



Finnish Forest Sector Economic Outlook 2010–2011

Editors

Riitta Hänninen
Yrjö Sevola

Translation

Bellcrest Translations Ltd./Peter Ovell

Technical editing

Sari Elomaa

Database

Jarmo Mikkola

This Economic Outlook is a translation of an abbreviated version of the Finnish original and is based on information available in early October. It is published in PDF format annually in late November.

Available at

[www.metla.fi/julkaisut/
suhdannekatsaus/index-en.htm](http://www.metla.fi/julkaisut/suhdannekatsaus/index-en.htm)

ISBN 978-951-40-2272-2 (PDF)
ISSN-L 1798-3037
ISSN 1798-3037

November 2010

Finnish Forest Research Institute
Vantaa Research Unit

Contributors

Riitta Hänninen, D.Sc.(For.), researcher
Jussi Leppänen, M.Sc.(For.), researcher
Juhani Marttila, M.Sc.(For.), researcher
Antti Mutanen, M.Sc.(For.), researcher
Yrjö Sevola, Lic.Sc.(For.), senior researcher
Esa Uotila, M.Sc.(For.), researcher
Kari Valtonen, M.Sc.(For.), researcher
Jari Viitanen, D.Soc.Sc., researcher

email: firstname.lastname@metla.fi

Contents

Summary <i>Riitta Hänninen and Jari Viitanen</i>	4
I World Economy <i>Jari Viitanen</i>	8
2 The Finnish Forest Industry	14
2.1 Production and Exports in the Sawmilling and Plywood Industries <i>Riitta Hänninen</i>	14
2.2 Production and Exports in the Pulp and Paper Industry <i>Kari Valtonen</i>	18
2.3 Costs and Profitability in the Finnish Forest Industry <i>Antti Mutanen</i>	23
3 Forestry in Finland	26
3.1 Utilisation of Wood Resources <i>Yrjö Sevola</i>	26
3.2 Roundwood Markets <i>Jussi Leppänen and Esa Uotila</i>	28
3.3 Investment and Profitability in Non-Industrial Private Forestry <i>Esa Uotila</i>	31
Featured Topic	34
Wood-Based Construction in Russia Since 2000 <i>Juhani Marttila</i>	34



Summary

The production and export of Finnish forest industry products began to grow quickly during the first half of 2010 as demand recovered in the main export markets and on the domestic market. The profitability of production was enhanced by a weakened euro, which improved the price competitiveness of exports, and especially by the higher export prices for sawnwood and pulp. The price trend on the paper market, however, has been more moderate on account of the overcapacity in Europe. The forest industry's increased roundwood need during 2010 has been met through an increase in commercial fellings in Finland and by importing more wood. Domestic roundwood sales have picked up significantly from 2009, and prices of softwood sawlogs in particular have risen.

Europe's GDP growth is forecast to slow down in the latter part of 2010 and in 2011, as the various government stimulus packages gradually come to an end. This will also reduce the demand growth for Finnish forest industry products, and indeed the rise in sawnwood and pulp export prices has already tailed off.

The forest industry's production and exports are forecast to grow more slowly in 2011 than in 2010. Sawnwood production will rise to about 9.8 mill. m³ and paper and paperboard production to approximately 12.8 mill. tonnes. The upward trend in the forest industry's profitability will lose momentum. The industry's roundwood demand and commercial fellings will both be up a little in 2011, but roundwood supply will fall as a result of the discontinuation at the end of 2010 of the tax relief on income from roundwood sales. Stumpage prices of softwood sawlogs and pine and birch pulpwood are forecast to rise in 2011, though more moderately than in 2010. Russia's policy of export duties on roundwood is

nevertheless creating uncertainty in the market. If Russia's export duty increases come into effect at the start of 2011, there will be a decrease in Finnish imports of Russian roundwood compared with 2010. The use of forest chips is expected to grow in 2011 to about 7 mill. m³ when new subsidies and energy taxes are introduced.

Although the world economy has already passed the worst of the recession, it is entering a period of slower growth, overshadowed by uncertainties over the future course of the United States economy and the debt-ridden economies of the euro area. Rapid and unforeseeable changes in exchange rates are also a source of uncertainty. There are real risks that the situation will differ in one direction or another from the forecasts given.

Lower GDP Growth on Export Markets in 2011

GDP growth in the Finnish forest industry's main export markets has been slowing since the spring and summer of 2010 as stock replenishments are completed and fiscal policy stimulus packages are gradually brought to an end. Growth in 2011 will vary widely among countries and regions and will increasingly rely on private consumption. Real GDP growth in the world economy weighted according to the distribution of Finnish forest industry exports will be up by about 2.6% for the full year 2010, and by slightly less than this in 2011.

GDP growth in the euro area, the most important market for the Finnish forest industry, is

being driven by the German economy and will be almost 2% for 2010. In 2011, the euro area economy will grow at a slightly slower rate. Growth in the United Kingdom economy will be in step with the euro area, while Sweden's GDP growth will exceed this in both 2010 and 2011 despite the strengthening krona's impact on export price competitiveness, for example in the sawnwood market. In the United States, GDP growth is forecast to be 2.5% for 2010, but 2011 will see slower growth. With the exception of Japan, Asia's economic growth figures for 2010 and 2011 will again be strong, fuelled by the almost 10% growth in China's GDP. Japan's growth will be held at around 2% as a result of the strengthening yen, the low level of domestic demand and the country's structural problems. Finland's GDP growth for 2010 will be higher than forecast, due to the success of exports, but growth will be lower in 2011. Housing construction in Finland will see a further increase in 2011.

Slowing of Rapid Rise in Sawnwood Prices

With demand picking up during 2010 Finnish exports of wood products have increased, especially to Europe and Africa. The profitability of exports has improved as a result of a rise in market prices. The weakened euro in the first part of 2010 meant improved price competitiveness outside the euro area, but in September/October the euro was once again strengthening. Sawnwood demand in Finland has risen, especially due to the growth in detached housing construction. Sawnwood demand will slacken in the latter part of 2010 and in early 2011, as a result of construction slowing for the winter season in both the domestic and European markets. The rise in sawnwood market prices will also tail off. The average export price of Finnish sawnwood in 2010 is expected to be up by about 13% year on year. The increase in domestic consumption and in exports will boost production to approximately 9.4 mill. m³. Although sawnwood consumption in 2011 is expected to grow in Europe, market price rises will be kept in check by tougher competition as European production grows. The average price

of Finnish sawnwood exports is forecast to rise in 2011 by about 3%. The increase in domestic consumption and in exports will boost production in 2011 to approximately 9.8 mill. m³.

Market prices of plywood are rising more slowly than those for sawnwood. The average export price of Finnish plywood for 2010 is expected to be up by only about 1% on account of the weak price trend for hardwood plywood. Rising demand in Germany and the United Kingdom in particular has boosted the total volume of Finnish plywood exports, which will be up in 2010 by about one fifth on the 2009 figure. In 2011, plywood consumption in Europe will grow further as a result of an increase in construction and world trade. However, the improving price level will also lead to an increased supply of plywood and tougher competition. The growth in exports and domestic demand will boost total annual plywood production for 2010 and 2011 to close to 1 mill. m³. Birch plywood will account for only about one third of total production.

Paper Industry Export Volumes Boosted by Demand Recovery

The demand for paper and paperboard has improved significantly in Europe, North America and Asia during 2010. The greatest increase in demand has been in packaging papers and paperboard. With demand picking up and with export price competitiveness improving due to the weakening euro, export volumes of Finnish paper rose by almost one fifth in the first six months of 2010. By contrast, the trend in export prices has been less marked. Despite the cuts in production capacity there is still overcapacity in Europe, and this has kept price rises in check. With the exception of newsprint, paper prices have nevertheless started to rise gently since the spring. The average price of paper exports in 2010 is forecast to be up by 3%, and production and exports by 12%, in comparison with 2009.

The growth in paper demand in Europe will level off in 2011, and the increase in market prices will also slow down as GDP growth in general slackens off. The price of pulp has already begun to fall. Production and exports of

Finnish paper will grow at a slower rate than in 2010. The overcapacity affecting Europe's paper markets and the slow growth in demand will limit any significant price rises. In 2011, the average price of Finnish paper and paperboard exports is forecast to rise by about 2%. The production volume is forecast to grow to 12.7 mill. tonnes, or by about 5% on the 2010 figure.

Significant Improvement in Forest Industry Profitability

The Finnish forest industry's profitability was at rock bottom in 2009, when the wood products industry recorded losses and the pulp and paper industry's profitability approached zero. Profitability in 2010 has clearly improved, however. In the sawmilling industry a major factor in this has been the sharp rise in sawnwood export prices and volumes. The pulp and paper industry's profitability has also risen with the increase in world market prices for pulp, although for many paper grades the trend in world market prices has again been weak. The forest industry's profitability will improve in 2011, though at a slower rate than in 2010. The rise in export prices in the wood products industry will slacken off, and higher stumpage prices will push up roundwood costs. Profitability is nevertheless expected to remain a little above the post-2000 average. While the outlook for demand and prices in the pulp and paper industry varies significantly from one product to another, the capacity cuts already made and the recovery in key export market economies suggest that a further improvement will occur in the sector's profitability in 2011.

Commercial Fellings Boosted by Forest Industry's Growing Need for Roundwood

Commercial fellings in Finland will be up in 2010 by 19% year on year, to almost 50 mill. m³, due to the improved demand for sawnwood and pulp on the world market. The late July/early August storm damage accounted for 4–5 mill. m³ of the fellings. The 2010 sawlog harvest is up by more than that of pulpwood,

and imports of industrial wood are also up on the 2009 figure by about a quarter, to 9.5 mill. m³. The growing roundwood need is also pushing up domestic stumpage prices. Pine and spruce sawlog stumpage prices will be up by 17–18% for the full year 2010, whereas stumpage prices for birch sawlogs and pine and birch pulpwood will be up by 9–13%. The stumpage price for spruce pulpwood will remain almost unchanged. The use of forest chips has been growing at a much more modest rate than in 2009, and will reach 6.3 mill. m³ for 2010.

In 2011, the demand growth for sawnwood, pulp and paper is forecast to level off in export markets, which will also retard the growth in commercial fellings. Imports of industrial wood in 2011 will reach 9.7 mill. m³, provided that Russia's roundwood export duty increases are again postponed. Domestic commercial fellings are forecast to rise to 51 mill. m³. However, roundwood supply will be adversely affected by the discontinuation at the end of 2010 of the tax relief on income from roundwood sales. Domestic stumpage prices for sawlogs and pulpwood will rise more modestly, by 5–8%, than in 2010. Political decisions favouring renewable energy are contributing to the growing use of energy wood and forest chips, which will rise to 7 mill. m³.

