



Country Market Statement Finland 2023

Forest Sector Market Statement for Finland 2023

October 2023

Natural Resources Institute Finland

The Natural Resources Institute Finland (Luke) is a research organisation operating under the Ministry of Agriculture and Forestry of Finland. Luke's task is to promote competitive business based on the sustainable use of renewable natural resources, as well as wellbeing and the vitality of the countryside.

**You can find us
online
luke.fi**



Contents

- 1. General economic trends 6**
- 2. Recent policy measures..... 8**
- 3. Market drivers 10**
- 4. Developments in forests and forest products markets sectors..... 14**
 - 4.1. Raw wood.....14
 - 4.2. Wood energy14
 - 4.3. Certified forest products16
 - 4.4. Sawn softwood.....17
 - 4.5. Sawn hardwood20
 - 4.6. Wood-based panels.....20
 - 4.7. Pulp and paper.....22
 - 4.8. Housing and construction24
- 5. Gender and human rights issues related to the forest market sector.....27**
- 6. Tables29**

1. General economic trends

Although the Finnish economy sank into recession in the second half of 2022, gross domestic product grew by 1.6 per cent for the entire year. In the beginning of the current year, the economy's exit from recession was mainly due to the demand for services, public consumption expenditures, and the increase in net exports. However, the net exports increased mainly because of the contraction of imports. In the first quarter of 2023, the Finnish economy grew by 0.3 per cent and in the second quarter by 0.6 per cent compared to the previous quarters. Measured on an annual basis, the economy, however, already contracted by 0.4 per cent in the second quarter compared to the same time a year ago.

The outlook for the rest of the year remains weak, and the Finnish economy is predicted to drift into recession again. Economic forecasts for the key export countries for Finland have been adjusted downwards during the autumn 2023, which means that demand will remain weak from the point of view of exports. The value of exports will decrease because of the weakening export unit prices. Although consumers' confidence in the economy, measured by Statistics Finland, has risen slightly in recent months, it is still at a very low level. Towards the end of the year, however, the purchasing power of consumers will be improved due to the salary increases and the rapidly decreasing inflation rate, but on the other hand, uncertainty and the expected decline in employment do not encourage private consumption. Business confidence, as measured by the Confederation of Finnish Industries, for the economic development has been darkening throughout the year. Particularly, the situation in the construction sector looks weak, as housing starts and the number of building permits indicates the industry's gloomy outlook for the near future. Only during the financial crisis, the confidence in construction has been weaker. The order backlog of other industries has also shrunk, which is reflected in the decrease in industrial production and the number of layoffs and dismissals as growing up.

In Finland, the inflation had already dropped to three per cent in September 2023. This is clearly less than the average of the euro countries. Regarding the fall in consumer prices, Finland is currently suffering more than other euro countries from the European Central Bank's (ECB) anti-inflation interest rate policy. The slowdown in inflation is expected to continue for the rest of the year and during next year. The state of the public finances is weakened by growing interest expenses and taking on additional debt. In 2023, the Finnish economy is expected to shrink by 0–0.5 per cent.

In the forecasts of the international economy, it is estimated that economic growth will gradually recover, which also means a recovery in demand for Finnish export products. The deterioration of inflation and a possible reduction in interest rates in the second half of 2024 will further improve the real purchasing power of households. The housing market is also expected to pick up a bit from the bottom of the current year.

Despite the slightly more positive views in 2024, the economic outlook remains quite foggy. In Finland, several industries, such as forest industry, are negotiating for new employment contracts, which may mean strikes and production stoppages. In 2024, the Finnish economy is expected to grow at an annual rate of just under one per cent with more emphasis on the end of the year.

Country Market Statement Finland 2023

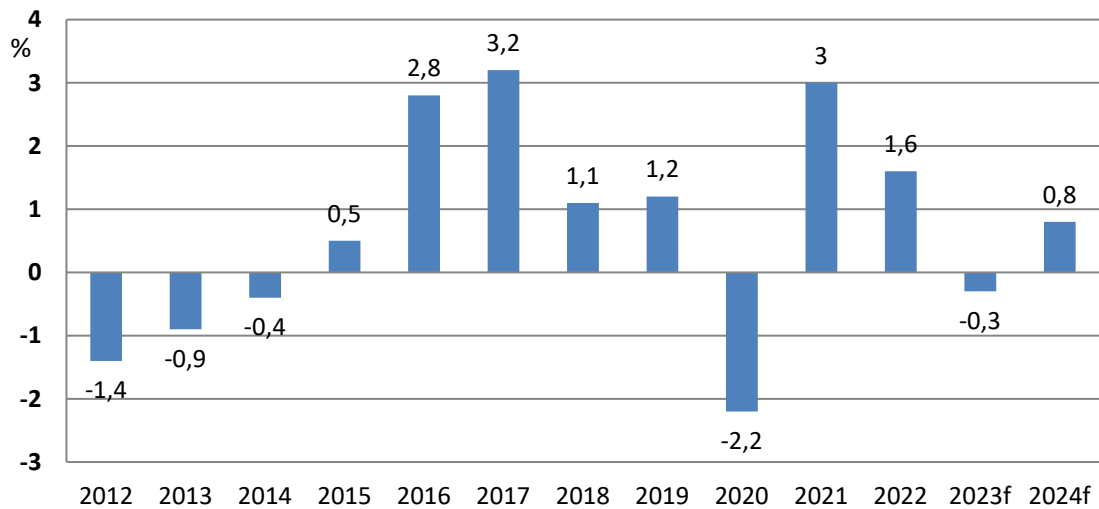


Figure 1. Annual changes of GDP in Finland, 2012-2024f. (Sources: Statistics Finland, Research Institute of the Finnish Economy (2023f, 2024f))

The most significant uncertainties related to forecasts and economic development are mainly due to Russia and the consequences of its military actions. New surprises may occur in the international markets and in politics, the prolongation of high inflation and possibly subsequent monetary policy actions, and the recovery speed of export demand, are all things that together or alone have an effect on the development of Finnish exports and economy.

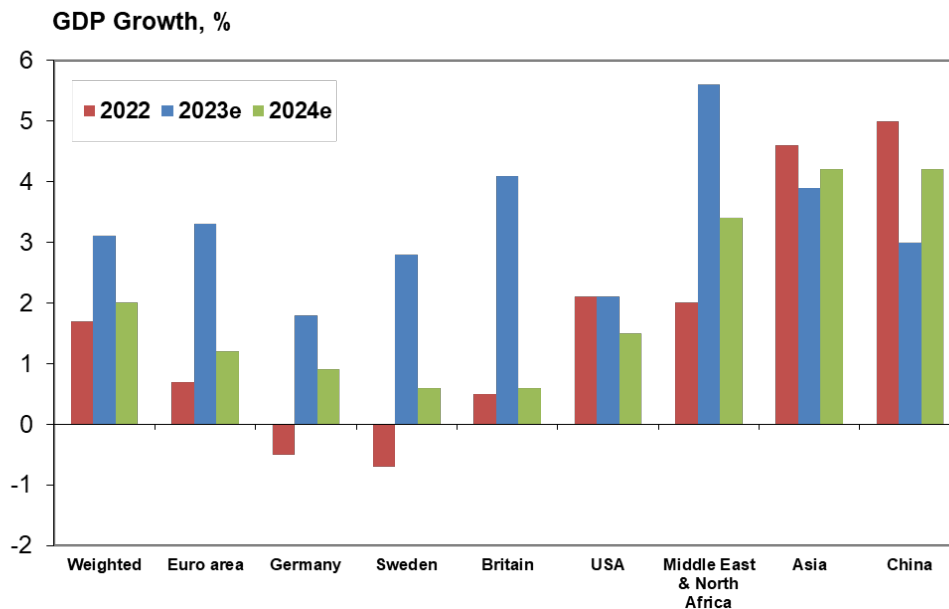


Figure 2. Growth percentages of the forest industry's key market areas. (Sources: IMF and Research Institute of the Finnish Economy)

2. Recent policy measures

In Finland, the new government, which started its work after the middle of June 2023, is implementing forest policy measures based on energy, environmental, and climate policies outlined in the government programme. The intended measures are to update forest management recommendations and to improve their application to support the growth of forests and carbon sinks. The goal is to moderately extend rotation periods, to intervene in excessively strong thinnings, to enhance the control of the Forestry Act, and to improve the rate of forest regeneration, for example by increasing forest planting and nursery management. The government programme also mentions management and fertilisation campaigns to reduce forestry arrears. The Metso and Helmi forest restoration programmes are continued and developed. In the future, Metso funding is also intended to be used for compensation of carbon-rich sites. The goal is to develop the carbon sequestration market and increase continuous cover forestry on peat land. The effects of the possible introduction of the land use change fee are evaluated.

The Finnish government is also implementing the new National Forest Strategy 2035, which was approved by the Forest Council at the end of 2022. The term of office of the new Forest Council appointed in August 2023 is until June 2027. On the other hand, financial cuts also emerge in the government programme, as well as in state budget announced at the beginning of October. According to the government programme, the afforestation support based on the temporary idle areas' afforestation law will not be extended, and a cut is proposed for the future METKA allocations. METKA is an Act on the temporary incentive system for forestry, and it will enter into force on January 1, 2024, and it will be valid until the end of 2029. The Finnish Forest Centre has started Change negotiations in September to achieve savings. Procurement and compensation appropriations for forest protection will also be reduced.

