood chips) are forecast to stabilise at 2.4 million m³ (u.b.), but on annual average still decrease by 31 percent.

The average stumpage prices of softwood sawlogs will decrease by 2–4 percent with declining sawn wood prices in 2023. Harder competition for pulpwood will increase pulpwood prices by 2–6 percent, although also pulp, paper and paperboard prices will fall. The reasons behind are that pulpwood imports are only a quarter of the past years and new pulp capacity by Metsä Group will be starting in 2023. The total volume of fellings of industrial wood and imports of raw wood will increase by three percent to 60.9 million m³ (u.b.).

B. Wood energy

In 2021, the consumption of wood fuels increased by a total of 13 percent from the previous year. Wood fuels further strengthened their position as Finland's most significant single energy source with a 30 percent share of total energy consumption. Renewable energy consumption 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 2021, the use of forest chips was 10 million m³ of which 9.4 million m³ was used in heating and power plants. Most of the forest chips, 5.8 million m³, was manufactured from small-sized trees, i.e., from pruned and unpruned stems. The consumption of small-sized trees as a raw material of chips, increased by 36 percent from the year before. The use of logging residues increased by 7 percent from the year before to 2.7 million m³. Furthermore, the consumption of large-sized decayed roundwood was 0.6 million and stumps was 0.3 million m³. The use of forest chips is estimated to stay at the same level as 2021 and increase 2–3 per cent in 2023. Decreased use of energy peat increases consumption of forest chips in heat and power plants. The plant price of forest chips in 2021 was EUR 23.4 per megawatt hour, which is 5 percent higher than 2020. In 2021, the average plant prices of wood chips are expected to increase as much as 20–30 per cent.

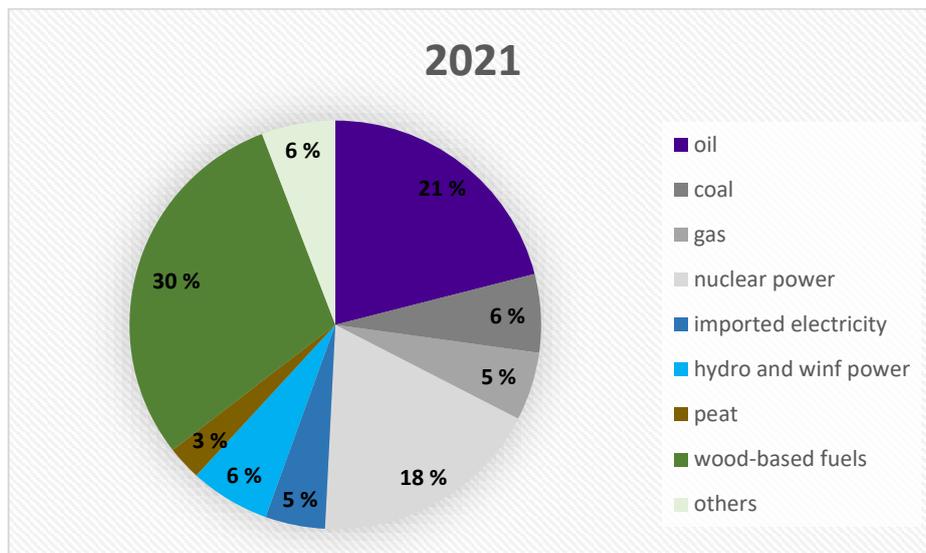
Domestic production of wood pellets in Finland increased 13 percent to 365 000 tons in 2021. Apparent consumption was 552 000 tonnes (production + import – export). Deliveries by pellet producers based on domestic pellet production, 371 000 tonnes, increased 24 percent from the year before. Imports of wood pellets to Finland rose higher than ever before (196 000 tonnes), while the export volume was 9 000 tonnes.

The prices of emission rights have risen to a record level and have remained around 80 euros for the past year. In January and August 2022, the trade was already close to 100 euros. The price of a ton of carbon dioxide has never been this high. Emissions trading is a climate policy tool that aims to reduce emissions. The higher the price of emission rights, the more strongly it directs companies to lower emission production, because emission rights are a cost for companies. The higher price of the

emission right supports the competitiveness of wood chips and by-products (bark and pulp) in heat production.