Higher Stumpage Prices in Forestry Improve the Operating Profit from Timber Production

In forestry, higher stumpage prices and an increase in felling volumes mean that the 2010 stumpage earnings of private forest owners in Finland will be up by more than one third. In 2011, stumpage earnings will rise to EUR 1.5 billion. Thanks to the improved state of the economy, the operating profit from non-industrial private forestry in 2010 will grow to approximately EUR 80/ha, and in 2011 this is expected to rise to EUR 90/ha. With higher stumpage prices the investment return on timber production in 2010 will increase to 16%. In 2011 the percentage return will fall a little, but will still be at a high level. Annual investment in timber production in private forestry in 2010 and 2011 will exceed EUR 220 mill., of which government subsidies

account for EUR 60 mill. A major share of the government subsidies is for the tending of young stands. In addition, the government is providing EUR 12–13 mill. in subsidies for energy wood harvesting and chipping.

Assumptions and Uncertainties in Forecasting

The aim of this Economic Outlook is to provide information on the current state of the entire Finnish forest sector and the short-term outlook for the sector. The forest sector forecasts are based on publicly available statistics, world economic forecasts, forest sector market information from different sources, and research conducted by the Finnish Forest Research Institute. The forecasts presented here are based on the principle of derived demand, according to which fluctuations in GDP growth on the domestic and export markets will, via demand, be reflected in forest industry production and thus the domestic roundwood market. Changes in the forest sector's operating environment and the effects of the Government's economic policies are taken into account in making the forecasts. If GDP growth turns out to be below the level forecast, this would mean that export prices, production and profitability for the Finnish forest industry will be lower than indicated in the forecasts given here. With falling demand for wood, the adverse impact would spread from the forest industry to roundwood markets and would affect forestry employment and the profitability of non-industrial private forestry. Growth in the Finnish forest sector would then fall short of the forecasts presented here.

The views of GDP growth in the world economy and in export markets have been formulated on the basis of forecasts made by a number of different organisations, among them the Organisation for Economic Cooperation and Development, the International Monetary Fund and the Research Institute of the Finnish Economy. The forecasts given in this publication are based mainly on forest sector information available in late September and early October 2010 and world economic forecasts for 2010 and 2011. The forest sector forecasts presented here are the views of researchers about the most

likely course of events. They are point forecasts and are based on export market GDP forecasts and other background assumptions about the markets.

The greatest uncertainty in the forecasts is that unexpected changes in GDP growth and exchange rates may occur in export markets. Regarding the level of growth in export market economies, the risks and uncertainties focus on the future course of the United States economy, possible new debt crises emerging in Europe, and the wider impact of these. The world economy shifted to a slow growth track in the summer of 2010, but there is no certainty as to the strength or continuity of this growth. The principal factors behind the economic improvement have been the replenishment of stocks and the additional public spending in different areas as part of the government stimulus packages. However, the impact of these actions is already diminishing steadily. If growth is to be on a sustainable basis, the focus will need to be shifted more towards foreign trade, consumption and investment. However, the scope for this may be limited by unfavourable changes in monetary policy, exchange rates, unemployment and general consumer and business confidence in the economy.

Key forecasting variables, 2009–2011.

Forecasting variables	2009	2010	2011
	% change from previous year		
Sawnwood production	-18	18	4
Sawnwood export	-13	14	3
Sawnwood export price	-10	13	3
Paper production	-21	12	5
Paper export	-20	12	6
Paper export price	1	3	2
Commercial fellings	-20	19	3
Roundwood imports	-63	27	2
Sawlog prices			
Pine	-20	17	8
Spruce	-19	18	7
Birch	-27	9	6
Pulpwood prices			
Pine	-19	10	7
Spruce	-20	1	5
Birch	-16	13	7

Price changes are nominal



I World Economy

The recovery in the world economy that began during 2009 has started to slow since spring 2010 as stocks are replenished and government stimulus packages are gradually brought to an end. The rate of recovery nevertheless varies widely between different countries and regions. Real GDP growth in the world economy weighted according to the distribution of Finnish forest industry exports will be up by 2.6% for the full year 2010, and by 2.4% in 2011. 2010 GDP growth in the euro area, the most important market for the Finnish forest industry, will be almost 2%, driven by the German economy. Euro area GDP growth may slow in 2011, however. Growth in the United Kingdom economy will be in step with the euro area, while Sweden's growth will exceed this despite the strengthening of the krona and rising interest rates.

In the United States, GDP growth will slow down towards the end of 2010. The full-year growth in the US economy is forecast to be 2.5%, and a little less in 2011. With the exception of Japan, Asia's GDP growth will continue to be strong for both 2010 and 2011, fuelled by the almost 10% growth in China's GDP. Japan's growth will be held at around 2% as a result of the strengthening of the yen, the low level of domestic demand and the country's structural problems.

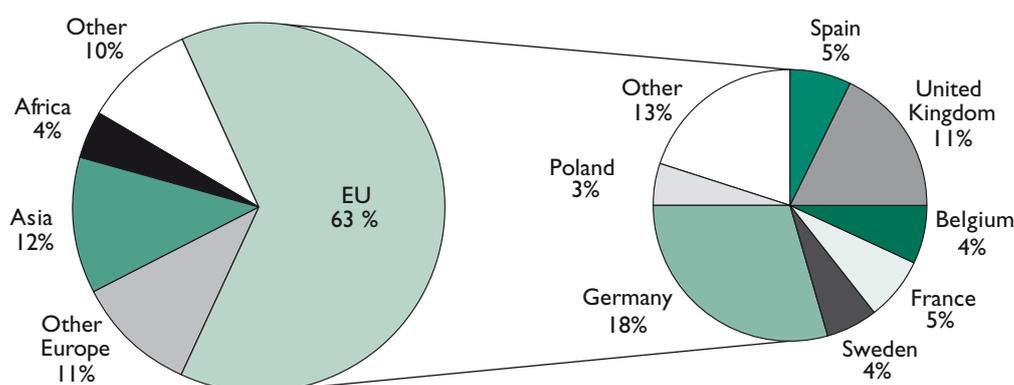
Although the world economy is no longer at rock bottom, it has entered a period of slower growth, overshadowed by uncertainties over the future course of the US economy and the debt-ridden economies of the euro area. Exchange rates will be affected by the central banks' interest rate rises, by market interventions and by expectations regarding these.

Value of Finnish Forest Industry Exports Fell by Almost a Quarter in 2009

The downturn in the world economy and the weakening of demand in key export markets led to a considerable drop in Finnish forest industry exports in 2009 compared with 2008. Exports of sawnwood fell by 13%, plywood by 38% and paper by 20%. By value, the Finnish forest industry's exports shrank by almost a quarter. The value of sawnwood exports fell by 23%, plywood exports by 45% and pulp and paper industry exports by 21%.

Despite the contraction in export volumes the geographical distribution of exports remained almost unchanged. The most important export market was once again the European Union, and Germany in particular. The United Kingdom's share of Finnish sawnwood exports exceeds that of Germany, however. Africa's share of the exports of the entire Finnish forest industry in 2009 rose by one percentage point as a result of the good demand for sawnwood.

This chapter looks at the extent of economic growth in the Finnish forest industry's main export markets. Along with regional and national GDP forecasts, assessments of investment and especially construction can be used in forecasting future export levels in the wood products industry. Based on projections of private consumption growth, forecasts can be made of, for example, the demand for packaging materials, paperboard and paper. The forest industry's export competitiveness and production profitability are also affected by the state of the economy in the main competitor countries and by fluctuations in exchange rates.



Sources: National Board of Customs and Finnish Forest Research Institute.

Finnish forest industry exports by value, 2009.

Recovery Under Way in World Economy

In terms of GDP growth, 2009 was the world economy's most dismal year for many decades. With the exception of China, there was a contraction in the economies of all the main regions in the world economy. In total, the world economy shrank by more than 1% in 2009. The year nevertheless also saw world trade begin to grow again, and in the first half of 2010 this growth continued at a faster rate than expected. Economic forecasts were thus revised upwards repeatedly after the spring and summer, for both 2010 and 2011.

However, trade and the economic recovery have for the most part been attributable to the replenishment of stocks and the substantial fiscal policy stimulus packages introduced by governments. As stocks become replenished and with the gradual completion of stimulus packages, GDP growth is widely forecast to slow down during the latter half of 2010 and the early months of 2011. After that, growth is expected to rely more on a recovery in private consumption and the consequent increase in demand. The International Monetary Fund forecasts that the world economy will grow by 4.8% in 2010 and by 4.2% in 2011. There will, however, be considerable differences by region and by country in the rate of recovery.

The principal risks surrounding the forecasts concern the uncertain development of the US economy and the possibility of a new bout of turbulence on the financial markets. If the United States were to be plunged into a double-

dip recession, the impact would be quickly felt in other economies, too, through the effects of world trade.

The financial markets have calmed down since the spring, thanks to the huge support packages put together by EU member states and the IMF for countries in the grip of financial crises and because of the stress tests applied to banks. Nevertheless, any new debt crises would create confusion on the financial markets and reverse the euro area's emerging growth, turning it into a new downturn.

Germany Slowly Driving Euro Area into Growth

The euro area's GDP was down by more than 4% in 2009. Euro area exports in 2009 nevertheless began to rise again as world trade started to grow a little. The weakening of the euro in the early months of 2010 boosted export growth, which in turn boosted euro area GDP above the preceding quarterly figure. This growth strengthened in the second quarter of 2010.

The recovery of economies within the euro area has been two-track, however. Germany – a key export market for Finland – has again been driving the growth. The German economy is forecast to show 3% growth for the full year 2010, aided by exports in particular. Private consumption and the construction sector are also picking up in Germany. The French and Italian economies are showing signs of moderate growth as well. By contrast, those euro countries

experiencing a debt crisis will still have to wait for their economic recovery, and the Greek and Spanish economies are even expected to report further shrinkage in 2010. Although the indicators of consumer confidence in many of the euro countries are predicting an improvement in household confidence and there are some signs of an increase in private consumption, no significant growth is expected in consumption during the latter part of 2010. The low industrial capacity utilisation rate suggests that investment growth will remain low. Growth in the euro area economy for the full year 2010 is expected to be almost 2%.

In 2011, many euro countries will have to tighten their fiscal policy in order to keep government debt under control. This will be achieved by cutting public consumption, raising taxes or both. Since stocks will already have been replenished, economic growth will slow down at least in the first half of the year. This will also affect world trade, which is expected to grow more slowly than in 2010. By contrast, the improvement in consumer confidence, an increase in new jobs and a fall in unemployment indicate that there will be a slight recovery in private consumption. Moreover, industry's greater confidence in the economy will lead to moderate growth in investment. Although the euro area's GDP growth will remain uneven, the figure for 2011 will be a growth of 1.5%.