According to the government programme, the Redemption Act, and the taxation of farm (as well as forest) rental income will be reformed, and the forest deduction will be increased. The taxation of farm rental income, such as the rental of fields, buildings, construction sites or forests, as capital income instead of agricultural income has already been prepared. The call for pro forma registration of title of death estates is also being examined. In addition, matters to be clarified are, among other things, the replacement of inheritance and gift taxation with capital gains taxation and the limitation of the right to deduct the interest of joint forests, as well as the correction of the tax legislation of investment funds and the compacting of the tax base. The time limit for unpaid inheritance and gift tax to be seized is being extended from two to ten years.

Among other and previously prepared political measures, the new Nature Conservation Act entered into force at the beginning of June 2023. The Decree on Ecological Compensation as a new means of the Nature Conservation Act entered into force in September 2023. The new forestry incentive system (METKA) was approved in January 2023, and it is intended to enter into force after the approval by the Commission from the beginning of 2024. Support for nursery and young forest management is based on the so-called de minimis regulation of minor support, so no Commission notification is requested for these supports, even though they enter into force at the same time as notifiable supports. The expiring afforestation support for idle areas was also based on the de minimis regulation. The entry into force of the

METKA Act and the details of the implementation of the types of work, such as support levels, are regulated by regulations.

The EU Deforestation Regulation entered into force at the end of June 2023 and there is an 18-month transition period. The regulation replaces the current EU Timber Regulation. Deforestation mainly refers to the clearing of a forest for agricultural use. A general view of the proposal for the EU Nature Restoration has been formed in the EU Parliament in June 2023, after which trilogues between the Council, the Parliament, and the Commission will begin. In the Commission's regulation to be published in December 2023, the maximum level of de minimis public support will rise from EUR 200,000 to EUR 275,000 during a three-year review period for each beneficiary.

3. Market drivers

In 2021 and 2022, the international demand for forest industry products was exceptionally good. In 2021, the nominal value of Finland's forest industry product exports increased by 27 per cent compared to the previous year. In 2022, the value of exports increased further by almost 12 per cent to EUR 14.7 billion. Despite the strong growth, the share of the nominal value of the export of forest industry products with respect to Finland's total value of exports of goods decreased by one per centage point from the previous year to 18 per cent, after the nominal value of Finland's total export of goods increased by almost 19 per cent. The forest industry's export earnings were boosted by the exceptionally strong increases in the unit prices of various main products.

In the wood products industry, the total nominal value of exports in 2022 increased by seven per cent from the previous year to more than EUR 4.1 billion. Although the export volumes of both sawnwood and plywood decreased from the previous year, the increase in export unit prices raised the value of exports. The price increase was especially strong for plywood. The export unit prices of both softwood and hardwood plywood rose by a third from the previous year. The development of sawnwood export prices, on the other hand, was more moderate, only a few per cent. Among the main products of the wood products industry, only the export volumes of spruce sawnwood increased slightly.

In the pulp and paper industry, the total nominal value of exports increased by almost 14 per cent to just under EUR 10.6 billion in 2022. Also, in the pulp and paper industry, the increase in the value of exports was based on a strong increase in export unit prices, even though the export volumes decreased. As a result of the labour dispute between UPM-Kymmene Plc. and the Paperiliitto, the union representing the employees, that lasted almost four months, UPM's pulp and paper mills remained closed at the beginning of 2022, which affected the production and export volumes of pulp and paper. The export volume of cardboard, on the other hand, remained almost at the previous year's level. The average unit prices of paper exports increased by 54 per cent, pulp by 25 per cent, and cardboard by 22 per cent from the previous year.

In 2022, the wood products industry's share of the value of the export of forest industry products was 28 per cent, and the pulp and paper industry's share was 72 per cent. Compared to the previous year, the share of the wood products industry decreased by a good per centage point. Cardboard was exported for EUR 4 billion. The export revenue from paper and pulp were EUR 3.1 and EUR 2.9 billion, respectively. The nominal value of plywood exports increased by almost EUR 130 million from the previous year to EUR 677 million. Sawnwood was exported for EUR 2.6 billion, which was just under EUR 30 million more than the previous year.

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 destination countries. Looking at successive years, there have generally been no major changes in the export earnings from the destination areas, but in the longer term, clear trends can be observed, such as the growing importance of China.

As a result of the good economic situation, the value of the export of forest industry products increased to almost all market areas and destination countries in 2022. The exceptions,

however, were the collapse of the export of pulp and paper industry products to Russia due to the EU sanctions, and in the wood products industry a decrease of almost EUR 100 million in export income from Britain. The almost EUR 400 million increase in export income from the United States was based on the increase in the prices of paper and cardboard products. The United States' share of the pulp and paper industry's export earnings increased by almost four per centage points to 10.6 per cent. Weak demand and inflated inventory levels reduced pulp demand and export volumes to China.

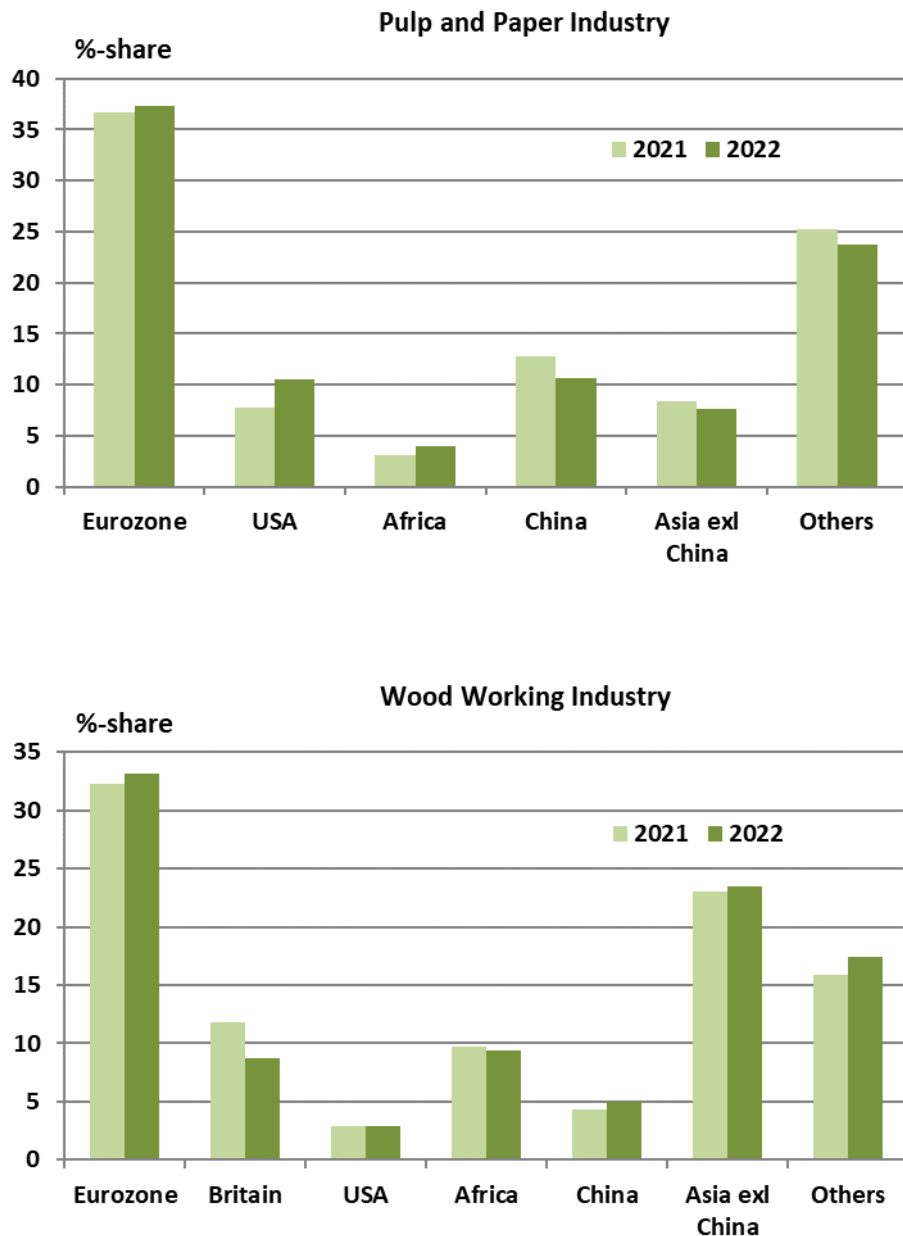


Figure 3. Distribution of the value of exports of Finnish forest industry products in 2021 and 2022. (Sources: Finnish Customs, Luke)