In addition to the rise in the price of emission rights, the rise in fossil fuel prices affects energy prices worldwide, and domestic fuels are even more competitive in combined heat and power production (CHP). In Finland coal-fired power and heating generation will be banned as of 1 May 2029. The coal ban promotes 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 2021 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 19.0 million hectares (by September 2022). This accounts for 95 percent of the forests used for wood production. 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. The same area, 2.2 million hectares are double certificated under both schemes (9/2022).

The PEFC Finland has revised its certification criteria in 2019–2021. The revised requirements will be taken into use in forestry in the autumn of 2022 and form the basis of external audits from 2023 onwards. The renewed criteria will increase the width of the buffer zones on the edges of open mires and along water bodies, and only selection fellings will be allowed on them. The number and stoutness of retention trees will be increased from the current level. In harvesting, deadwood will be spared, and the creation of deadwood will be supported by leaving high stumps. Thickets will be spared and the creation of a mix of tree species will be promoted at all stages of forestry, bringing more diversity to forest nature. The high coverage of the PEFC in the Finnish forests means that these improvements concern large forest areas. However, nature conservation organizations and environmental authorities consider the changes made to be too small from the point of view of degradation of biodiversity.

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 2022 was 206, whereas FSC has granted 150 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 2021, the demand for softwood sawnwood strengthened in many markets, which was supported by the DIY boom as well as the pick-up in housing construction. However, the supply of sawnwood fell behind the increase in demand, and the price softwood sawnwood skyrocketed in many markets. Also, the export price of Finnish began to rise steeper after April, and at its highest, EUR 411 per cubic meter, the export price was in September 2022. In real terms (deflation with the wholesale price index 1949=100), the monthly export price has possibly not been this high since the oil crises of the 1970s. After September, however, the export price turned downward, being about EUR 300 per cubic meter in December 2021. For the entire year 2021, the average export price of softwood sawnwood rose by as much as 56 percent from the previous year. Since both the rise and fall of the export price were steep, the average export price of softwood sawnwood for the entire year 2021 was slightly lower in real terms than in 2007, when the sawnwood markets were last in a strong, global upturn.

The weakening of market demand and downward trend in prices was reflected in sawnwood production and export volumes at the end of 2021. However, for the entire year 2021, softwood sawnwood production rose to 11.9 million cubic meters and there was a nine percent increase compared to the previous year. At the same time, the export volume of softwood sawnwood increased by six percent, and there were large market-specific differences in the export development. Exports were particularly attractive to Europe, whose share of Finland's total sawnwood exports rose to 49 percent. The growth in Europe's export share was considerable, as in the years 2010-2020, Europe's share of Finland's total sawnwood exports was slightly more than 40 percent. The high price level of sawnwood attracted Finnish sawmills to increase their exports to Europe, especially to the UK, which last year was the second largest target country for sawnwood exports in terms of export volume and the largest in terms of export value. The British market last played a similar role for Finnish sawmills in the years before the 2007-2008 financial crisis.

Outlook for years 2022 and 2023

In the US market, the price of softwood lumber turned to a new rise in the fall of 2021, which continued until March 2022. After the beginning of March, the price turned to a clear decline when the sawnwood market situation began to balance out as imports from Europe continued to grow and new sawmill capacity started in the southern parts of the United States. By mid-June, the price level had already halved, and after a momentary rise, the price has continued to decline moderately in August-September 2022.

Finnish sawmill industry in 2021.

	Sawnwood 1000 m ³	Share of production %	Volume change 2021/2020 %
Production, of which	11 950	100	9
Domestic market*	3 214	27	19
Exports, of which	8 736	73	6
Euro area	2 700	23	25
<i>France</i>	579	5	37
<i>Germany</i>	553	5	12
<i>Estonia</i>	445	4	14
<i>Others</i>	1 124	9	33
Other Europe	1 547	13	34
<i>United Kingdom</i>	1 013	8	28
<i>Others</i>	533	4	46
Asia	2 647	22	-12
<i>Japan</i>	798	7	2
<i>China</i>	734	6	-24
<i>Saudi Arabia</i>	488	4	-17
<i>Israel</i>	377	3	-5
<i>Others</i>	250	2	-9
Africa	1 691	14	-6
<i>Egypt</i>	1 077	9	-8
<i>Algeria</i>	308	3	-1
<i>Others</i>	306	3	-5
North America	120	1	33
Others	32	0	125

*Apparent consumption of sawnwood production in Finland = production – exports. Sawnwood includes softwood and hardwood sawnwood.