Slow Recovery in EU's Non-Euro Countries Too

In common with the euro area, the United Kingdom's economy is experiencing a slow recovery from the downturn. In 2009, the UK economy shrank by 4.9%, but the substantial weakening of the pound against the euro in 2008 has since served to boost export growth, and the slack monetary and fiscal policies have supported private and public consumption as well as investment. The UK's GDP growth for 2010 is forecast to be approximately 1.5%. However, efforts are being made to cut the government's rapid spiral of debt in 2011, which may lead to dramatically tighter fiscal policies. An increase in value added tax from the start of the year

will weaken household purchasing power. In the first half of 2010, the pound strengthened against the euro and it is expected to strengthen a little further, which will slow the growth in exports. The UK economy will grow in 2011 by about 2%.

In 2009, the Swedish economy contracted by 5.2%. Sweden's economy has nevertheless seen the quickest recovery in Europe. Its export-driven recovery was already under way in 2009 as world trade picked up and the cheap krona boosted export price competitiveness. Although the krona has strengthened during 2010 against other key currencies, the growth of orders in hand indicates that exports will continue to be strong in the latter part of the year, too. The rather low level of household indebtedness and the high balance figures for the confidence indicators suggest there will be growth in private consumption and investment. Housing construction has already begun to increase since the spring. Sweden's GDP growth for 2010 is expected to exceed 4%. The central bank expects a continuation in 2011 of the interest rate rises begun in 2010, which will add momentum for a strengthening of the krona. Together with the dip in world trade, this will reduce export growth. The growth in the economy in 2011 will in fact be driven more by the domestic market. A drop in unemployment and a rise in real earnings will support private consumption growth and investment. The Swedish economy is forecast to grow by 2–3% in 2011.

The downturn in the world economy was especially tough for the Baltic countries, whose economies shrank by 14–18% in 2009. Spring 2010 marked a turning point, however, with a growth in exports from the Baltic countries as their most important export markets slowly recovered. The fastest recovery was seen in Estonia, which will join the euro area at the start of 2011. Estonia is already forecast to record a GDP growth of almost 2% for 2010, but growth across the Baltic countries as a whole is not expected until 2011, when private consumption and investment will also pick up a little, alongside exports. However, these countries' major debt burdens will limit the scope for using fiscal policy for a quicker recovery. In 2011, the Baltic countries' GDP growth is expected to be 3–5%.

Russia's Exports Begin to Take off

In 2009, the Russian economy contracted by 7.9%. Even though part of the government's stabilization fund built from export revenues has been discontinued and spending has been targeted at public consumption, these measures have not compensated for the deterioration in the rest of the economy. The demand recovery in the world economy in the first half of 2010 and the rise in the world market price of oil have nonetheless supported exports, and the balance of trade has moved substantially into surplus. By contrast, private consumption has remained cautious on account of the weak state of incomes and the rise in unemployment. Consumption and investment have also been restrained by the weak state of the domestic credit market. Foreign investment has been kept in check by the uncertainty of Russia's business environment and legislation, and by the immense bureaucracy. Russia's GDP for 2010 is set to be up by 5%.

With a gradual fall in the unemployment rate and an increase in consumer confidence in 2011, the focus of growth in Russia's economy will switch increasingly to growth in private consumption and investment. Export price competitiveness will be adversely affected by the anticipated strengthening of the ruble, due largely to interest rates being higher than in the euro area. The strengthening of the currency will

also diminish the benefit enjoyed from the rise in world market prices of oil and raw materials. Russia's GDP is expected to grow in 2011 by almost 5%.

US Economy Full of Uncertainty

Although the United States economy started to grow as early as summer 2009, the full year's GDP for 2009 shrank by 2.6%. Growth continued in the first quarter of 2010, at about 1% year on year. The main reasons for the flurry of growth were the replenishment of stocks that had become depleted during the downturn, and the administration's substantial fiscal policy measures. As these measures tailed off, growth slowed during spring and summer 2010 to less than 0.5% in comparison with the start of the year. By contrast, the traditional engine of US economic growth – namely private consumption – is still sputtering. The rate of saving has been pushed to a record high as a result of the high level of unemployment, the still expectant mood on the housing market and the general economic uncertainty. While this is a healthy corrective movement for reducing the debt burden of households, it also restricts the growth in private consumption. With the exception of construction, investment has nevertheless been growing slightly during the first part of the year.

Growth forecasts for world economy (real GDP, annual percentage change).

Area	Proportion of Finnish forest industry's total export value 2009, %	Actual GDP growth % 2009	ETLA	IMF	ETLA	IMF
			2010	2010	2011	2011
Weighted by proportion of Finnish forest industry exports	100.0	-3.4	2.6	2.7	2.4	2.5
EU-27	63.7	-4.3	1.5	1.7	1.5	1.6
Euro countries	40.7	-4.1	1.5	1.7	1.5	1.5
Germany	18.7	-4.8	3.0	3.3	2.0	2.0
United Kingdom	11.4	-4.9	1.5	1.7	2.0	2.0
Sweden	3.9	-5.2	4.0	4.4	2.5	2.6
Russia	5.3	-7.9	5.0	4.0	4.5	4.3
United States	5.5	-2.6	2.5	2.7	2.5	2.2
Asia	11.8	2.9	7.5	7.9	6.5	6.7
Japan	3.6	-5.2	2.5	2.8	1.5	1.5
China	2.5	9.1	10.5	10.5	10.0	9.6
Other	13.7					

Forecast by Research Institute of the Finnish Economy (ETLA) published September 22, 2010.

Forecast by International Monetary Fund (IMF) published October 6, 2010.

The strengthening of the dollar has pushed the balance of trade into deficit.

There remains a big question mark over the course of the US economy in the latter part of 2010. Consumer confidence continues to be weak, long-term unemployment is on the rise, and on the housing market there are even signs of a new downturn following the end of home-buyers' tax credits in the spring. The substantial level of public debt restricts the scope for further stimulus packages. Although a new downturn is not regarded as probable, the risk is present nonetheless. The United States' GDP for 2010 is forecast to be up by 2.5%.

GDP growth in 2011 will slow as private consumption remains lacklustre. There will again be very few new jobs, and unemployment will remain high. However, investment in machinery and equipment will increase somewhat on the 2010 figures, but growth in housing construction may only be modest. Export growth is also forecast to slow. The United States' GDP in 2011 is forecast to grow by about 2%.

The swift growth in the Canadian economy in the first half of 2010 is slowing towards the end of the year, in the wake of the US economy. Canada has nevertheless come through the downturn in the world economy with only fairly minor damage, and in 2011 at the latest it should be in a position to return to its pre-downturn growth track. Private consumption and housing construction have already picked up during 2010. However, exports are overshadowed by the weakening of demand in the United States and by the strengthening of the Canadian dollar against both the euro and the US dollar. Canada's GDP growth for 2010 is expected to be more than 3%, and in 2011 it should exceed 2%.

Growth Continues in China; Slower Recovery in Japan

Among the principal regions of the world economy, China alone experienced no shrinkage during the global economic downturn. Although its growth rate did slow a little in 2009, it still posted GDP growth of 9.1%. Despite exports being hit by the drop in international demand,

China managed to refocus its growth on the domestic market very quickly, using Keynesian monetary and fiscal stimulus policies. During 2010 the country's monetary policies have correspondingly been tightened and public-sector stimulus measures reduced in order to control the overheating of investment. In the first half of 2010 the Chinese economy nevertheless still grew by 11%. Since the summer, exports have returned to their pre-recession level and the balance of trade surplus is at a record high. Private consumption is continuing its almost double-digit growth. China's GDP growth for 2010 will be nearly 10%.

In 2011, the country's GDP growth will remain at the earlier annual growth rate of almost 10%. Although export growth is expected to slow a little due to the weakening of demand on the world market, the domestic market will continue to grow as before. Under the protection of a strong balance of payments' current account and using active economic policies China can respond quickly to a threat of overheating or a slowdown in growth.

By contrast, Japan's economy is in danger of returning to a slow growth track. In 2009, the country's economy shrank by 5.2%. With world trade picking up in 2009, Japan's exports began to grow, principally to markets elsewhere in Asia. However, exports have been choked off by the weak demand in the United States, which has traditionally been Japan's most important trading partner, and especially the considerable strengthening of the yen. Deflation, which has long troubled Japan's domestic market, and the low confidence in the economy have prevented growth in private consumption and investment. Low interest rates and the high level of debt restrict any recovery based on monetary and fiscal policies. Japan's growth forecasts were revised downwards a number of times during the first part of 2010, and the GDP growth for the full year is forecast to be about 2–3%. GDP growth for 2011 is expected to be less than this. Growth continues to be strong in Asia's emerging economies.

Following a minor dip in 2009, the economies of North Africa and the Middle East, which are important markets for Finland's sawnwood

exports, will post growth figures averaging 5% both in 2010 and 2011. Construction activity in North Africa in particular remains brisk.

Central Banks' Interest Rate Policy Also Affects Exchange Rates

Interest rate increases by central banks also have a direct effect on exchange rates between currencies. A central bank that raises its interest rates first will have to accept that its currency will strengthen, which will be detrimental to the price competitiveness of exports. An awareness of this will control the urge to bring forward any increases in interest rates. If GDP growth in the United States were to continue in 2011 at a level below the European rate, this would add to the pressure for a renewed strengthening of the euro. This does of course presume that Europe has no new debt crises and that there is no turbulence on the financial markets. In Sweden, interest rate rises and expectations of further rises have already led to a strengthening of the krona.

Both the US Federal Reserve and the European Central Bank have kept their central rates at record low levels for a considerable time already. In Europe, market interest rates have in fact risen slightly since winter 2009/2010, but this has been due mainly to larger risk premiums demanded by the banks and a reduction in liquidity on the interbank market. In the United States, the Federal Reserve has increased market liquidity by purchasing government debt securities, which in practice means quantitative easing. High unemployment and continued low inflation mean that neither the Federal Reserve nor the ECB are expected to raise interest rates before the latter part of 2011. In the euro area there may nevertheless be pressure for an earlier interest rate rise in response to any unexpectedly rapid GDP growth in Germany and other major economies. Such an early interest rate rise may be considered even though it would also threaten the emerging recovery in weaker euro area economies.

The market operations of the central banks could also result in exchange rates moving in a completely opposite direction. During

the downturn, both the ECB and the Federal Reserve engaged in expansive monetary policies by purchasing government debt securities and increasing market liquidity. If there is renewed turbulence on the financial markets in the euro area and the ECB has to keep market liquidity at a greater and less restrictive level than in the United States, this would have the effect of strengthening the dollar, via yield and interest rate expectations. The belief currently is that the euro is nevertheless more likely to strengthen a little against the dollar than to weaken against it in 2011.