Country Market Statement Finland 2023

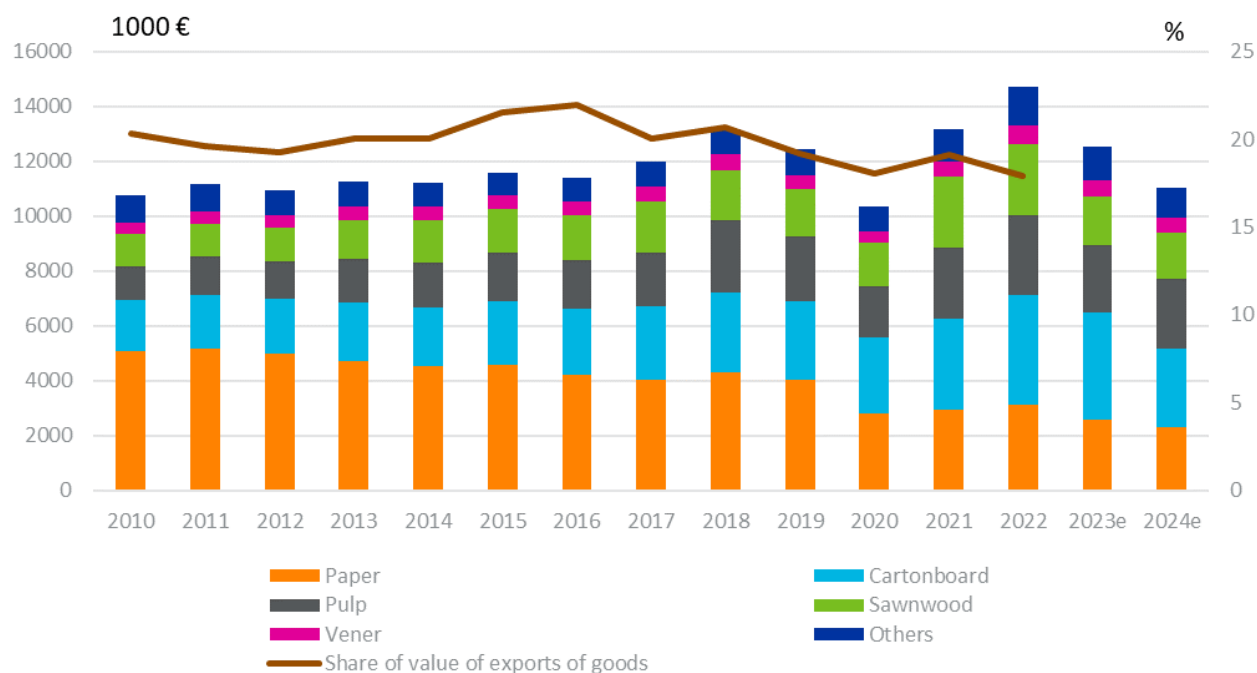


Figure 4. Nominal values of Finnish exports of forest industry products (million euros) by product group and share of the value of forest industry products of total exports of goods 2010–2024e. The values for 2023–2024 are based on forecasts of export volumes and prices by Natural Resources Institute Finland (Luke). (Sources: Finnish Customs, Luke)

According to economic forecasts published in the early autumn of 2023, the global economic growth will slow down to around 2.5–3 per cent this year. Although rising wages will revive consumers' purchasing power along with the anticipated slowing inflation and demand will start to recover next year, the global economic growth will pick up only slightly from the level of the current year. The euro area, the main market area for Finnish forest industry products, will probably drift into recession during the rest of this year. Based on the October 2023 forecasts by the International Monetary Fund (IMF) and weighted by the export shares of the Finnish forest industry in 2022, the world economy will grow by 1.7 per cent this year and two per cent next year.

The interest rate hikes started by the Federal Reserve Bank of the United States (FED) in March 2022 have continued gradually, and the latest hike took place in July 2023. The markets expect one more interest rate hike during the rest of the year. Although the rise in wages in the United States may still flow through to prices for a while, inflation is expected to slow down gradually during the next year, which would enable the first interest rate cuts possibly as early as mid-2024. In the euro area, inflation was 4.3 per cent and core inflation was 4.5 per cent in September 2023. With inflation gradually easing, the European Central Bank's (ECB) interest rate hikes may already be over. However, this is affected by the speed of the price slowdown at the end of the year. To curb the inflation, the ECB must also consider the effects of tightening monetary policy on individual national economies and the stability of financial markets. The construction sector is in trouble in Europe, and with interest rate hikes, the difficulties may also spread to the banking and credit sector, which in the worst case could lead to a new financial crisis. The debt servicing costs of already indebted households and companies also increase with the rise in interest rates, which can lead to uncontrollable and long-lasting financial and political problems. The first interest rate reductions in the euro

area may take place at the end of 2024 at the earliest. However, the weakening of inflation and the timetable for interest rate cuts will be highly affected by the recent conflicts in the Middle East. If the price of oil remains high, it will slow down the decline in inflation and may postpone the start of interest rate cuts.

From the point of view of the forest industry's competitiveness and export earnings, the monetary policy tightening by central banks 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, the 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 the exchange rates. During 2022, the US dollar strengthened against the euro until the end of September. The euro area's avoidance of the energy crisis, the improved economic outlook during the winter, and expectations of a slower pace of interest rate hikes in the United States weakened the dollar against the euro in the spring. On the other hand, after the summer of 2023, the euro has weakened slightly again due to the more sluggish outlook for the euro area economy. At the end of the current year, the exchange rate is estimated to be around 1.10 EUR/USD. No significant changes are expected in the exchange rate next year.

4. Developments in forests and forest products markets sectors

4.1. Raw wood

After a twin-peak boom, first caused by Covid-19 pandemic recovery and then due to Russia's invasion to Ukraine, roundwood markets have been in a slow downturn since the summer 2023. In 2023, fellings of sawlogs are forecast to decrease by 12 per cent with respect to previous year to 22.7 million cubic meters (m³) under bark (u.b.). Pulpwood fellings will remain previous year's level at 30.6 million m³ (u.b.).

The average stumpage prices of softwood sawlogs will still increase by 5–6 per cent due to relatively favourable first half of the year in sawmilling industry. Stumpage prices of birch logs will increase by 17 per cent due to demand for birch plywood after Russia's production fell out from the European markets. Competition for pulpwood and scarcity of imported pulpwood will increase domestic stumpage prices of pulpwood by 26–33 per cent.

Imports of roundwood (including wood chips) have dropped to less than half after the cessation of Russian roundwood imports after March 2022. Since then, the substitution from other countries has been a little higher than expected. Consequently, in 2023, the imports of roundwood are anticipated to decrease only by four per cent to 5.0 million m³ (u.b.). The total volume of fellings of industrial roundwood and imports of roundwood will decrease by five per cent to 58.3 million m³ (u.b.)

In 2024, fellings of sawlogs are forecast to increase by three per cent to 23.4 million m³ (u.b.). There have been several investments in sawmill capacity and on the other hand, the situation in sawnwood market is despite uncertainties anticipated to stabilize. Pulpwood fellings are forecast to increase by five per cent to 32.0 million m³ (u.b.), especially due to the Metsä Group's new pulp mill, which started its production in Autumn 2023, in Kemi.

The average stumpage prices of softwood sawlogs will decrease by four per cent. Pulpwood stumpage prices will decrease less, by 0–2 per cent, as the substitution of previously imported roundwood will be procured mostly from domestic markets. The continuing scarcity is increasing stumpage price of birch logs by five per cent. Imports of roundwood (including wood chips) are forecast to increase by five per cent to 5.6 million m³ (u.b.). The total volume of fellings of industrial roundwood and imports of roundwood will increase by five per cent to 61.0 million m³ (u.b.).

4.2. Wood energy

Wood fuels were Finland's most significant single energy source with a 28 per cent share of total energy consumption. In 2022, the consumption of wood fuels decreased by a total of eight per cent from the previous year as a result of a mild winter and a decrease in the production volumes of the forest industry. 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 per cent 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 per cent.

In 2022, the use of forest chips was 10.8 million cubic meters (m³) of which 10.2 million m³ was used in heating and power plants. Most of the forest chips, 6.4 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 forest chips, increased by eight per cent from the previous year. The use of logging residues increased by nine per cent from the year before to 2.9 million m³. Furthermore, the consumption of large-sized decayed roundwood was 0.6 million, and the consumption of stumps was 0.3 million m³. In 2023, the use of forest chips is expected to remain at the previous year's level, and in 2024, it is expected to rise by no more than a few per cent, as the high average plant price limits its use. The plant price of forest chips in 2022 was EUR 25.3 per megawatt hour, which is eight per cent higher than 2021. In 2023, the average plant prices of wood chips are expected to increase as much as 20 per cent.

The production of wood pellets decreased two per cent to 360 000 tonnes in Finland in 2022. Apparent consumption was 529 000 tonnes (production + import – export). Deliveries by pellet producers based on domestic pellet production, 390 000 tonnes, increased five per cent from the year before. Imports of wood pellets to Finland was (188 000 tonnes), while the export volume was 18 000 tonnes. Wood pellet production is limited by the availability of raw materials and despite new factory investments, pellet production is expected to grow moderately by 20,000 tonnes in 2023. During 2024, the production volume is likely to increase further by 20,000 to 30,000 tonnes.