Sources: Finnish Customs, Finnish Forest Industries Federation.

In Europe, the prices of softwood sawnwood began to rise later than in the United States at the turn of 2022. Even though inflation accelerated considerably already at the end of 2021 and interest rates started to rise, construction and demand for sawnwood remained high in Europe in early 2022. Russia started its attack on Ukraine on February 24, as a result of which Russian and Belarusian wood and wood products lost their FSC and PEFC certificates. This was anticipated to lead to a significant decrease in the import of Russian and Belarusian sawn timber to the EU and the UK. On April 8, the EU published its fifth sanctions package, which included, in addition to sawnwood and other wood products, roundwood, pulp, cardboard and certain paper qualities. With the sanctions package, the import of the above-mentioned products from Russia to the EU was prohibited, as well as the export of the technologies needed to manufacture the products to Russia. As far as Belarusian wood products are concerned, the sanctions were already imposed in March. However, the import bans did not come into effect immediately, and Russian sawnwood could be imported until July 10 on the basis of the agreements concluded before April 9. The transition period for Belarusian sawnwood ended on June 4. Britain also imposed its own sanctions on Russian and Belarusian wood products.

The expected withdrawal of Russian and Belarusian sawnwood from the EU and the UK due to sanctions strengthened price expectations and the price level of sawnwood rose in Europe. The export price of Finnish softwood sawnwood turned upward in March 2022, and in May-June it had already risen close to the level of autumn 2021. In the first half of 2022, the export price of softwood

sawnwood was on average 40 percent higher than at the same time in 2021. The increase in the export price was clearly stronger than expected in the fall of 2021 or the beginning of 2022.

However, accelerating inflation, rapidly rising interest rates and the looming energy crisis began to show in Europe as the starts of new construction projects were postponed as spring progressed. Effects of the sanctions on the Russian and Belarusian sawnwood remained smaller than expected on the European market, as during the transition period sawnwood was imported from both Russia and Belarus to many EU countries in greater abundance than expected as importers tried to fill their stocks before the end of the transition period.

The slowdown in the demand for sawnwood, the swelling of sawnwood stocks, increased energy costs and the rise in the price of logs caused Central European sawmills in particular to limit their production in the summer of 2022, and the restrictions are planned to continue in the fall as well. Swedish sawmills have also announced production restrictions. On the other hand, no significant production restrictions had been announced in Finland by the end of September

The increase in the export price of Finnish softwood sawnwood stopped in June 2022 and turned into decrease in July. The demand for sawnwood has been on the decline in many export markets since the beginning of autumn, and the decline in the export price is expected to continue during the rest of the year. However, the average export price for the whole of 2022 is predicted to remain five percent higher than in 2021 due to the high starting level at the beginning of the year and the increase that occurred in the spring. In 2022, it is predicted that the export volume of softwood sawnwood will decrease by three percent and production by one percent compared to last year.

Russian and Belarusian sawnwood will not be imported to the EU or the UK at the end of this year, and resumption of imports is not likely in the short term. This creates space for the European sawnwood market and stabilises the price development. Production restrictions implemented by sawmills also aim to balance the market situation. The decline in the export price of Finnish softwood sawnwood that started in July 2022 is expected to level off, but a significant upward turn is not expected during 2023. The average export price for the whole of 2023 is predicted to fall by roughly a fourth of the 2022 level.