2 The Finnish Forest Industry

2.1 Production and Exports in the Sawmilling and Plywood Industries

An increase in demand on the export markets for Finnish wood products in the early part of 2010 resulted in a growth in Finland's exports to Europe and Africa. The profitability of exports improved through higher market prices, while a weakening of the euro enhanced price competitiveness outside the euro area. In Finland, demand was boosted by the growth in detached housing construction in particular. The growth in sawnwood demand will slacken in the latter part of 2010 and in early 2011 as a result of construction slowing for the winter season in both the domestic and export markets. The rise in sawnwood market prices will also tail off. The average export price of Finnish sawnwood in 2010 is expected to be up by about 13% year on year. The increase in domestic consumption and in exports will boost production to approximately 9.4 mill. m³. Construction growth in Europe in 2011 will increase sawnwood consumption. However, tougher competition will inhibit the rise in market prices as production expands in Europe. The average price of Finnish sawnwood exports is forecast to rise in 2011 by about 3%. The increase in domestic consumption and in exports will boost production in 2011 to approximately 9.8 mill. m³.

Plywood export prices have begun to rise slowly in 2010, and this trend is expected to continue in the latter part of the year. For the full year, the average price of plywood exports is expected to be up by about 1%. Rising demand in Germany and the United Kingdom in particular has boosted the total volume of Finnish plywood exports, which will be up by about one fifth on

the 2009 figure. In 2011, plywood consumption will increase on Europe's construction and housing markets and in the transportation equipment industry. However, the improving price level will also lead to an increase in plywood supply and tougher competition. The average price of Finnish plywood exports is expected to be up by about 4%. The growth in demand on the export markets and in Finland will boost total annual plywood production for 2010 and 2011 to close to 1 mill. m³. Birch plywood is expected to account for about one third of plywood production.

Construction Starting to Grow Slowly in Europe After the Downturn

Residential construction in Western Europe shrank by 13% in 2009, according to figures from Euroconstruct. At the same time sawnwood consumption fell by about 6%. The slow recovery in GDP growth in the first half of 2010 led to an increase in the demand for wood products. Euroconstruct's assessment is that residential construction will still be down slightly in 2010, and so significant growth in sawnwood consumption cannot be expected until 2011. There are nevertheless wide differences between the construction trend in each of the Finnish forest industry's different export markets in Europe. Among Finland's key export markets, forecasts indicate that new housing construction has begun to grow already in Germany and the United Kingdom, and growth is expected to continue in these countries in 2011, reaching 6–8%. In

Sweden, a key competitor country for Finland, new housing construction will be up in 2011 by one fifth on the 2010 level.

The aim of Russia's national housing programme is to double housing construction from present levels over the next few years. It is believed that this programme will boost wood-based construction and the demand for wood products, even if the targets are not reached in full (see Featured Topic, p. 34).

In Africa, where GDP growth has been recovering following a downswing, rising incomes are expected to boost construction and the demand for construction materials in 2011. The planned infrastructure investments in the export markets of North Africa will, when under way, add to the need for wood products in the coming years. In 2007–2009, deliveries to Africa grew from 12% to almost one fifth of Finland's entire sawnwood production.

In Asia, China's growing sawnwood demand for construction, for manufacture of building products and for the furniture industry has had an impact on the trade flows of sawn softwood. China's total imports are expected to rise to 9 mill. m³ in 2010 from about 6 mill. m³ in 2009, and to grow to as much as 21 mill. m³ by 2015. By contrast, the construction slump in Japan has continued. New starts of timber-framed housing, which is important for sawnwood demand, are up, however. A reversal of the downward trend in construction in 2011 will require that Japan's economy starts to pick up.

North America's consumption of sawn softwood has fallen by about 55 mill. m³ in 2006–2009 as housing construction has declined. Uncertainty is continuing on the US housing market, though the fall in housing construction is believed to have levelled off already. In 2011, housing construction in the United States is forecast to be up by 2–3%, but the volume will nevertheless be far short of the pre-downturn years.

Construction in both Europe and North America in 2011 will be significantly below the level seen before the downturn, despite a year on year increase. Interest rates in Europe are still low, but the discontinuation of the stimulus packages may further slow the emergence of growth in construction.

*The Finnish sawmilling and plywood industries, 2009
1000 m³.*

	Sawnwood	%	Plywood	%
Production	8 000	100	780	100
*Domestic use	2 891	36	97	12
Exports:	5 109	64	683	88
EU	2 489	31	589	76
Africa	1 463	18	2	0
Asia excl. Japan	517	6	28	4
Japan	539	7	8	1
North America	3	0	18	2
Russia	9	0	1	0
Other	89	1	37	5

**Estimated domestic use = production – exports*

Sources: Finnish Forest Industries Federation and National Board of Customs.

Slowing of Rapid Rise in Sawnwood Prices

The rise in sawnwood prices in Europe in the first half of 2010 also pushed up the average price of Finnish sawnwood exports in January–June by 20% from the same period in 2009. The higher market prices were due to the demand growth from buyers replenishing stocks that they had run down in the uncertain economic climate. Sawnwood supply in Europe has been low following the major production cuts of 2009, and the market has even experienced scarcity on occasion. Despite housing construction starting to grow in some European countries, no distinct growth in Europe's sawnwood consumption is yet evident in 2010.

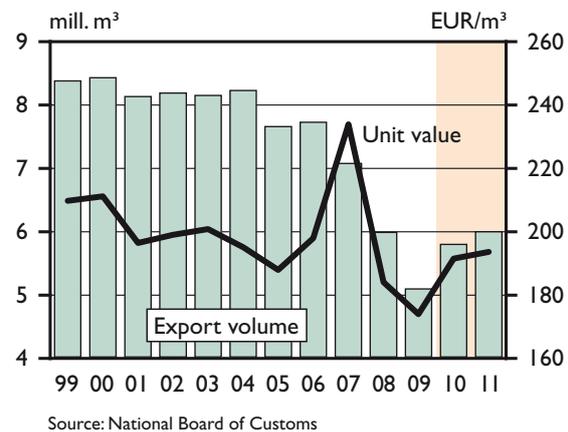
The uncertainty on the market looks like continuing in the latter part of 2010 and into the start of 2011, when construction will slow for the winter period and the government stimulus packages in Europe will be at an end. Although the increase in sawnwood market prices is tailing off towards the end of 2010, the price of Finnish sawnwood exports for the full year will have risen by 13% on the 2009 figure. Construction growth in Europe will still be slow in 2011. The higher prices can also be expected to boost production in export countries as well as supply from Russia and the Baltic countries. The increase in supply will contribute to inhibiting the rise in sawnwood market prices. The average price of Finnish sawnwood exports is forecast to rise in 2011 by about 3% on the 2010 figure.

Price Competitiveness of Exports Boosted by Favourable Exchange Rates in Early 2010

About half of Finland's sawnwood and plywood production in 2009 was delivered to countries outside the euro area, which indicates the importance of exchange rate movements to the price competitiveness and profitability of the industry. The price competitiveness of exports in the first part of 2010 was improved by the weakening of the euro against key currencies. However, during September and October the euro has once again strengthened.

Sweden has lost some of its price competitiveness due to the krona strengthening by 8% against the euro in the January–August period. Production costs have also risen as a result of the rise in roadside prices for softwood sawlogs. Pressures for further price rises are continuing as sawmilling capacity grows, especially in Southern Sweden. Sweden's exports fell by a total of about 10% in January–May compared with the same period in 2009, whereas Finland's exports were up by 12%. As construction in Europe slows for the winter and the demand for sawnwood falls, Finland's export growth will also tail off in the latter part of 2010. Exports for the full year are expected to be up by about 14%.

Exchange rate movements are expected to have a favourable impact on Finland's competitiveness in the euro area in 2011, too, when the hopes are that the Swedish krona will strengthen a little rather than weaken against the euro. Sweden's exports may also be limited in 2011 by a strong rise in domestic housing construction. Competition on Europe's sawnwood market is nevertheless expected to grow, as the rise in sawnwood prices has boosted the profitability of production in Europe. Europe's sawmilling capacity has been expanded considerably since 2000, with production in Germany, for example, growing by approximately 60%. If the recovery in the United States economy begins more slowly than in the euro area, the US dollar can be expected to weaken further against the euro. This would weaken the price competitiveness of the euro area's exports in markets beyond Europe. In 2011, Finnish sawnwood exports are forecast to be up by about 3% in comparison with the 2010 figure.



Volume and unit value of sawnwood exports, 1999–2011 at 2009 prices (wholesale price index).

An uncertainty that could alter the sawnwood market in Europe, too, in the near future is the question of China's growing sawnwood demand in the wake of a possible increase in Russia's roundwood export duties. With Chinese demand starting gradually to include grades that are more expensive than construction sawnwood, the profitability of European exports to China will improve. This would increase deliveries to China, partially reducing the present overcapacity dominating the sawnwood market, and raise the price level for sawnwood in Europe. Sweden is among the countries exporting sawnwood to China, and Finnish exports to the Chinese market have also increased, mainly in spruce sawnwood. In January–June 2010, China's share of Finland's exports to Asia rose to about 7%. Sawnwood exports to China from Russia and from Canada have also grown during 2010.

Domestic Sawnwood Production Growing Rapidly

The economic downturn reduced construction in Finland by about 13% in 2009, according to figures from the Confederation of Finnish Construction Industries. The largest drop was in detached housing construction, a big user of sawnwood. As a consequence, domestic sawnwood consumption fell by about one fifth. New housing starts are nevertheless up significantly in 2010. Growth will continue in 2011, but at a

slower rate. Growth in building renovations has picked up and will be about 2% for both 2010 and 2011.

The growth in exports and domestic consumption at the start of 2010 led to a rapid growth in sawn softwood production. In January–June, production was up year on year by 27%. Growth in the latter part of 2010 will tail off, however, as construction slows on export markets. The sawn-wood production volume for the full year 2010 is expected to be approximately 9.4 mill. m³. There is uncertainty attached to this figure due to the already year-long rise in sawlog prices and the planned sawmill shutdowns in the latter part of 2010 on account of the seasonal slowdown in construction. In 2011, domestic demand growth and a gradual recovery in consumption on export markets will raise sawnwood production to the 2008 level of about 9.8 mill. m³.

The economic downturn led to production unit closures in Finland's sawmilling industry. Permanent capacity closures since 2004 have amounted to approximately 1 mill. m³, and some sawmills are still under threat of closure.

Plywood Demand Begun to Grow Since Downturn

The economic downturn began to affect the plywood export market later than the sawnwood market, with the biggest drop in Finnish plywood export volumes coming in 2009. Plywood prices fell during the downturn years, leading to a general decline in production in Europe, and supply from outside Europe (e.g. from China) was down, too.