The prices of EU emission allowances have risen to a record level and have remained around EUR 80 per tonne for the past year. In March 2023, the trading price was already over EUR 100 per tonne. The price of a tonne of carbon dioxide has never been this high. Emissions trading is a climate policy instrument that aims to reduce emissions. The higher the price of emission rights, the more strongly it directs companies to lower emission production, because emission allowances are a cost for companies. The higher price of the emission allowances 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 allowances, 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, the use of coal in the production of heat and power will be prohibited from May 1, 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 aim is that the use of peat for energy will decrease by at least half by 2030.

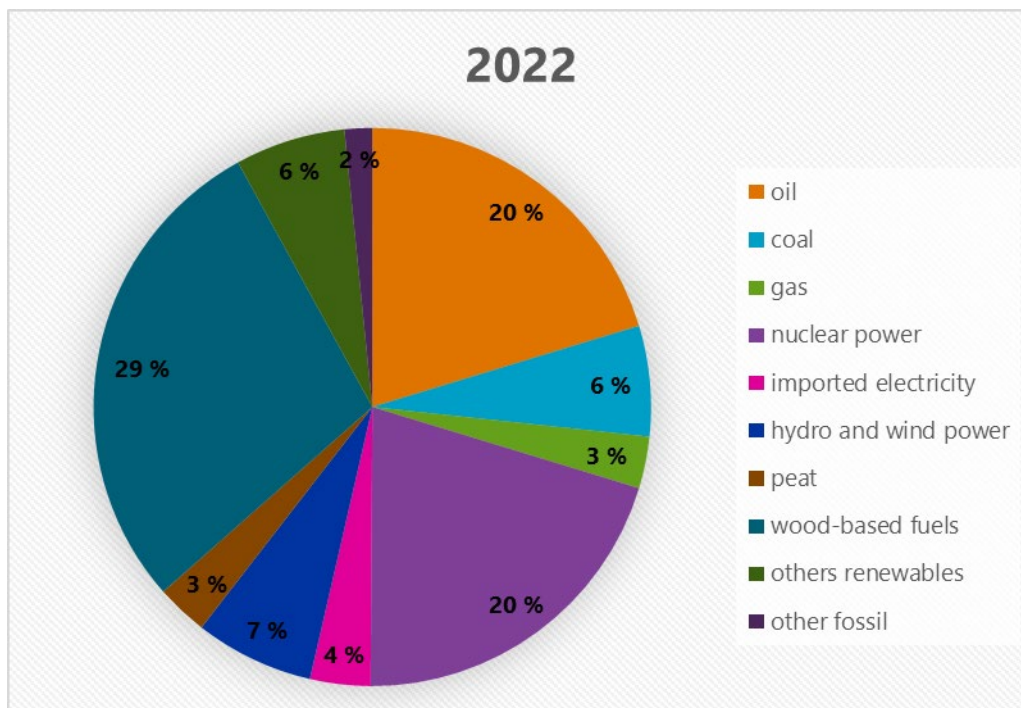


Figure 5. Energy consumption in Finland in 2022 by source of energy. (Source: Statistics Finland)

4.3. Certified forest products

In Finland, the current area of certified forests endorsed by the international Programme for the Endorsement of Forest Certification (PEFC) scheme is about 19.1 million hectares (by June 2023). This accounts for 95 per cent of the forests used for wood production. The forest area certified under Forest Stewardship Council (FSC) scheme has increased to 2.3 million hectares or approximately 11 per cent of the forest area. The same area, 2.3 million hectares are double certificated under both schemes (8/2023).

The PEFC Finland has revised its certification criteria in 2019–2021. The revised requirements were taken into use in forestry in the autumn of 2022, and they have formed the basis of external audits from 2023. The renewed criteria increased the width of the buffer zones on the edges of open mires and along water bodies, and only selection fellings are allowed on them. The number and stoutness of retention trees has been increased from the earlier level. In harvesting, deadwood is spared, and the creation of deadwood is supported by leaving high stumps. Thickets are spared and the creation of a mix of tree species are 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 some changes over the last year. The number of PEFC Chain of Custody (CoC) certified companies in October 2023 was 254, whereas FSC has granted 141 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.

4.4. Sawn softwood

During the last three years, softwood sawnwood markets have experienced strong supply and demand fluctuations, which in turn has resulted in an unprecedented volatility in sawnwood price. The COVID-19 pandemic was followed by Russia's attack on Ukraine, rising inflation, and interest rate hikes. The export price of Finnish softwood sawnwood was at its highest in September 2021. After the decline at the end of 2021, the export price turned to rise again in spring 2022, and by June 2022 the price had already risen almost as high as in autumn 2021. The increase in export price was attributable to the situation in the European sawnwood markets. Due to the war-related sanctions, the imports of Russian and Belarusian sawnwood (as well as other wood products) to the EU had to be stopped in the summer of 2022. The anticipated shortage of sawnwood temporarily increased the demand and prices. However, before the import ban came into force, Russian sawnwood was imported in abundance and stocks accumulated. In autumn 2023, sawnwood demand weakened, sawnwood price began to decrease rapidly in Europe. Sawmills in the Central Europe and Scandinavia reacted to changed situation with production restrictions in the second half of 2022. In 2022, 11,2 million m³ of sawnwood was produced in Finland, and the production volume diminished six per cent from previous year. The export of sawnwood decreased less (-2%) than the production, and the average export price increased three per cent compared to 2021.

Outlook for 2023 and 2024

The end of 2022 was marked by a decrease in production and export volumes of sawnwood in Finland and a sharp drop in the export price. Thus, the expectations for 2023 were not high in the autumn of 2022. Compared to expectations, however, the first half of 2023 was quite positive in the sawmilling industry: compared to the first half 2022 exports of sawnwood were approximately at the same level and sawnwood production decreased less than three per cent. Meanwhile, the export price of sawnwood rose until May 2023.

High interest rates, increased construction costs, and the growth of economic uncertainty have started to decrease construction volumes and lumber demand in many market areas during 2023. However, there are differences between the markets in the magnitude of the decrease in demand and the expectations related to recovery. In the United States, sawnwood consumption is down this year. However, consumption is expected to turn to growth in 2024, and the growth would continue also in 2025. Sawnwood consumption is maintained by housing construction, as new housing is built relatively little compared to the need.

In Europe, large reductions in construction volumes will be seen this year in, for example, Sweden, Finland and Germany. On the other hand, construction output in France, an important export country for Finnish spruce sawnwood, would even increase slightly in 2023. According to forecasts, construction would begin in many countries, such as Britain, would increase in 2024. Instead, in some in countries such as Germany, construction would continue to shrink next year as well.

Table 1. Finnish sawmill industry in 2022.

–	Sawnwood, 1000 m³	Share of production, %	Volume change 2022/2021, %
Production, of which	11 240	100	-6
Domestic market*	2 651	24	-17
Exports, of which	8 589	76	-2
Euro area	2 605	23	-4
<i>Estonia</i>	508	5	14
<i>Germany</i>	482	4	-13
<i>France</i>	436	4	-25
<i>Others</i>	1 179	10	5
Other Europe	1 230	11	-20
<i>United Kingdom</i>	686	6	-32
<i>Others</i>	544	5	2
Asia	2 836	25	7
<i>China</i>	933	8	27
<i>Japan</i>	742	7	-7
<i>Saudi Arabia</i>	493	4	1
<i>Israel</i>	388	3	3
<i>Others</i>	280	2	12
Africa	1 785	16	6
<i>Egypt</i>	1 240	16	6
<i>Algeria</i>	265	2	-14
<i>Others</i>	280	2	-9
North America	94	1	-22
Others	40	0	25

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

Sources: Finnish Customs, Finnish Forest Industries Federation.

Overall, the development of construction volumes in Europe currently involves great uncertainties. Interest rates and construction costs are high and consumers' confidence in the economy is clearly below the average. On the other hand, inflationary pressures are easing, and the ECB's interest rate hikes are possibly over. The interest rate is expected to gradually decrease, which would also be reflected in construction volumes, possibly towards the end of next year.

In China, the strict COVID-19 restrictions had a strong impact on construction, and sawnwood consumption reversed its long-standing growth to a decline in 2020. Restrictions were lifted in December 2022, and economic growth, construction and lumber consumption were expected to recover rapidly in 2023. However, China's economic growth has been slower than expected this year, the real estate sector is in problems, the furniture industry's domestic and export sales volumes have decreased, and thus a rapid recovery in the demand for sawnwood has not materialised. After the closure of the European market, Russian sawnwood producers have tried to increase the export of sawnwood to China, which has had put pressure on the sawnwood prices in the Chinese market.

In Japan, the price level of softwood lumber started to fall from the COVID related peak later than in North America and Europe. Accordingly, Japan was an attractive export market for European producers towards the end of last year. However, by the beginning of 2023, sawnwood stocks in Japan had already grown large and the destocking has decreased import volumes and price level during the current year.