The booming sawnwood markets during COVID-19 pandemic and the increased incomes of sawmills have been reflected in numerous investment projects in increasing sawing capacity in Finland. Metsä Fibre's Rauma pine sawmill with an annual production of 750,000 cubic meters started at the turn of September-October 2022, at the same time as production ended at Metsä Fibre's Kyrö sawmill with a capacity of 230,000 cubic meters. Completions in 2023 includes, for example, Kuhmo Oy's new main saw line, Versowood's new saw line in Vierumäki, the modernization of Pölkky's Taivalkoski sawmill, and the completely new sawmills of Koskinen and Junnikkala in Järvelä and Oulu. The combined increase in sawmilling capacity of these investments, the starts of which are focused on the latter half of 2023 and the beginning of 2024, is nearly 900,000 cubic meters per year. The investments, for their part, will pay off the investment debt accumulated in the Finnish sawmilling industry over the years, renew and enhance production and thus, improve competitiveness, the importance of which is accentuated in a downturn. In the tightening market situation, in 2023, Finnish softwood sawnwood production is expected to grow moderately by four percent to 12.2 million cubic meters and exports by three percent to 8.7 million cubic meters.

F. Sawn hardwood

Hardwood sawnwood is a marginal product in Finland. Currently, there is only one sawmill of industrial scale producing hardwood (birch) sawnwood. Hardwood sawnwood is also produced by small scale enterprises, such as field saws. The estimated production volume of hardwood sawnwood was 54 000 m³ in Finland in 2020.

G. Wood-based panels

In the plywood market, the price development in 2021 was more stable than in the sawnwood market. However, both softwood and hardwood plywood export prices started to rise towards the end of 2021, and the rise in prices has continued as 2022 progressed. In the first half of 2022, the average export price of plywood was 30 percent higher than at the same time last year. The EU's fifth sanctions package also concerned the import of Russian birch plywood, which has been feared to lead to a shortage of birch plywood in Europe. About 1.4 million cubic meters of birch plywood were imported from Russia to the EU in 2021, and it is not possible to replace the amount by increasing the EU's own production. European birch plywood importers have tried to find products that can replace birch plywood, but for example, in places that require strength, birch plywood often cannot be replaced with plywood qualities made from poplar or tropical wood species. The scarcity of birch plywood has been reflected in the export price of Finnish birch plywood, which increased sharply in July 2022, and the price increase is expected to continue during the fall as well.

The export price of softwood plywood also increased further in July 2022. The rise in the prices of softwood as well as birch plywood is influenced by the rise in the prices of adhesives and coatings needed in production, as well as energy. In construction, softwood plywood competes with other wood-based panels, especially OSB. In Central Europe, however, the production of wood-based panels has run into difficulties as production costs rise and competition for raw materials tightens. The demand for sawmill side streams and small-diameter wood has grown rapidly in energy production at the same time as the supply of sawmill side streams has been reduced by measures to restrict sawmill production. The problems of the wood-based panels industry in Central Europe have reduced the supply and, on the other hand, improved the competitive position of Finnish softwood plywood on the European market.

Outlook for years 2022 and 2023

The increase in the export prices of both softwood and hardwood plywood is expected to subside towards the end of 2022. The price level of birch plywood is considered very high, which curbs demand and increases interest in substitute products. For the entire year 2022, the average export price of plywood is predicted to increase by nearly a third compared to 2021. Plywood production, on the other hand, is expected to decrease by one percent and exports by three percent in 2022.

Years have passed since the last investments in the production of cross-laminated birch or softwood plywood in Finland. Instead, investments have been made in the production of birch veneer sheets as raw material for plywood mills located in Estonia and Latvia. Finnish forest companies have also invested in the production of birch plywood both in Estonia and in Russia. However, Metsä Group plans to build a new, 150,000 cubic meter capacity LVL mill in Äänekoski, and the investment decision is to be made in early 2023.

Finnish plywood industry in 2021.

	Plywood 1000 m ³	Share of production %	Volume change 2021/2020 %
Production, of which	1 130	100	14
Domestic market*	175	15	8
Exports, of which	955	85	15
Euro area	414	37	15
<i>Germany</i>	154	14	21
<i>Netherlands</i>	125	11	6
<i>Others</i>	135	12	16
Other Europe	398	35	21
<i>United Kingdom</i>	126	11	17
<i>Sweden</i>	111	10	19
<i>Denmark</i>	50	4	25
<i>Norway</i>	48	4	19
<i>Others</i>	63	6	30
Asia	31	3	-18
Africa	3	0	9
North America	68	6	14
Others	41	4	13

* Apparent consumption of plywood production in Finland = production – exports.