However, Europe's demand for plywood began to grow and the price level started to strengthen in the first half of 2010. Contributing to the rise in softwood plywood prices has been the reduced supply as a result of the February earthquake in Chile. The price trend for hardwood plywood in the early part of 2010 was weaker than for softwood plywood. With growing demand, the price of hardwood plywood is also expected to rise in Europe in the latter part of 2010. A further factor helping to push up the price may also be a reduction in the supply of Russian birch plywood following the late summer forest fires

Forecasts of production and exports in the sawmilling and plywood industries, 1000 m³ (percentage changes from previous year are shown below the respective volumes).

	Production			Exports		
	2009	2010	2011	2009	2010	2011
Sawnwood	8 000 -18	9 400 18	9 800 4	5 109 -13	5 800 14	6 000 3
Plywood	780 -38	940 21	990 5	683 -38	820 20	850 4

Forecasts of export prices for sawnwood and plywood (as percentage changes from previous year).

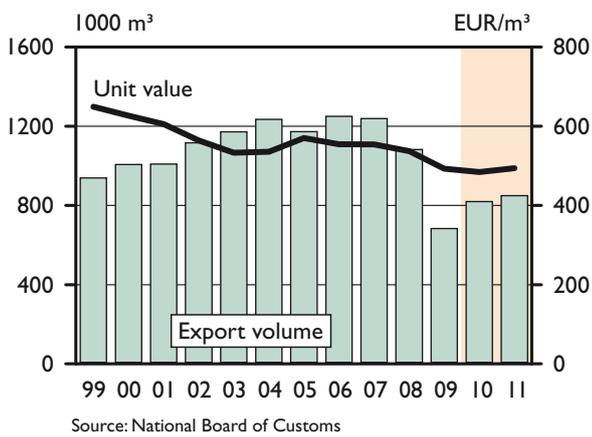
	2009	2010	2011
Sawnwood	-10 (174 €/m ³)	13	3
Plywood	-12 (493 €/m ³)	1	4

Export prices are nominal unit values

and the impact on wood raw material availability in Russia.

Higher demand boosted Finnish exports of softwood plywood in January–June 2010 by about half, and exports of hardwood plywood by about one third, in comparison with the same period in 2009. The biggest growth in exports has been to the largest export markets, namely Germany and the United Kingdom. In Germany, Finland's share of the country's imports in January–June 2010 was 11% for both plywood grades. China increased its exports by the greatest margin in the early part of 2010, raising its share of Germany's hardwood plywood imports to about 20%. Russia accounted for 23%. In the latter half of 2010, exports of Finnish plywood are expected to grow more slowly than in the early part of the year, the full year's growth levelling out at about 20%.

In 2009 the price trend for Finnish plywood exports was downwards, but export prices started to rise in the early part of 2010. In January–June 2010, average prices of birch plywood exports were nevertheless significantly lower than a year earlier. The rise in plywood prices is expected to continue in the latter part of 2010, bringing the average price of all Finnish plywood exports up by about 1% for the full year.



Volume and unit value of plywood exports, 1999–2011 at 2009 prices (wholesale price index)

In 2011, plywood consumption is expected to grow on Europe’s construction and housing markets as well as in the transportation equipment industry, as international trade increases. However, the rate of increase in plywood prices will slow down as the increase in supply intensifies competition. The rising prices will prompt producers in Chile, the Baltic countries, Russia and China to increase their supply to the European market. The supply of higher grade plywoods from Indonesia and Malaysia to Europe will probably also increase as the monitoring of timber origin becomes more effective. In 2011, the price of Finnish plywood exports is forecast to be up by about 4%, and export volumes by about the same proportion.

The particularly large drop in birch plywood production in Finland in 2009 was attributable not only to the fall in exports but also raw material availability, as imports of birch sawlogs decreased considerably with the rise in import prices. Imports of birch sawlogs in 2005–2007 averaged 0.8 mill. m³, most of this being from Russia. Closures of birch plywood production capacity have been announced at Heinola and Lappeenranta, though investment in new production is being made at Savonlinna. The growth in exports and domestic demand will boost total annual plywood production for 2010 and 2011 to about 1 mill. m³. It is estimated that birch plywood will account for about one third of total production.

2.2 Production and Exports in the Pulp and Paper Industry

With the recovery in the world economy, the global consumption for paper and paperboard began to rise in the latter part of 2009, and consumption growth in all paper and paperboard products began to pick up especially in China and the United States, but also in Europe. Export volumes of Finnish paper and paperboard grew significantly in the second quarter of 2010. As demand continues to grow in the latter part of the year, production and exports of Finnish paper for the full year 2010 are expected to be up by 12% and paperboard by 20%. Prices of paper and especially paperboard products have also risen. The average price of paper exports in 2010 is forecast to be up by 3%, and of paperboard exports by 5%, in comparison with 2009.

The growth in paper demand in Europe will level off in 2011, and the increase in market prices will also slow down as GDP growth in general slackens off. The price of pulp has already begun to fall. Production and exports of Finnish paper will grow at a slower rate than in 2010. The overcapacity affecting Europe’s paper market and the slow growth in demand will limit any significant price rises. In 2011, the average price of Finnish paper and paperboard exports is forecast to rise by about 2%. The production volume of paper and paperboard is forecast to grow to 12.7 mill. tonnes, or by about 5% on the 2010 figure.

World Demand for Paper and Paperboard Growing Since Downturn

As a consequence of the economic downturn the world consumption of paper collapsed in late 2008, and the decline continued in early 2009. According to figures from the Association of European Publication Paper Producers (Cepiprint) and the European Association

of Fine Paper Manufacturers (Cepifine), the consumption of paper and paperboard in the member countries of the Confederation of European Paper Industries (CEPI) fell by 10% in 2009. The drop in the consumption of paperboard products was less than for paper products. In 2009, newsprint consumption fell by 14%, magazine paper by 20% and fine paper by 15%, compared with 2008.

In the CEPI countries almost 4% of paper production capacity was closed in 2009. Paper and paperboard production volumes fell by 10% in Europe, to 97 mill. tonnes. This pushed down the capacity utilisation rate in the CEPI countries to 85% in 2009, which is the lowest rate since 1991, the year CEPI began collecting statistics. Despite the drop, the production volume was 6% greater than consumption (92 mill. tonnes). The plentiful supply in relation to the decreased demand ensured that the weak trend in paper prices continued in 2009.

In North America, overall consumption and production of paper and paperboard shrank by 12% in 2009. The biggest drop was in the consumption of printing and writing papers, which plummeted by 20%. The consumption of packaging paper and paperboard fell by 10%. In the five years since 2005, printing and writing paper consumption the United States has fallen by 25%, and newsprint by 50%. Spending on newspaper advertising has halved because advertising has switched increasingly to electronic media. In Russia and the CIS countries, the economic downturn reduced the consumption of

paper and paperboard in 2009, although export volumes were up. Russia's consumption and production of paper and paperboard have been slowly growing in the period since 2000.

In contrast to other countries, China's consumption and production of paper and paperboard products continued to grow during the downturn in the world economy. In the years 2008–2009, China's consumption of paper and paperboard grew by 8–9%. During the downturn the paper and paperboard industry adjusted its production in line with movements in domestic demand, through shutdowns and by closing old paper mills that were not based on wood fibre. The utilisation rate of China's paper and paperboard industry was 92% in 2009.

Prices for paper and paperboard products on the Chinese market experienced a decline in the first half of 2009, as in other market areas. The greatest decline was in the prices of printing and writing papers. In 2010, China's consumption and production of paper and paperboard products have continued to grow and prices have risen.

While consumption and production in the United States fell sharply during the years of the downturn, China rose to become the world's largest producer and consumer of paper and paperboard in 2009. China has been a net exporter of paper and paperboard since 2007. Most of its consumption and production of paper and paperboard consists of packaging board and packaging paper. In 2009, China's consumption and production of packaging board and paper amounted to approximately 50 mill.

The Finnish pulp and paper industry, 2009, 1000 tonnes.

	Chemical pulp	% of production	Paper	% of production	Paperboard	% of production
Production	5 518	100	8 096	100	2 506	100
Domestic use*	4 148	75	661	8	253	10
Exports:	1 370	25	7 435	92	2 253	90
EU	848	15	5 126	63	1 367	55
Russia	11	0	266	3	186	7
Other Europe	54	1	338	4	151	6
Asia	424	8	546	7	296	12
Africa	20	0	146	2	63	3
United States	2	0	572	7	123	5
Other	11	0	441	6	67	3

* Estimated domestic use = production – exports

Sources: Finnish Forest Industries Federation and National Board of Customs.

tonnes, compared with US consumption of 36 mill. tonnes and production of 41 mill. tonnes. However, a significant proportion of the packaging paper and paperboard used in China ends up in the United States and other industrial countries that import packaged goods from China.

With the exception of newsprint, consumption of paper and paperboard products in Europe has grown during 2010 as the economy has picked up. The demand for magazine paper in January–August 2010 grew by 10% and fine paper by 6% year on year. The biggest growth in paper and paperboard demand in the first part of the year was in China, though. Newsprint consumption in North America has declined further, although consumption of other printing and writing papers has already begun to grow slightly. The growth in packaging paper and paperboard consumption has picked up during 2010, boosted by the increase in industrial production and trade. In the United States, production of packaging boards was up by over 13% in the first quarter of 2010 compared with the same quarter a year earlier, and the capacity utilisation rate rose to 95%.

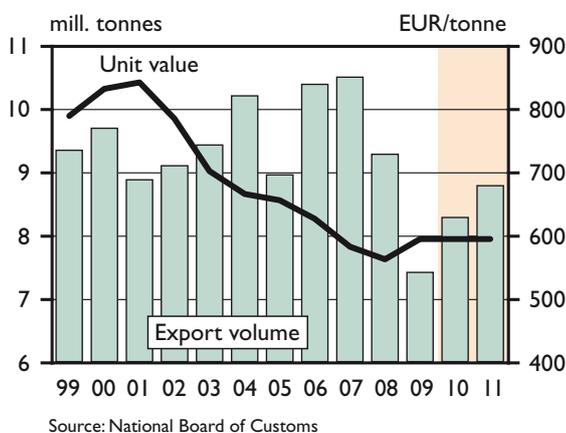
Production and Exports of Paper and Paperboard Up in 2010, but Price Trend Still Weak

Finland's paper exports fell in 2009 more steeply than the drop in Europe's consumption. Exports of newsprint fell by 74% and magazine paper by 24%, and production and exports of fine paper

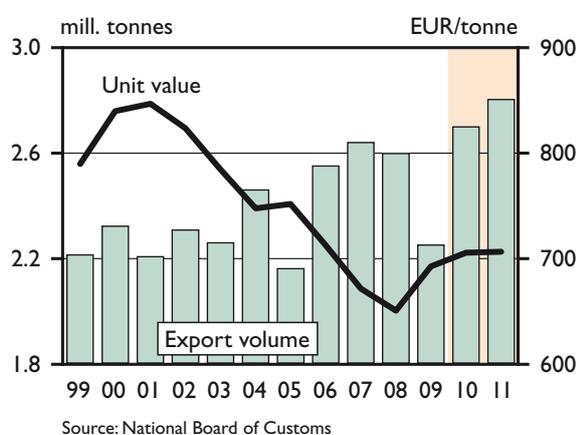
decreased by about 10%. The forest industry further reduced its paper production capacity in Finland during 2010. Stora Enso closed a fine paper machine at Imatra in March and discontinued its newsprint and catalogue paper production at Varkaus at the end of September. The closures reduce newsprint and catalogue paper production capacity by 290 000 tonnes and fine paper by 210 000 tonnes. Due to the sharp fall in demand for paper products, the Finnish paper industry also experienced long production shutdowns. The newsprint and magazine paper production cuts in Finland have generally been larger in relative terms than those elsewhere in Europe. In the CEPI countries, paper and paperboard production in 2009 shrank by 10%, whereas in Finland paper production fell by 20% and paperboard production by 13%.