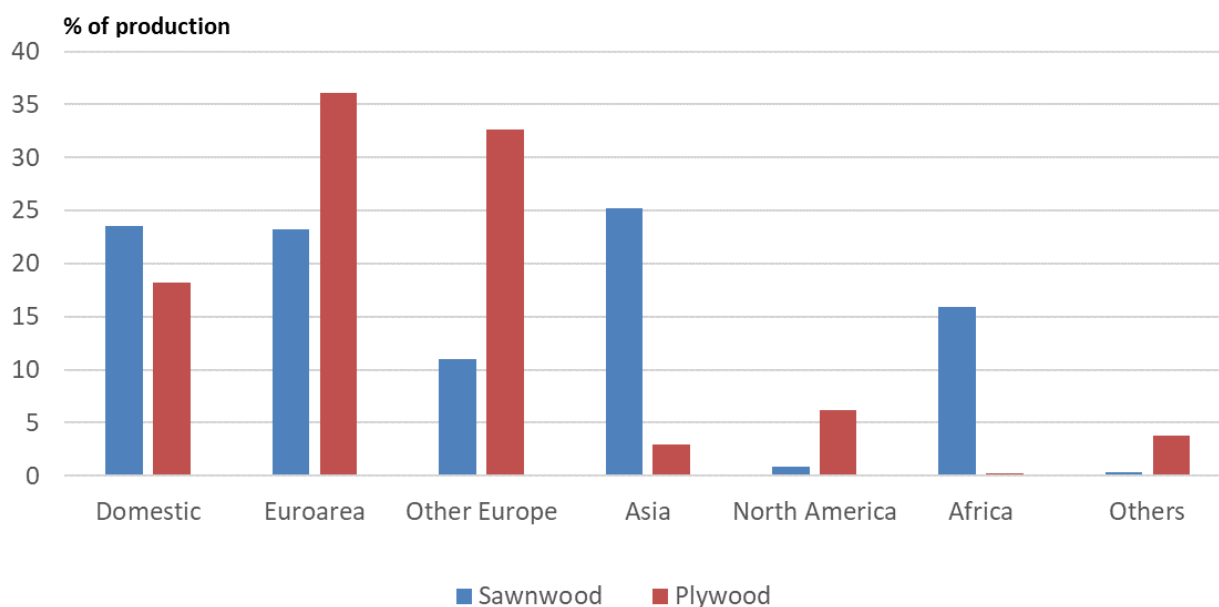


Figure 6. Domestic use and exports of Finnish sawnwood and plywood in 2022 (% of production). (Sources: Finnish Customs, Luke, Finnish Forest Industries Association)

In North Africa and the Middle East, sawnwood demand outlook is positive in the medium and long term. The population is young, economic growth is expected to be brisk in many of the regions' countries, and construction sector is growing. Construction growth, especially in Saudi Arabia and in Egypt, is supported by the ongoing and planned very large state-led construction projects. In the short term, especially in the sawnwood markets of North African countries, there are fluctuations. For example, in Egypt, the construction volumes have been affected by the elevated inflation this year. The exports of sawnwood to Algeria have been stagnant from time to time, most recently in 2022, due to the import licensing system and its changes. In 2023, however, these problems have been avoided. Until recently, the market situation for sawnwood in the Middle East has been relatively stable. However, the conflict between Hamas and Israel increases uncertainty, and if it escalates, it could affect the sawnwood markets beyond Israel and the Middle East.

The fall in the export price of Finnish softwood sawnwood that started at the beginning of the summer seems to have stopped in September 2023. Sawmills in Central Europe and Scandinavia are limiting their production to stop the prices from falling. Plans of new production restrictions have also been announced towards the end of this year. In Finland, Kotkamills, a part of the Mayrn-Melnhof group, has decided to close its sawmill located in Kotka (capacity 230 000 m³/a of sawnwood) at the end of 2023.

In the second half of 2023, Finnish sawnwood production and exports will decline, and for the whole of 2023, both the sawnwood production and exports are forecast to be eight per cent lower than last year. Although the decline in the export price of sawnwood appears to have

ended in the autumn of 2023, no significant upward turn is expected in the near future. The average export price of softwood sawnwood for the whole of 2023 is forecast to fall by 25 per cent from 2022.

The outlook for the first half of 2024 for the European sawnwood market is gloomy. There are currently significant uncertainties associated with the development of the markets in China, North Africa, and the Middle East, but the outlook can be considered more positive than in Europe. The strengthening of export demand for Finnish sawnwood would possibly begin towards the end of next year. Demand for sawnwood is also falling in Finland, but the cessation of Russian sawnwood imports will bring space to the domestic market. Before last year, more than 500,000 m³ of sawnwood were imported to Finland from Russia and still 280,000 m³ last year. In 2024, the Finnish softwood sawnwood production and exports are expected to strengthen only slightly, and the average export price is expected to fall by four per cent from 2023. The share of the non-European markets of Finnish sawnwood exports is expected to grow, which in part lowers the average export price.

In Finland, sawmills have made excellent operating results over the past couple of years and invested heavily in new sawing capacity, renewal of existing capacity, removal of bottlenecks and further processing. In 2022, for example, the renewal of Versowood Ltd.'s Vierumäki sawmill and Metsä Group's new sawmill in Rauma were completed. In 2023 for example, Koskinen Plc.'s new sawmill in Kärkölä, Kuhmo Ltd.'s renewal of main sawmill line and Tervolan Saha ja Höyläämö Ltd.'s production plant expansion have been completed, and Junnikkala Ltd.'s new sawmill in Oulu is about to be completed at the end of the year. Sawmill investments are also expected to be completed next year and in 2025, although clearly less than last year and during the current year.

As a result of the investments, the production capacity of sawnwood is growing and renewing in Finland. At the same time, the demand for sawnwood in the export and domestic markets is declining. Capacity utilisation rates will remain low this autumn and next year. Problems may arise, for example, if the investments have been financed with loans that have become more expensive due to rising interest rates. On the other hand, the commissioning of new plants, the ramp-up of production, and the optimisation of operations do not happen overnight, and from this perspective, investments are completed at an opportune time. The new resource-efficient production facilities bring competitiveness to Finnish sawmills both in the current tight market situation and in the future when demand for sawnwood recovers again.

4.5. 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 36 000 m³ in Finland in 2020.

4.6. Wood-based panels

The development in the plywood markets was more stable than in the sawnwood markets during the pandemic years, and no price rally caused by an imbalance between supply and

demand was seen as in the sawnwood markets. The export price of Finnish softwood plywood increased until the end of last year and, despite a slight decrease, it has remained high also during the first half of this year. On the other hand, the export price of hardwood plywood, i.e. birch plywood in Finland, continued to rise this year until June.

The main applications of cross-laminated softwood plywood are in construction, where it competes with other wood-based panels, such as OSB. In Europe, the main markets for Finnish softwood plywood, demand has decreased due to slowing construction since the late 2022, and production in Finland has been restricted. In contrast, the export demand for LVL, which is included in the production and export figures for softwood plywood, was higher in the first half of 2023 than for cross-laminated softwood plywood. The very high export price of birch plywood is due to the sanctions according to which the imports of Russian birch plywood to the EU were supposed to end in July last year. Russian birch plywood has played a key role in the European market, and there has been a shortage of birch plywood since the end of imports. Efforts have been made to replace birch plywood with other grades of hardwood plywood, but this is not possible in all applications, for example in the transport industry. During 2023, suspicions that Russian birch plywood is imported into the EU via third countries, especially via Turkey and Kazakhstan, have been growing. In August 2023, the Commission launched an investigation into the illegal import of Russian birch plywood.

Outlook for 2023 and 2024

The demand for birch plywood in Europe, and especially in Germany, has contracted during summer 2023, and the price level has started to decline. The imports of Russian birch plywood via third countries are estimated to be part of the reason for the price reduction. According to foreign trade statistics, the prolonged rise in the export price of Finnish birch plywood halted in July, and the decline is expected to continue during the autumn. The export price of softwood plywood also made a downturn in July. Despite the decline in plywood export prices during the rest of the year, the average export price for the whole of 2023 is forecast to increase by four per cent compared to the 2022 level. The market situation for softwood plywood will continue to be challenging in the first half of 2024. There will probably still be a shortage of birch plywood in Europe in 2024, but the price level is forecast to decline from this year's very high level. Finland's plywood production and exports are forecast to remain at the current year's level in 2024, and the average export price is forecast to fall by eight per cent. Like sawnwood production, investments are also made in plywood production in Finland. UPM-Kymmene Plc.'s investments in the development of the Joensuu plywood mill will be completed this year, Koskisen Ltd. will build a new lathe line in Järvelä, and Metsä Group has decided to build a new LVL mill in Äänekoski. The plant, with a production capacity of 160,000 m³/a, is expected to start up in 2026.

Table 2. Finnish plywood industry in 2022.