Sources: Finnish Customs, Finnish Forest Industries Federation.

In 2023, no significant change is expected in the production and export volumes of plywood in Finland. The uncertainty of the economic outlook is reflected in the demand for both birch and softwood plywood and creates price pressure. On the other hand, the decrease in the price of birch plywood in particular is restrained by the scarcity of supply. A significant decrease in the price of softwood plywood is also unlikely, as the production costs of both softwood plywood and products that replace it are expected to remain high. In 2023, the average export price of plywood is predicted to decrease by five percent from the current year's level.

H. Pulp and paper

In 2020–2021 paper production capacity decreased significantly in Finland and in 2021 capacity was 34 percent lower than just two years earlier. 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 2020, 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. In autumn 2021 Stora Enso shut down its Veitsiluoto plant. 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.

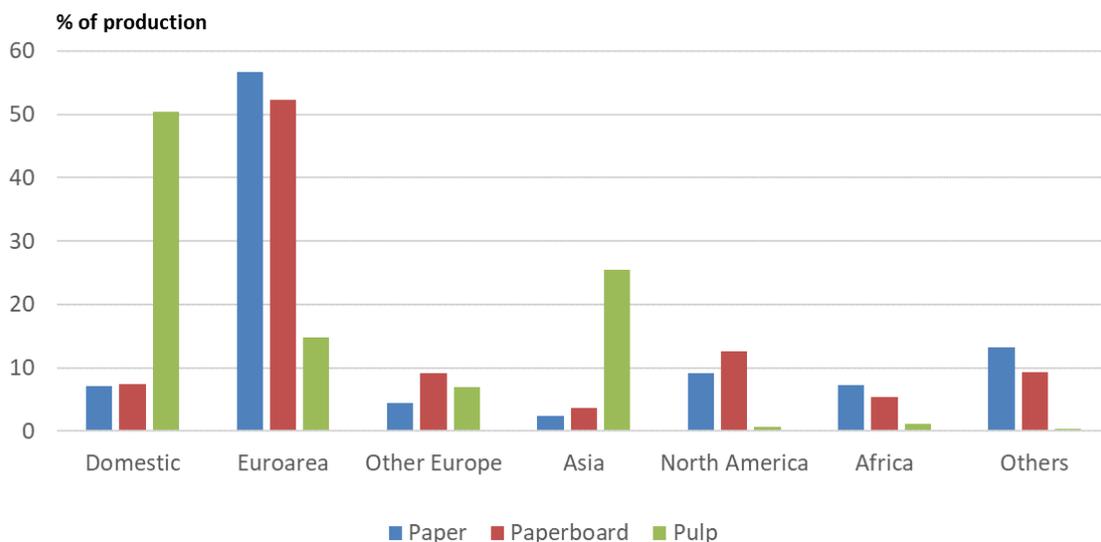
Despite significant decrease in production capacity during 2020–2021, in 2021 there was only minor change in paper production in Finland compared to previous year. Production decreased by two percent from previous year, but export of paper increased by one percent. At the beginning of this year, however, production and export fell drastically because of strike at UPM's paper mills in Finland. Strike continued almost four months. During the first half of the year the export of paper from Finland decreased by 48 percent compared to the same period last year. The decrease in production was also of the same order of magnitude.

In the first half of the current year, Finland exported four percent more cardboard than at the same time a year ago. The growth figures for the beginning of the year reflect the high demand for cartons and the launch of board production at Stora Enso's Oulu plant last year. Demand for cartons has been sustained by a vibrant e-commerce in the main market areas and a growing push to replace plastic with cardboard packaging.

Carton prices have risen sharply in the European market during the early part of the year, but the increase has been offset for white-top kraftliner at the turn of June-July 2022. The price of brown-top kraftliner has turned to a slight decline, and the price of testliners have fallen more noticeably. Last spring's oversupply situation has calmed down and producer stocks have risen to normal levels. The average export price of cartons from Finland increased by 23 percent in the first half of 2022. The increase has been particularly strong in the price of kraftliner, which rose by 56 percent compared to the same period in the previous year. The price of fluting was also 40 percent higher than the previous year.