Demand on export markets began to grow in the first half of 2010, boosting export volumes of Finnish magazine and fine papers in January–June by 15%, newsprint by 30% and other papers by 40% year on year. Half of Finland's paper exports are still comprised of magazine paper, even though its share of exports has fallen by 6 percentage points since 2008. Fine paper has correspondingly accounted for a growing share, rising to almost 40%, while newsprint has shrunk to 1% of all paper exports.

The decline in paper prices on the European market that began in 2009 continued during the early part of 2010. By the end of March, the price of newsprint had fallen by almost 20%, coated magazine paper by 7% and coated fine



Volume and unit value of paper exports, 1999–2011 at 2009 prices (wholesale price index).



Volume and unit value of paperboard exports, 1999–2011 at 2009 prices (wholesale price index).

paper by 3%. Only the price of paperboard products rose, by 6–7%, due to the improved market environment. Starting in May 2010, however, the monthly price trend indicates that paper prices, too, have begun to show a distinct strengthening as demand grows.

Forest industry companies have announced new price rises in the second half of 2010. Moderate price increases can indeed be expected, and the average price of paper exports for the full year 2010 is forecast to be up by 3% and paperboard by 5%. With paper demand growing in Europe and other market areas, Finnish production and exports are forecast to be up by 12% for the full year 2010. Exports of packaging papers and paperboard products are expected to be up by 20%, due to the heightened demand for packaging products as a result of the growth in international trade.

Pulp Price Dependent on Demand from China

In China, consumption of wood fibre and fibre from recovered paper has tripled since 2000, whereas production and consumption of other fibres has fallen. China's use of recovered paper fibre grew by 11% and imports of it by 14% in 2009. No more recovered paper was in fact available on the world market due to the decrease in paper consumption, and so the use of wood fibre grew by 25%. Since China's own wood pulp production covers about 40% of its total use of wood pulp and because production growth is

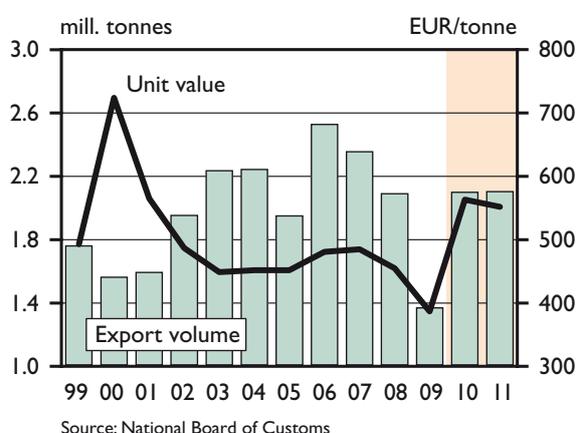
limited by the scarcity of roundwood, China has to satisfy its wood fibre need through increased imports. Softwood pulp imports grew by 35% and hardwood pulp imports by as much as 60% in 2009. Pulp imports have also grown during 2010. The rapid growth in China's pulp imports has raised prices on the world market, and pulp mills that were closed have been reopened for production in order to satisfy the growth in demand. Exports of Finnish bleached softwood pulp to China also grew in 2009, by 60%, pushing up China's share of Finnish bleached softwood pulp exports to almost one third.

The dollar price of pulp on the Chinese market rose rapidly in the first half of 2010, continuing the brisk rise that began in the first quarter of 2009. The FOEX PIX index of the market price of hardwood pulp in dollars rose by 120% between March 2009 and May 2010. After this the price began to fall slightly and by the end of September it had decreased by about 10%.

In Europe, the decline in paper industry production has reduced wood pulp consumption, with the production of wood pulp falling in 2009 in the CEPI countries to its lowest point since 1996. By mid-June 2010, the euro PIX price of softwood pulp had risen by 45% and hardwood pulp by 55% since the start of the year. Since June, however, the euro PIX price of both softwood and hardwood pulp has begun to fall.

In Canada and the United States, the production and consumption of wood pulp fell in the period 2005–2009, due to the decline in paper production. By contrast, the use of recycled fibre has grown, accounting for a record 63% of paper production in the United States in 2009 as against the previous year's 57%.

In the first half of 2010, the growth in pulp demand and increase in pulp prices prompted Finnish exports of bleached softwood sulphate pulp to grow by over 80% on the 2009 figure. Pulp was also need as a raw material for Finland's own paper and paperboard production, which began to grow. In January–June 2010 pulp production was almost 30% above the previous year's figure. In 2010, Finnish pulp production is expected to be up by about 25% and pulp exports by 50% year on year. With PIX prices



Volume and unit value of pulp exports, 1999–2011 at 2009 prices (wholesale price index).

starting to decline in summer 2010, a downward movement in the export price of Finnish pulp is also foreseeable. Nevertheless the average export price for 2010 is expected to be up by 50% on the average price for 2009.

Finnish Exports Boosted in 2011 by Growth in Paper Demand

GDP growth on the European market is forecast to slow during the latter part of 2010 and in the first months of 2011. The growth in paper and paperboard consumption was at a low level for a considerable period even before the economic crisis. Some assessments also indicate that European consumption of printing papers, and especially of newsprint, will no longer return to the pre-downturn level, as printed products have lost market share to electronic media. Hence the demand for paper products in Europe in 2011 is forecast to grow at a slower rate than in 2010.

The profitability of the paper industry in Finland has improved during 2010 but is a long way from the profitability figures of the early

years after 2000. Production costs are high in comparison with competitor countries and in relation to end-product prices. In hardwood pulp production, Finland is not competitive against the new pulp mills of South America, for example, because the wood raw material costs are significantly lower there. Moreover, Finland's competitiveness in magazine paper production is weaker than that of Central and Western European producers, because they use recycled fibre, which is a lot cheaper than roundwood.

A continuing problem for Finland's competitiveness in relation to, for instance, European competitor countries is the high transportation costs incurred due to the large distances to the main markets. To improve its profitability the Finnish paper and paperboard industry has sought to lower production costs and to reduce production in Finland by cutting production capacity.

The capacity cuts in Finland and elsewhere in Europe are reducing overcapacity and creating the conditions for a rise in prices and an improvement in profitability. However, it will not be possible to benefit fully from this scope for price rises due to the slow growth in paper demand in the industry's main export markets. Indeed, average export prices of paper and paperboard in 2011 are forecast to rise by 2%, whereas the average export price of pulp is expected to remain unchanged from 2010. Production and exports of Finnish paper and paperboard are forecast to grow in 2011 by about 5%. Pulp production is forecast to be up by 3% on the 2010 figure.

Forecasts of production and exports in the pulp and paper industry (1000 tonnes); percentage changes from previous year are shown below the respective volumes.

	Production			Exports		
	2009	2010	2011	2009	2010	2011
Chemical pulp	5 518	7 000	7 200	1 370	2 100	2 100
	-23	27	3	-34	50	0
Paper	8 096	9 100	9 600	7 435	8 300	8 800
	-21	12	5	-20	12	6
Paperboard	2 506	3 000	3 100	2 253	2 700	2 800
	-13	20	3	-13	20	4

Forecasts of export prices for pulp and paper products (as percentage change from previous year).

	2009	2010	2011
Chemical pulp	-19 (387 €/t)	50	0
Paper	1 (596 €/t)	3	2
Paperboard	2 (693 €/t)	5	2

Export prices are nominal unit values.

2.3 Costs and Profitability in the Finnish Forest Industry

The Finnish forest industry's profitability plummeted to rock bottom in 2009. However, the decline in profitability was not as steep as the gloomiest predictions had envisaged, and the profitability trend for 2010 has been positive, especially in the wood products industry. A major factor in this has been the sharp rise in sawnwood export prices and volumes. Pulp and paper industry profitability has also risen, supported particularly by the increase in world market prices of pulp. By contrast, the price trend for some paper grades has been weak, as the market is still affected by overcapacity.

The uncertainty surrounding economic trends in Finland and on export markets makes it difficult to assess the forest industry's profitability outlook for 2011. The improvement in the wood products industry's profitability will slow down in the latter part of 2010 and in 2011, as sawnwood price rises level off and raw material costs grow. Profitability is nevertheless not expected to fall, but will remain a little above the post-2000 average. Profitability in the pulp and paper industry is likely to continue rising in 2011, due to the capacity cuts in the industry, the continued economic recovery on the main export markets, and the moderate trend in costs.

Rapid Profitability Improvement in Wood Products Industry

Profitability in the wood products industry collapsed in 2008 as a result of the economic slump on the sawnwood market. The gloomiest year was 2009, when the loss made by the wood products industry in relation to its turnover was at a post-2000 high (see figure), according to the financial statements of the major Finnish forest industry corporations. The industry's profitability improved quickly during the first six months of 2010, due to the rapid recovery

in sawnwood exports and a year-on-year rise of about 20% in sawnwood export prices.

However, the profitability trend for the wood products industry masks variation within the industry. On the plywood market the cyclical swing occurred later than on the sawnwood market. The continued drop in plywood export prices in the first half of 2010 has meant the profitability of plywood production has remained weak. The scale of the losses has been less severe than in 2009, however.

Profitability in the wood products industry and especially in sawmilling has been supported by the moderate trend in domestic wood raw material costs in late 2009 and the first months of 2010. Wood raw material costs account for almost one third of all costs in the wood products industry, on average, whereas in sawnwood production the proportion is more than half, making wood raw material the single most important cost item in the industry. In the summer months roundwood sales picked up as sawmilling production grew, and the rise in stumpage prices began to accelerate. Average stumpage prices for softwood sawlogs in 2010 are expected to be almost 17–18% above the previous year's level. A growth in wood raw material costs is currently seen as a threat to the positive profitability trend in the wood products industry. The industry's profitability for the full year 2010 looks like falling short of what was expected on the basis on the figures for the early part of the year. Measured in terms of the operating result as a percentage of turnover, the industry's profitability will nevertheless be significantly higher than the previous two years, and will be above the post-2000 average.