–	Plywood, 1000 m³	Share of production, %	Volume change 2022/2021, %
Production, of which	1 100	100	-3
Domestic market*	200	18	15
Exports, of which	900	82	-6
Euro area	394	36	-4
<i>Germany</i>	149	14	-4
<i>Netherlands</i>	125	11	0
<i>Others</i>	123	11	-8
Other Europe	359	33	-10
<i>United Kingdom</i>	117	11	-7
<i>Sweden</i>	95	9	-14
<i>Denmark</i>	47	4	-2
<i>Norway</i>	46	4	-8
<i>Others</i>	54	5	-14
Asia	32	3	1
Africa	2	0	-38
North America	68	6	0
Others	42	4	3

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

Sources: Finnish Customs, Finnish Forest Industries Federation.

4.7. Pulp and paper

In Europe, the demand for printing and writing paper has declined sharply this year. In January-July demand was, according to Euro-Graph, 28 per cent lower than in the corresponding period of the previous year. The main reason behind the decline is accumulation of stocks, with which paper users, such as printing houses, tried to prepare for constantly rising prices last year. In 2023, due to weak economic growth and poor demand, as well as existing paper stocks, the need for new orders has been clearly lower than before. In Finland, during the first six months of this year, the export and production volumes of paper increased by eight per cent compared to the same period last year. However, the growth is not an indication of a good market situation, but due to last year's weak comparative level. In 2022, the export and production volumes of paper were strongly affected by the strikes in the UPM-Kymmene Plc.'s pulp and paper mills in Finland. As a result of high costs and accumulation of stocks, the export prices of paper were exceptionally high last year. The price level remained high in the spring of this year as well, even though prices were in a clear downward trend. The average export price of paper during the first seven months of this year was still 12 per cent higher than the corresponding period of the previous year. However, in July the export price of paper was almost 17 per cent lower than in January.

The demand for paperboard began to weaken already at the end of 2022. In the first half of 2023, the export volume of Finnish paperboard was 21 per cent lower than during the corresponding period last year. The reason behind the decline is the weakening of the general economic situation, which has been exacerbated by high stock levels. Finnish paperboard producers adapted their production to the weakened demand situation in early 2023. They

have reduced production volumes and temporarily laid off staff in mills. At the same time with the weakened demand, however, production capacity is increasing slightly. The average export price of paperboard was in January-June 2023 four per cent higher than the average price of the corresponding period of the previous year. At the beginning of the year (January-June), however, the prices of different grades developed into different directions. The price of kraftliner, for example, was 29 per cent lower than last year, but the prices of folding box-board, rose significantly.

In 2022, pulp production decreased by 15 per cent in Finland from 2021. Pulp exports decreased by 12 per cent. The main reason behind the sharp decrease was the strike at UPM-Kymmene Ltd.'s mills at the beginning of 2022. This year the situation on the pulp market has been significantly weaker than last year. However, due to the exceptional nature of 2022, the export volume during the first seven months of the current year was about a quarter higher than the corresponding period last year. Production in the first half of the year was 13 per cent higher than the corresponding period of the previous year. The prices of pulp were exceptionally high in Europe last year but fell sharply in the spring of this year. The reasons for the decrease were the weakened demand and the continued destocking. Pulp producers' costs have decreased since last year, but they are still higher than normal. The strong drop in prices that took place in the spring has also been reflected in the export price of pulp, which in July was about EUR 200 per tonne lower than in January and almost EUR 300 per tonne lower than in October last year. Compared to the average price for the first seven months of 2022, the average export price of pulp for the corresponding period this year was about four per cent lower.

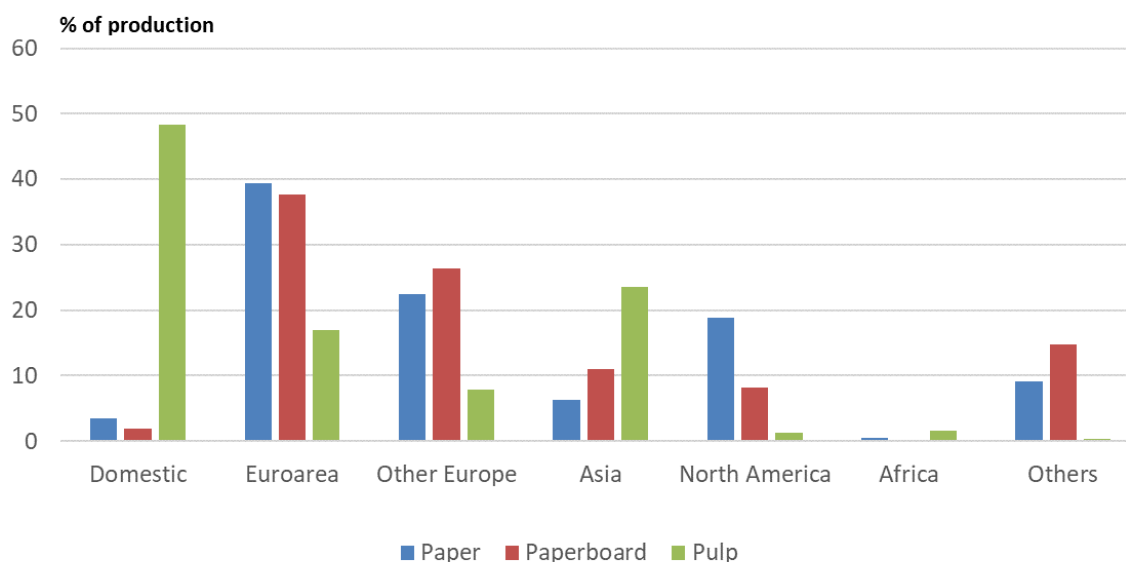


Figure 7. Domestic use and exports of Finnish pulp, paper, and cartonboard in 2022 (% of production). (Sources: Finnish Customs, Luke, Finnish Forest Industries Association)

Outlook for 2023 and 2024

The prospects for this and next year in the paper industry are marked by uncertainty about the magnitude of future demand. Demand has been declining for a long time as a result of digitalisation, but it is unclear where the demand will settle once the destocking has ended. The operating rates of paper machines have been low this year and closures have been

announced as well. In Finland, Stora Enso Ltd. will close paper machine that produces uncoated mechanical paper grades in Anjalankoski in the last quarter of this year. The production capacity of the machine is 0.25 million tonnes. Finnish paper production and export volumes will decrease by ten per cent this year. In addition to the weakened demand, the closing of the Anjalankoski paper machine will impact on production volumes. The average export price of paper will be clearly lower than last year. Although poor economic growth in key market areas will keep the demand for paper weak also next year, the situation is still estimated to normalise to some extent from this year's drop. Finnish paper production and export volumes will be slightly higher than this year. Price development will be more even than this year, but the average export price of paper is expected to be 13 per cent lower than this year's average price.

Due to weak demand, the utilisation rate of Finnish paperboard production capacity will decrease significantly this year. Despite the increase in production capacity, paperboard production is expected to decrease this year by 22 per cent from last year. In 2024, the demand for paperboard will gradually start to recover. The economic situation is expected to improve somewhat from this year and private consumption of goods will recover towards the end of the year, when consumers' purchasing power will improve with the abatement of inflation and wage increases. In 2024, the stocks of paperboard users will also start to be at a normal level, which will also support the demand for paperboard. Finnish paperboard exports and production will increase in 2024 by four per cent from this year. Prices are expected to return to the upward trend next year only in the second half of the year, which is why the average export price of paperboard for the whole year 2024 will remain six per cent lower than this year.

Weakened economic growth and weak demand for printing and writing papers and paperboard in Europe affect the pulp market this year. Stock levels are still high also in the pulp market. However, the strengthening of Chinese demand has to some extent strengthened the pulp market. However, there are many uncertainties associated with the continuation of strengthened Chinese demand. The demand for pulp in 2024 is particularly affected by the strength of economic growth in different parts of the world. In addition, the start-ups of several new mills will impact on supply of pulp both this and next year. In the production of NBSK, the most significant capacity increase is Metsä Group's new pulp mill in Kemi, Finland. Production in the mill has started in September 2023. At the same time, there has also been mill closures. In Finland, Stora Enso Plc. has closed Sunila pulp mill. The export of pulp from Finland will clearly increase this year from last year's low figures. Production volumes will remain lower than last year, as domestic paper and paperboard production volumes fell sharply. In 2024, as a result of the new capacity of the Kemi mill, the export of pulp from Finland will clearly increase. Driven by the growth in exports, the total production volumes of pulp will also increase significantly. The average export price of pulp remains this year significantly lower than last year's average price as a result of the price fall in the spring. As demand is quite subdued next year and increasing capacity creates pressure on the price level, the average export price in 2024 is expected to be nine per cent lower than this year.

4.8. Housing and construction

According to the Research Institute of the Finnish Economy (ETLA), the growth rate of total construction investments was 4.9 per cent in 2022, although investments turned to decline

already in the second quarter of 2022. Statistics Finland reports that 37.4 million m³ of new construction projects were started in 2022. This was 15 per cent less than a year earlier. The volume of residential construction decreased in 2022 by almost a fifth compared to 2021. Construction investments in the first half of the current year have continued to contract strongly. Especially, investments in residential construction shrank.