Production of wood pulp increased in 2021 in Finland by four percent. This was due to increase in export and production of chemical pulp. Production of mechanical pulp decreased from previous year because of decline in paper production. This year the export of chemical pulp has decreased during the first six months by approximately 25 percent compared to the same period last year. This is mainly because of strike at UPM's pulp mills during the first months of the year. The export of birch pulp has decreased relatively more than the export of coniferous pulp, but the share of birch pulp in the export has been small even before the decrease. Chemical pulp production has also decreased by roughly the same amount as export. The export of dissolving pulp has ended during the first months of the year after Stora Enso discontinued dissolving pulp production.

Domestic Use and Exports of Finnish Pulp, Paper, and Cartonboard in 2021 (% of production)



Sources: Finnish Customs, Luke, Finnish Forest Industries Association

Outlook for 2022 and 2023

Paper production in Finland will be significantly lower this year than last year because of strike at UPM's at mills in Finland and the closure of Stora Enso's Veitsiluoto mill last autumn. In 2023, production will partly recover, and production and export volumes will be significantly higher compared to this year. However, the downward trend in demand for paper continues in Europe. Paper prices in Europe have been this year exceptionally high because of increased production costs and reduced supply. Finland's mean export price is predicted to be 39 percent higher than last year. High paper prices intensify the decrease in demand for printing and writing paper. However, the price level will remain high also next year.

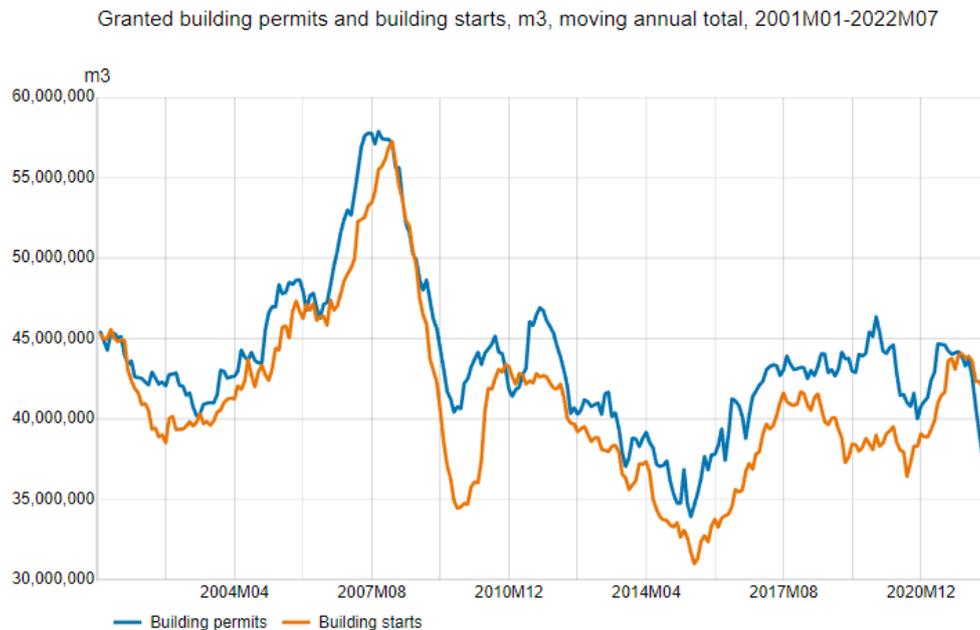
In spite of the uncertain global situation, the market outlook for virgin fibre cartonboard for the end of this year and year 2023 are generally fairly favorable. High energy prices are undermining the profitability of board production, particularly in Central Europe, where some production restrictions have already been announced in Germany and Netherlands. By some estimates, high natural gas prices and energy availability problems could shut down a significant portion of German paper and board production over the winter. In the Nordic countries, no similar threats of closure have been reported, and mills integrated to pulp production plants may even gain a competitive advantage from rising energy prices. This year, the export volume of cartonboard is expected to increase by two percent from last year. Carton price growth has been rapid during the first half of the year, with prices reversing to a slight decline during the remainder of the year. With price trends in the early part of the year, the average export price of cartons increases by 19 percent. Next year the export volume from Finland will increase slightly, as capacity increases at the end of the year will be reflected in production volumes and the demand for board continues to continue to be moderate. Overall demand for cartonboard in Europe is likely to decline as economic growth and private consumption weakens, but Finnish cardboard exports are supported by lower energy costs than Central European countries. Next year the Finnish export prices of cartons will fall by about seven percent. The rising production costs will put upward pressure on board prices, which will continue to intensify if production restrictions in Central Europe are seen. The other hand, however, cartonboard market is strongly influenced by slowing economic growth and declining private consumption.