In 2011, the rise in sawnwood and plywood production and in export volumes and export prices is expected to continue. However, export prices may be up by only about 3–4% year on year. The greatest upward pressure on costs in the industry concerns wood raw materials. Sawlog stumpage prices are expected to be up by 6–8% in 2011. Among the other major cost items, the trend in labour costs in 2011 will be moderate on the basis of the pay increases agreed in the industry. Although the profitability trend in the wood products industry, and especially in

sawmilling, will slacken in 2011 in comparison with 2010, no significant weakening is anticipated, but, rather, the industry's profitability is likely to remain at almost the 2010 level.

Significant Profitability Differences Inside the Pulp and Paper Industry

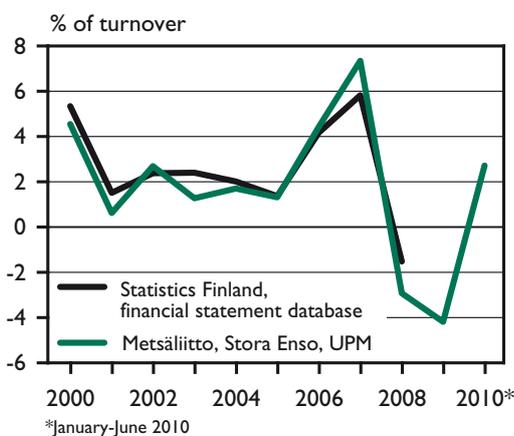
Interim reports published by the major Finnish forest industry corporations show that the pulp and paper industry's profitability declined in 2009 to its lowest point since 2000. By contrast, the industry's profitability has risen significantly during 2010. Although the year's profitability trend in the industry has, on average, been positive and it has been above the pre-downturn level in terms of the operating result as a percentage of turnover, the differences within the industry are quite considerable. Profitability is also far short of the early years of the decade.

Common to all parts of the pulp and paper industry, however, is a clear growth in delivery volumes in the early part of 2010 as export demand gradually picked up. There are nevertheless differences in the price trend for different products. The world market price for pulp began to rise sharply in mid-2009, and this did not tail off until June 2010. Finnish Forest industry corporations are not typically producers of market pulp, as most Finnish pulp production is used as a raw material in the corporations' own paper and paperboard production.

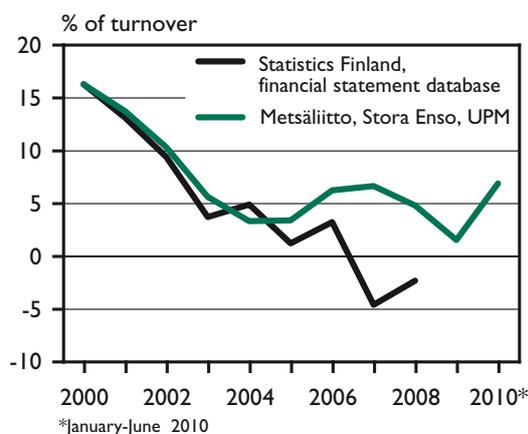
The price trend for paperboard in the first half of 2010 has been positive compared with many paper grades. The profitability of paperboard production has risen further since 2009, when the paperboard industry was already among the most profitable parts of the pulp and paper industry. The growth in paperboard demand is associated with the recovery in industrial production and in the need for packaging materials in Europe, the main market.

The weakest trend among papers is in newsprint. In Europe, in particular, the demand for newsprint has fallen, as has its price level. This, together with the rise in raw material costs, has significantly weakened the profitability of newsprint production. The profitability trend in magazine paper production has also been slow in 2010 compared with, for instance, fine paper. Indeed, the capacity cuts made in Finland have specifically affected newsprint and magazine paper production. As a consequence, fine paper's share of paper exports has now risen to about 40%.

The cost trend in the pulp and paper industry has been quite moderate in 2010. The rapid rise in the world market price of pulp has not affected domestic pulpwood stumpage prices as strongly as the effect of rising sawnwood demand and prices on sawlog stumpage prices. However, in Finland production of market pulp is only minor compared with the main products of the pulp and paper industry. For many paper grades, the price trend and the profitability of production



Profitability in the wood products industry, 2000–2010, measured in terms of operating result as a percentage of turnover.



Profitability in the pulp and paper industry, 2000–2010, measured in terms of operating result as a percentage of turnover.

have been weak during 2010, which has affected the ability to purchase roundwood. Wood raw material costs in the industry account for an average of about 17% of total costs, and within this figure the following all account for about equal proportions: stumpage costs, roundwood harvesting and transportation costs, chips and sawdust, and imported roundwood. Although a rise in pulpwood stumpage prices, for example by about 10% as forecast by the Finnish Forest Research Institute, would not significantly increase the industry's total costs, the rise in roundwood costs would be detrimental for other industry products whose production is already struggling to be profitable.

The Finnish pulp and paper industry is fundamentally an export industry, and the distances to its main markets are great. Sea freight charges (BDI) have fluctuated widely during 2010: a peak was reached at the end of May, after which charges have fallen – this decrease already amounted to about 30% by the end of September. The price trend for crude oil has also fluctuated during 2010. The oil price rose until the end of April but has since fallen by about 20% and then levelled off. The oil price has a direct impact on fuel costs in the pulp and paper industry, and also has an impact on prices of other energy sources. Although the pulp and paper industry has a high level of self-sufficiency in energy, the proportion of energy acquired from outside the industry represents almost 10% of total costs. More significant than the direct impact, however, are the indirect effects of the oil price fluctuations on, for instance, roundwood harvesting and transportation costs, freight costs for finished products, and prices of the chemicals and minerals used by the pulp and paper industry. The oil price forecasts for 2011 have been revised downwards due to the slower growth in developed economies: an increase of 5–10% on the autumn 2010 level is expected, and the average price for 2011 is expected to be close to the 2010 average.

A key factor in the pulp and paper industry's profitability in 2011 will be whether or not the corporations' planned price increases can be put into effect. Due to the capacity cuts and the steadily improving demand for the industry's products, the prospects for introducing price

rises look good. However, demand growth in Europe – the main market – is slow, and so the price increases for paper and paperboard are expected to be only moderate in 2011. On the other hand, it seems likely there will be no major pressures on the industry's costs. The improvement in the pulp and paper industry's profitability will thus continue in 2011, though at a slower rate than in 2010.



3 Forestry in Finland

3.1 Utilisation of Wood Resources

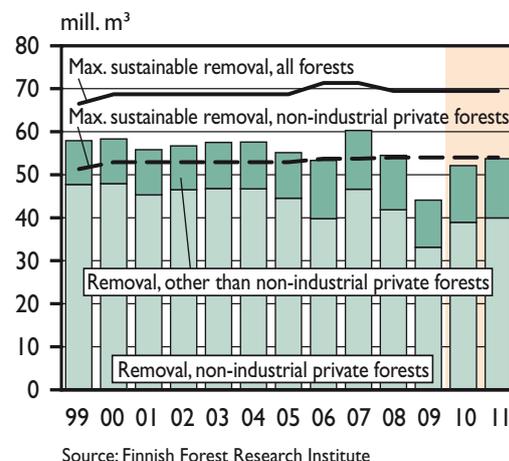
Finland's roundwood imports in 2009 fell to half of the previous year's level, marking a significant change in the industry's roundwood procurement. This change is expected to endure, and the industry has had to adjust its operations to meet these new circumstances. No shortage of roundwood was experienced, however, because preparations had already been made by increasing roundwood stocks, in addition to which the world economic downturn led to significant cuts in forest industry production. Nevertheless, in 2009 imported roundwood still accounted for 14% of the industry's roundwood consumption, and there remains a need to import birch pulpwood, in particular. In 2007–2009, the industry used an average of 65 mill. m³ of roundwood annually, of which 52 mill. m³ was domestic roundwood. The projected used of roundwood in 2010 is 61 mill. m³.

Finland has almost 23 mill. ha of forest, and the total volume of growing stock is approximately 2200 mill. m³. Pine accounts for 50% of this, spruce for 30%, birch for 17% and other broad-leaved species for 3%. The annual increment in the growing stock is about 99 mill. m³. Some 2.4 mill. ha of forest, mainly in Northern Finland, is excluded from commercial roundwood production. Forestry can thus be practised across an area of more than 20 mill. ha, containing a growing stock of about 2000 mill. m³ with an annual increment of almost 97 mill. m³ (or 4.8%). Growing stock drain amounts to about

67 mill. m³ p.a. (or 3.4%), and so roundwood reserves are increasing by a small amount each year.

The maximum sustainable removal is approximately 70 mill. m³ of useful wood per year, while the maximum justifiable in silvicultural terms is as much as 94 mill. m³, taking account of all tree species. Annual fellings of roundwood meeting the dimensional requirements for industrial wood (see figure) in recent years have been about 54 mill. m³, or 77% of the calculated maximum sustainable removal. In non-industrial private forests, the proportion of the maximum sustainable removal harvested is about the same as this.

Some 63% of Finland's commercial forests are in the possession of non-industrial private owners, 22% are owned by the state, 9% by companies and 6% by other groups of owners. The state's forest ownership is concentrated in Northern Finland, which is why the average increment in the growing stock for the state's



Removals of industrial wood and maximum sustainable removal, 1999–2011.

holdings is low compared with forests in other ownership. Forests in non-industrial private ownership account for 70% of the growing stock increment, state-owned forests for 13%, company-owned forests for 11% and the rest for 6%. The non-industrial private forests are of crucial importance for the industry's roundwood procurement, as about 75% of the domestic roundwood (and almost 60% of all roundwood, both domestic and imported) consumed by the forest industry is from such forests. The volume of imported roundwood has been about 20% of the total. This situation is changing, however, as imports of roundwood in 2009 were down by half on the previous year's figure, and the share of the total dropped to 14%.

The accompanying table shows the Finnish forest industry's consumption of roundwood, and compares these figures with the maximum sustainable removal estimated for Finnish forests. The calculation of maximum sustainable removal is based on information about the amount, composition and annual increment of the growing stock and assumes that the standard of silviculture will remain unchanged. The calculation indicates the level to which fellings could rise without prejudicing the size of future removals. The Finnish Forest Research Institute's calculation is an optimisation calculation, in which the relative prices of different roundwood categories affect the structure of the estimates of maximum sustainable removal.

Fellings in excess of the maximum sustainable removal on a temporary basis only will not jeopardise future harvests. Flexibility of this kind, which is justifiable in silvicultural terms, is widespread in Finnish forests. Spruce harvests, for example, have been high, and spruce reserves have decreased slightly since 2000.