Accelerated inflation and economic uncertainty have reduced household confidence and raised interest rates. These, together with the financial market situation and the rise in construction costs, are influential factors in the fact that the number of permits granted for new construction and the number of construction project starts have turned to a decline after a couple of years of growth. According to the most recent statistics released by Statistics Finland in October 2023, building permits for new constructions were granted in June-August 2023 for a total of 6.0 million m³, which was 42 per cent less last year. The cubic volume of completed building projects decreased by 16 per cent from last year.

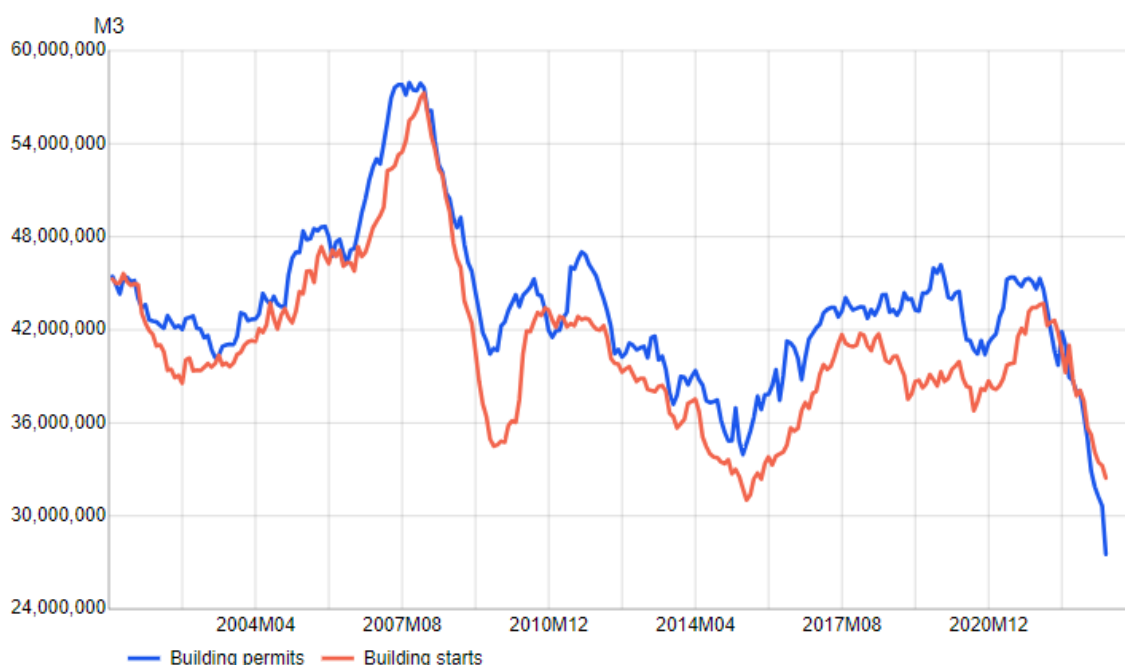


Figure 8. Granted building permits and building starts, m³, moving annual total 2001M01–2023M08. (Sources: Statistics Finland, building and dwelling production, October 2023)

The recent economic survey released by the Confederation of Finnish Industries (CFI) in September 2023 revealed that the indicator describing confidence in construction dropped to -36. The indicator value was four points lower than in August. The long-term average is -7. The order backlog weakened slightly from the previous month and is still clearly below the level considered normal. Expectations regarding the number of employees in the construction sector have continued to weaken. Among the EU member states, confidence in construction was weakest in Finland in August 2023.

In its September 2023 economic review, ETLA estimates that construction investments in Finland will shrink this year almost by seven per cent, and investments in residential construction even more than this. Construction prospects start to improve at the turn of the year when the uncertainty about the interest rate and the direction of monetary policy of the ECB may decrease. Still in 2024, the construction investments are not expected to grow much. Residential

construction is slowly turning to growth and next year's annual growth of total construction will be close to zero. Construction investments turn again more clearly to growth in Finland in 2025. Residential construction is expected to remain at a lower level than previous years for longer time. The Confederation of Finnish Construction Industries RT forecasted in its September 2023 outlook that this year, the total number of housings starts falls to less than half compared to last year. Due to the collapse of housing production, the number of completed apartments threatens to fall to the level of the 1940s in the next couple of years, and the entire construction output will shrink by ten per cent this year.

Table 3. Construction in Finland 2022–2024f.

-	2022	2023f	2024f
Construction, change in volume, %	-5.1	-4.1	1.3
Renovation construction	-0.8	-0.4	1.0
Construction investments, change in volume, %	1.3	-10.0	-2.0
Building construction	3.1	-4.0	-1.0
Land and water construction	-1.0	-5.0	-1.5
Starting up of building construction production, mill. m³	37.7	28.7	30.5
Residential buildings	11.7	5.2	6.1
Free-time residential buildings	0.8	0.7	0.6
Commercial and office buildings	4.5	4.1	4.4
Public service buildings	4.8	4.5	4.7
Industrial and warehouse buildings	12.4	11.2	11.6
Agricultural buildings	1.7	1.5	1.6
Other buildings	1.8	1.4	1.5

Source: Confederation of Finnish Construction Industries RT, October 2023.

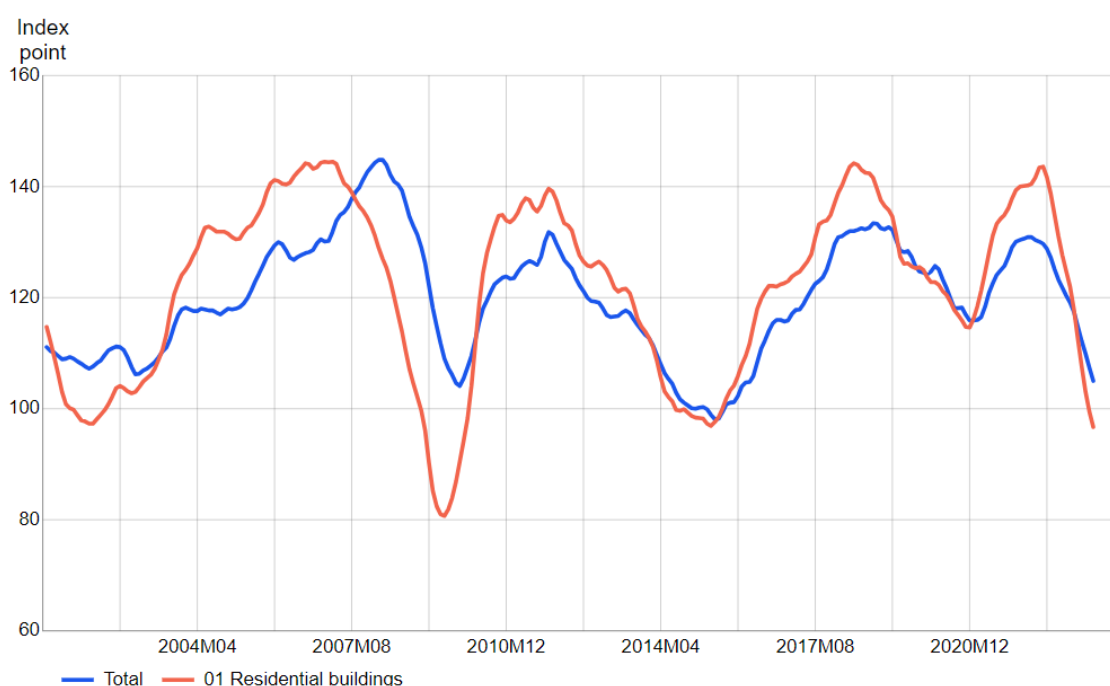


Figure 9. Volume index of newbuilding 2015=100, trend, 2001M01–2023M08. (Sources: Statistics Finland, building and dwelling production, October 2023)

5. Gender and human rights issues related to the forest market sector

In general, Finland is a democratic country where human rights are respected. People can apply to their preferred field of education. Issues related to gender are often considered secondary in Finnish working life and the emphasis is rather on individual agency and the skills of individuals. However, it has been estimated that gender segregation of work sectors and applying to education according to gender are particularly differentiated in Finland compared with the situation in Europe in general.

According to Statistics Finland, in 2021 almost half (48%) of the Finnish workforce were female, but in the forest sector the corresponding share was 19 per cent. Females have represented a minority during the last decades among workers in the forest sector. In 2021, the share of females was 14 per cent in forestry, 14 per cent in wood-products industries, and 27 per cent in pulp and paper industries. However, in the forest sector, opportunities of working life are not same between females and males. As an example, according to statistics and different surveys, after completing a degree in forestry, men were more often employed in the forest sector, worked full-time more generally, and in all the age groups earned more than women. Possibilities to combine work and home issues may be challenging for female forest workers.