Strike at UPM's Finnish mills also affects Finland's pulp production and export volume this year. Export volume will be clearly lower than last year, even though pulp market has been tight since the beginning of the year. In 2023 the weakening of global economic growth will impact also on the demand for pulp. In Finland, however, both exports and production will increase with the ramp-up of Metsä Group's new pulp mill in Kemi and also because of low reference level. The increase in pulp price is gradually levelling off. Mean export price this year is about 20 percent higher than last year but will decrease somewhat next year.

I. Housing and construction

In 2021, housing prices in Finland rose sharply, and households took out a record number of new mortgages. Strong demand was also reflected to residential construction investments, which increased throughout the year. Other housing construction was not in such a good mood. For residential construction the number of granted building permits, however, went down during the end of the year 2021, which will be reflected in the construction activity in 2022. Totally, the housing construction in Finland increased by 5 percent while the construction activity of other buildings increased by 1.6 percent in 2021.

According to the recent statistics released by Statistics Finland in September 2022, building permits for newbuilding were granted for 8.5 million cubic metres in May to July 2022, which was 33 percent less than one year ago. Over the period, building projects totalling 11.1 million cubic metres were started, eight percent down from one year earlier. However, five percent more residential building projects were started than one year ago.

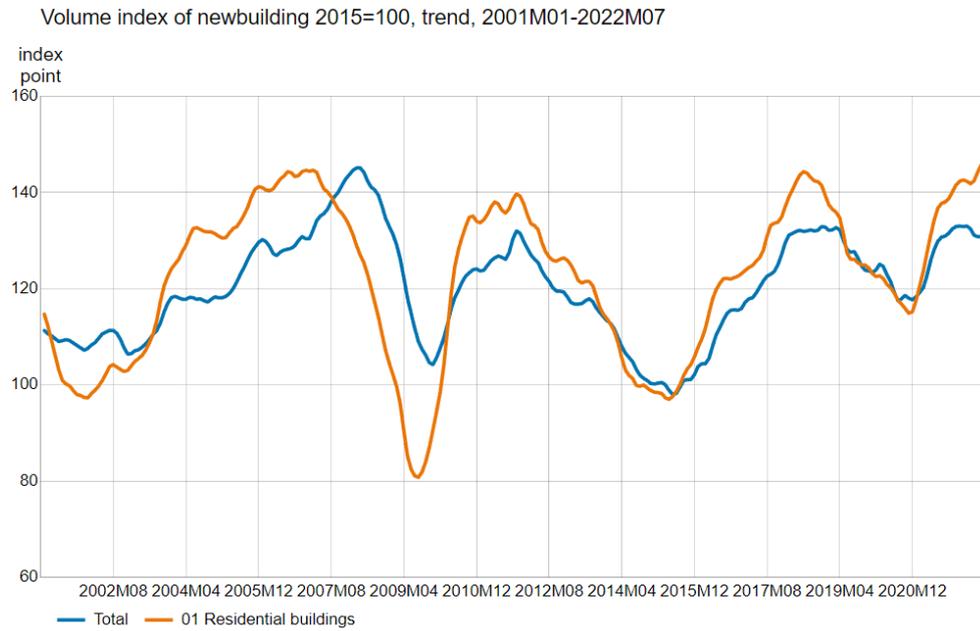


Source: Statistics Finland, September 2022

The recent business tendency survey of industries, released by the Confederation of Finnish Industries (CFI) also in September 2022, revealed that the construction confidence indicator scored -6 in September, which was ten points more than in August implicating a slight improvement of confidence, which is completely opposite to the development of confidence in other industries and consumers. The long-term average of confidence in construction sector is also -6. In August 2022, however, Finland's construction confidence indicator was the second weakest among EU countries. In September 2022 companies' assessments on order books increased from the previous month but the level is still below normal. Expectations concerning the labour market continue to weaken when seasonal adjustment is considered.

The Research Institute of the Finnish Economy (ETLA), which published its latest forecast also in September 2022, sees the construction situation still good in this year despite of the increasing uncertainty. Already started projects maintain the growth in construction volume this year. Despite the deteriorating economic outlook, industrial companies also report that fixed investments will increase this year and next year. However, the number of permits and starts for residential construction has already decreased, which anticipate a decrease in housing construction next year. The demand for housing also quiets down as the tightening monetary policy raises interest rates and economic uncertainty increases. The demand for new mortgages is declining. The increase in construction costs, which weakens the profitability of construction companies, has already abated a bit, but problems with the availability of construction materials challenge construction along with general uncertainty. ETLA forecast that the residential construction is growing by 6,5 percent and

other building construction by 2.4 percent this year. For 2023, the figures are -3,0 and 0,5 percent, respectively.



Source: Statistics Finland, September 2022

5. TABLES

A. Economic Indicators

Key economic indicators	2021	2022f	2023f
Gross domestic product growth, %	3,0	2,0	-0,1
Consumer price index change, %	2,2	6,8	3,8
Wage and salary earnings change, %	2,4	2,4	3,2
Unemployment rate, %	7,7	6,7	6,8
Current account surplus/GDP, %	0,9	-0,8	-0,2
Industrial output change, %	3,6	3,8	1,5
EUR/USD (at the end of period)	1,14	1,00	1,00

Source: Research Institute of the Finnish Economy (ETLA) 19.9.2022

B. Production and Trade

1. Forest Industry Production in Finland

Product	Unit 1000	2020	2021	2022e	2023f
Sawn softwood	m ³	10 880	11 900	11 750	12 200
Plywood	m ³	990	1 130	1 120	1 120
Particle board	m ³	88	54	50	50
Fibreboard	m ³	49	46	49	49
Mechanical pulp	ton	2 840	2 630	2 320	2 500
Chemical pulp	ton	7 680	8 320	7 040	8 020
Pulp, total	ton	10 520	10 950	9 360	10 520
Paper, total	ton	4 520	4 440	3 160	3 760
Paperboard	ton	3 690	4 220	4 290	4 390
Paper & Paperboard total	ton	8 190	8 660	7 450	8 150

Sources: Finnish Forest Industries Federation (2020–2021)

Natural Resources Institute Finland (wood products, pulp and paper (2022e–2023f))

2. Exports of Finnish Forest Industry Products

Product	Unit 1000	2020	2021	2022e	2023f
Sawn softwood	m ³	8 198	8 716	8 450	8 700
Plywood	m ³	828	955	950	940
Particle board	m ³	20	30	24	24
Fibreboard	m ³	42	48	41	41
Mechanical pulp	ton	393	354	400	400
Chemical pulp	ton	3 940	4 121	3 420	4 060
Pulp, total	ton	4 333	4 475	3 820	4 460
Paper, total	ton	4 243	4 269	3 040	3 610
Paperboard	ton	3 585	4 108	4 170	4 270
Paper & Paperboard, total	ton	7 828	8 377	7 210	7 880

Sources: Finnish Customs and Finnish Forest Industries Federation (2020, 2021),
Natural Resources Institute Finland (wood products, pulp and paper (2022e–2023f)).

3. Imports of Forest Industry Products

Product	Unit 1000	2020	2021	2022e	2023f
Sawn softwood	m ³	570	547	350	70
Plywood	m ³	128	121	110	100
Particle board	m ³	125	130	140	140
Fibreboard	m ³	156	164	161	161
Pulp, total	ton	224	150	220	220
Paper, total	ton	95	106	110	110
Paperboard	ton	224	244	240	240
Paper & Paperboard, total	ton	319	350	350	350

Sources: Finnish Customs and Finnish Forest Industries Federation (2020, 2021),
Natural Resources Institute Finland (wood products, pulp and paper (2022e–2023f)).