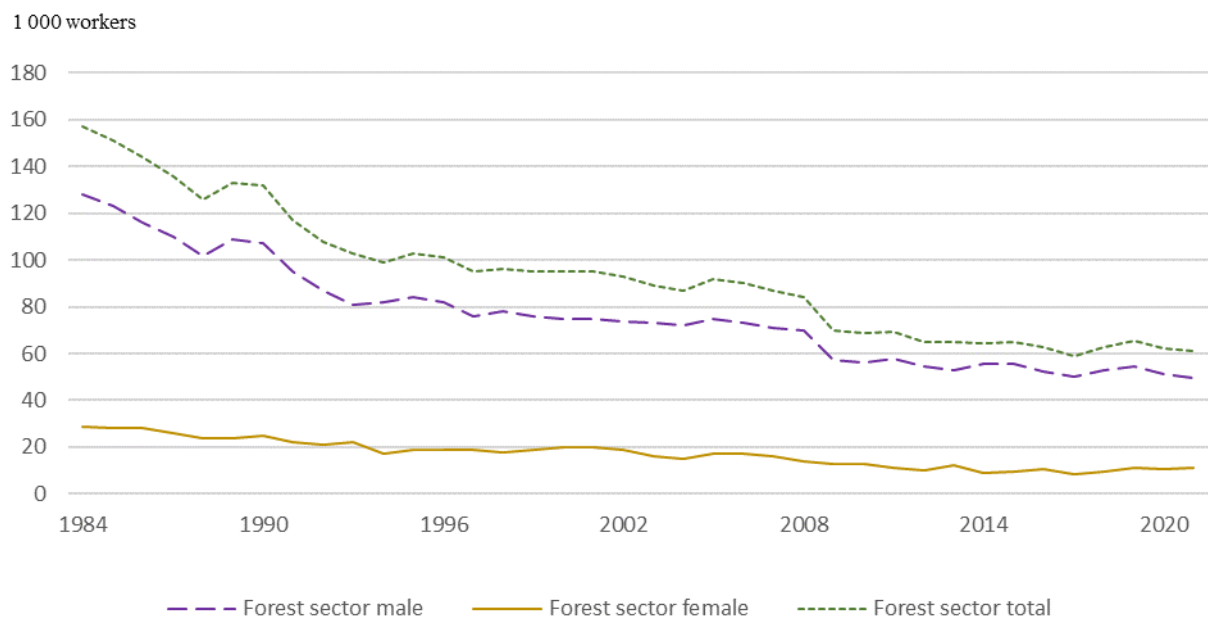


Figure 10. The amount of all workers, females, and males in the Finnish forest sector. (Source: Statistics Finland 2022. The calculation method changed in 2019.)

According to a survey in 2019, females working in forestry were in general satisfied with their work, but the assessments regarding the workload and recovery indicated reduced well-being at work. Coping methods listed by the female respondents were mainly related to the functionality and management of the work community.

Non-industrial private forest owners (over 600 000 people) own over half (60%) of the forest area and sell most (80%) of the roundwood procured by the forest industry. A considerable

proportion, about 40 per cent of Finnish forest owners, are female, but their representation in decision-making forums related to the sector is lower than this proportion. To provide information also for the female forest owners, empowering groups have been assembled, where forestry experts and forest owners are all female, to discuss different kinds of topics related to forestry and forest ownership.

In recent years, foreign labour has become an important and even necessary part of the workforce in the Finnish countryside. According to the estimate, almost half of all the employed persons in the countryside are foreigners. In forestry, immigrants execute a lot of temporary work, e.g., planting, nursery work, and overall work tasks in forestry. Common features among immigrants, such as lack of language skills and little education, expose and enable vulnerability and possible exploitation. For example, additional fees may be charged from the foreigners for a job opportunity in Finland. These factors should be considered in the foundations of the national work-based immigration policy. However, it is positive that this situation has been detected by different stakeholders such as in administration and both the professional and employer associations. The lack of statistical data on the temporary workforce and on the employment of refugees and asylum seekers in Finland complicates decision-making, monitoring, and planning related to the national and international workforce.

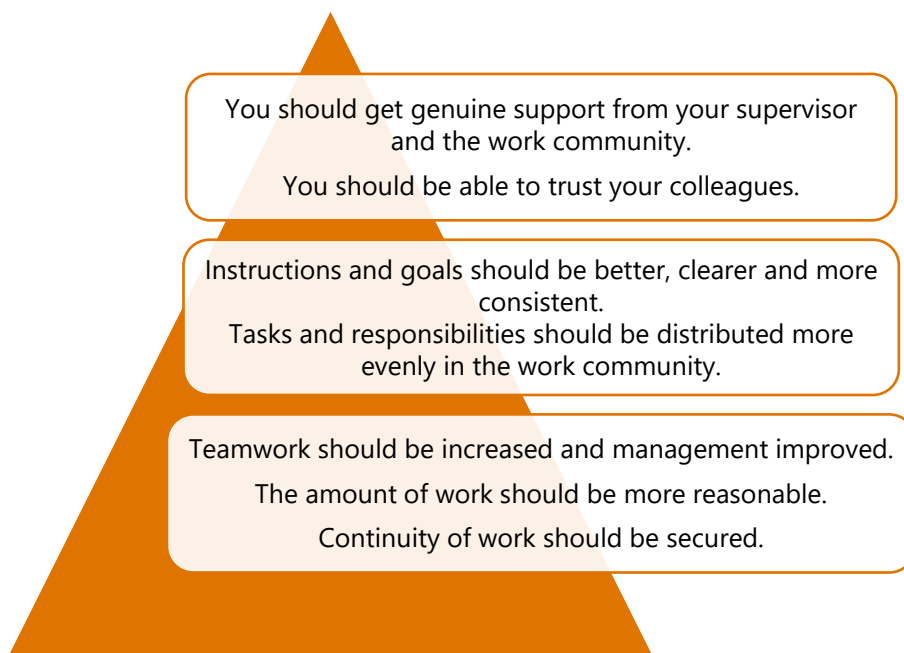


Figure 11. Responses of females to the question; “How would you improve your coping?” (Source: The survey was carried out in 2019 among Finnish forestry workers in wood harvesting and transport (N=1 282).)

Sustainability is an important theme for forest related enterprises. In Finland, the state-owned enterprise Metsähallitus manages and protects state-owned land and water areas. The organisation has launched a “Diversity, equality and non-discrimination plan” which promotes equality and eliminates any kind of discrimination. This can be seen as an important opening for the other stakeholders in forest sector as well.

6. Tables

Table 4. Economic indicators in Finland.

Key economic indicators	2022	2023e	2024f
Gross domestic product growth, %	1,6	-0,3	0,8
Consumer price index change, %	7,1	6,3	1,9
Wage and salary earnings change, %	2,4	4,1	3,6
Unemployment rate, %	6,8	7,2	6,8
Current account surplus/GDP, %	-3,7	-2,2	-1,3
Industrial output change, %	0,9	-1,4	3,1
EUR/USD* (at the end of period)	1,14	1,07	1,12

Sources: Research Institute of the Finnish Economy (ETLA) 14.9.2023, *Nordea 5.9.2023.

Table 5. Forest industry production in Finland.

Product	Unit 1000	2021	2022	2023e	2024f
Sawn softwood	m ³	11 900	11 200	10 300	10 400
Plywood	m ³	1 130	1 110	940	940
Particle board	m ³	54	54	54	54
Fibreboard	m ³	49	44	44	44
Mechanical pulp	ton	2 634	2 160	1 840	1 890
Chemical pulp	ton	8 320	7 040	6 850	7 470
Pulp, total	ton	10 954	9 200	8 690	9 360
Paper, total	ton	4 440	3 050	2 750	2 810
Paperboard	ton	4 220	4 150	3 220	3 340
Paper & Paperboard total	ton	8 660	7 200	5 990	6 150

Sources: Finnish Forest Industries Federation (2021–2022), Natural Resources Institute Finland (wood products, pulp, and paper (2023e–2024f)).

Table 6. Exports of forest industry products from Finland.

Product	Unit 1000	2021	2022	2023e	2024f
Sawn softwood	m ³	8 716	8 567	7 900	8 000
Plywood	m ³	955	900	760	760
Particle board	m ³	30	26	23	23
Fibreboard	m ³	46	46	38	38
Mechanical pulp	ton	354	447	327	336
Chemical pulp	ton	4 121	3 640	4 030	4 560
Pulp, total	ton	4 475	4 087	4 357	4 896
Paper, total	ton	4 269	2 950	2 650	2 710
Paperboard	ton	4 108	4 069	3 140	3 260
Paper & Paperboard, total	ton	8 377	7 019	5 790	5 970

Sources: Finnish Customs and Finnish Forest Industries Federation (2021, 2022), Natural Resources Institute Finland (wood products, pulp and paper (2023e–2024f)).

Table 7. Imports of forest industry products to Finland.

Product	Unit 1000	2021	2022	2023e	2024f
Sawn softwood	m ³	547	305	20	20
Plywood	m ³	122	87	60	60
Particle board	m ³	129	142	100	100
Fibreboard	m ³	167	141	102	102
Pulp, total	ton	220	355	150	150
Paper, total	ton	106	113	110	110
Paperboard	ton	244	220	165	170
Paper & Paperboard, total	ton	350	333	275	280

Sources: Finnish Customs and Finnish Forest Industries Federation (2021, 2022), Natural Resources Institute Finland (wood products, pulp and paper (2023e–2024f)).