From a wood resources viewpoint, pine has the best potential for quickly meeting an increase in the demand for roundwood, both as sawlogs and pulpwood. Comparison shows that the utilisation rate for spruce resources is highest, and imports of spruce have been high, running at an annual 3–5 mill. m³, but in 2009 imports plunged to 1 mill. m³. The industry's birch consumption is almost 20% greater than the level which the maximum sustainable removal in Finnish forests will allow, and so more than half of the industry's

birch consumption has been imported since 2000. In 2009, however, the situation changed and birch imports collapsed. The proportion of domestic birch resources harvested is not actually very high, as birch procurement is hampered by the fact that a significant proportion of birch grows in softwood-dominant forests, and downy birch principally on drained peatland. Only 9% of Finnish forests are birch-dominant.

Roundwood imports from Russia fell by half in 2009 from the previous year's level, due to high prices and other factors. The collapse in imports from other countries was even greater. Though Finnish roundwood resources are easily sufficient to replace imported pine, there could be a scarcity of spruce, and domestic birch will only be sufficient to replace a proportion of imported birch. As part of its process of adjustment to changed circumstances, the industry has begun to replace birch with pine in pulp production, and birch plywood production has been reduced. On the other hand, birch pulpwood imports have again been growing rapidly during 2010, due to the strong demand for hardwood pulp. There should be no difficulty in procuring roundwood during 2010, as the industry's need is approximately 15 mill. m³ less than in 2006 and 2007.

Non-industrial use of roundwood – principally household firewood – is also of importance in forest management terms, but its main significance is in terms of energy use. In the tending of young stands, an increasing volume of small-sized trees are chipped into energy wood.

The aims of the National Forest Programme 2015 (2008) include an increase in the use of

Wood consumption by the forest industry and maximum sustainable removals in Finland.

Tree species	Consumption 2007–2009, mill. m ³ /yr		% of maximum sustainable removal	
	Domestic wood	Wood total	Domestic wood	Wood total
Pine	23.9	26.1	74	81
Spruce	20.0	22.3	83	91
Birch	7.2	12.8	66	117
Total	51.1	61.2	76	91

In addition, the industry consumed 3.3 mill. m³/yr of aspen and unspecified imported wood.

Source: Finnish Forest Research Institute

domestic industrial wood and energy wood. This aim has risen in prominence now that roundwood imports have collapsed. The National Forest Programme states that this aim will require forest owners to engage more actively in using advisory services on the potential of their forests.

Overall use of domestic industrial wood has not grown since 2000, although in 2007 it did temporarily increase to a record level (59 mill. m³), but quickly fell back again with the decline in the industry's production. By contrast, the use of forest chips (mainly felling residues from clear cutting) for energy purposes has risen rapidly since 2000. In recent years, 3–4 mill. m³ in forest chips has been used annually in thermal and other power plants, and in 2009 this figure exceeded 5 mill. m³, though exceptionally about one fifth of this consisted of imported wood. Such use of wood material unfit for industrial products is in fact very high: wood-based energy accounts for about 20% of all energy consumed in Finland and about 60% of the Finnish forest industry's energy consumption (black liquor from the pulp industry, tree bark, sawdust, etc.).

3.2 Roundwood Markets

Roundwood markets have picked up in 2010, particularly as a result of the improved demand for sawnwood and pulp. Commercial fellings for the full year will be up by 19% on the previous year's figure, to almost 50 mill. m³, of which about 5 mill. m³ will be wood damaged in the storms of late July and early August. The sawlog harvest has grown by more than fellings of pulpwood. Imports of roundwood will also be up year on year, by about one fifth, to 9.5 mill. m³. Pine and spruce sawlog stumpage prices for the full year 2010 will be up the most, by 17–18%, whereas stumpage prices for birch sawlogs and pine and birch pulpwood will be up by 9–13%. The stumpage price for spruce pulpwood will remain almost unchanged. The use of forest chips has been growing at a much more modest rate than in 2009, and will reach 6.3 mill. m³ for

2010, up by about 4%. The power plant price of forest chips will also be up a little.

The demand growth for sawnwood, pulp and paper in 2011 is forecast to level off, which will also retard the growth in commercial fellings. Fellings in 2011 will reach a total of 51 mill. m³. At the same time the supply of roundwood will decrease slightly due to the discontinuation at the end of 2010 of the tax relief on income from roundwood sales. The growth in roundwood imports will also slow down, rising to 9.7 mill. m³, assuming that Russia's roundwood export duty increases are again postponed. Sawlog and pulpwood stumpage prices will rise by 5–8%. Political decisions favouring renewable energy are contributing to the growing demand for energy wood and thus consumption of forest chips, which will rise to 7 mill. m³. The power plant price of forest chips will increase by almost 10%.

Export Growth and Storms Boost Roundwood Sales in 2010

The euro area's recovery in 2010 has improved the demand for sawnwood, and prices began to rise in the early part of the year. This was reflected in the price trend for softwood sawlogs, which has enlivened the roundwood market significantly compared with 2009. The demand for paperboard and pulp has also grown and prices have risen, and this has been reflected in the prices of pine and birch pulpwood. The reductions in magazine paper production capacity have cut the domestic demand for spruce pulpwood, the price trend for which has thus been significantly more moderate than for other wood.

In late July and early August the country was swept by four storms that together felled an estimated 5 mill. m³ of timber. About 3.6 mill. m³ of this was in non-industrial private forests. The storm-damaged wood equated to about one tenth of the full year's commercial fellings. The worst affected regions were Southeast Finland, Southern Savo and Central Finland, though the

Commercial fellings, roundwood imports and end-of-year stocks of harvested wood, 2009–2011.

Roundwood type/ Ownership group	2009 mill. m ³	2010 mill. m ³	Change %	2011 mill. m ³	Change %
Commercial fellings, total	41.4	49.4	19	51.0	3
Non-industrial private forests ¹	32.1	38.2	19	39.2	3
Company and state-owned forests ²	9.3	11.1	19	11.8	6
Sawlogs	16.8	21.2	26	22.1	4
Pulpwood	24.2	27.5	13	28.2	3
Imports of industrial roundwood	7.5	9.5	27	9.7	2
Commercial fellings and roundwood imports, total	48.9	58.9	21	60.7	3
Stocks of harvested roundwood	16.5	8.6	-48	8.9	3

¹ Includes municipalities, parishes, etc.

² Metsähallitus manages state-owned forests

Sources: Finnish Forest Research Institute and National Board of Customs.

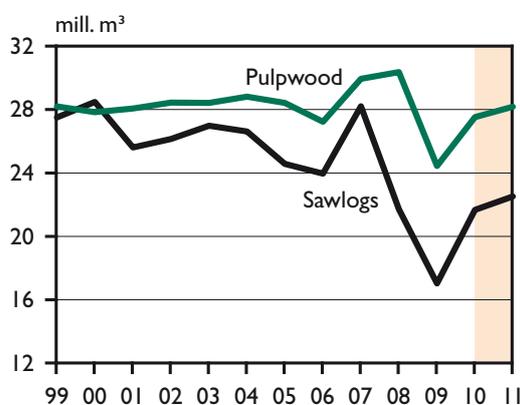
storm-damaged wood was harvested quickly on account of the high level of demand. The impact of the storms on the roundwood market was evident for just a couple of months. Roundwood supply has also been boosted by the 25% tax relief on income from roundwood sales, which will be discontinued from 31 December 2010.

The increase in demand for sawlogs as a result of the rise sawnwood export prices and the increase in sawmill production means that for the full year 2010 the stumpage prices of pine and spruce sawlogs will be up by almost 20% on the previous year's figures. The storm damage acted as a temporary restraint on the stumpage price increases. The price trend for birch plywood has been lacklustre, but the growth in production volumes has boosted the demand for birch sawlogs. The stumpage price of birch sawlogs is expected to be up by 9% for 2010. Pine and

birch pulpwood stumpage prices will be up by over 10%, due to the growth in pulp and paper production. The spruce pulpwood stumpage price will be at about the 2009 level.

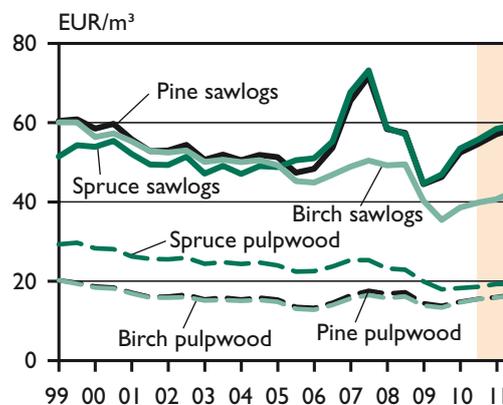
The improved demand for end products has boosted commercial fellings in 2010, the full year figure being almost 50 mill. m³, which is 19% more than in 2009. The growth in fellings is about the same in non-industrial private forests, in company-owned forests and in forests owned by Metsähallitus. Commercial fellings of sawlogs are forecast to be up by a quarter in 2010, while for pulpwood the growth will be just over 10%. By the end of 2010, stocks of harvested roundwood will have fallen to half of their 2009 figure, having previously been at an extremely high level.

Imports of industrial wood for the full year 2010 will be up by a quarter from the historically



Source: Finnish Forest Research Institute

Commercial fellings of sawlogs and pulpwood, 1999–2011.



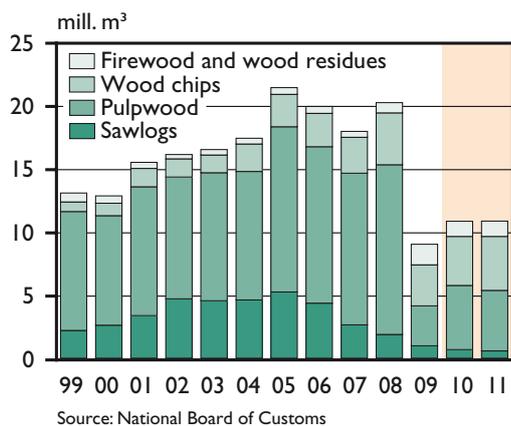
Source: Finnish Forest Research Institute

Semiannual stumpage prices by roundwood category, 1/1999–2/2011 at 2009 prices (cost of living index)

fairly low level of 2009, due to Russia's postponement to January 2011 of its export duty increases on roundwood, announced in a decision made in late 2009. Imported roundwood prices have fallen towards the Finnish price level. In Russia, the stumpage price level is very small after taking into account the impact of the roundwood export duties and the costs of transportation and harvesting.

Return to Normal Roundwood Sales in 2011

At the end of 2010 the tax relief on income from roundwood sales, which was enacted in July 2008, will be discontinued. The aim of the tax relief was to counter the combined impact on the roundwood market of Russia's roundwood export duties and the economic downturn. The tax relief has boosted roundwood sales, but the final assessment of the volumes can only be made once the scheme has ended. This is because the



Volume of imported roundwood by category, 1999–2011.

Average stumpage prices in non-industrial private forestry, 2009–2011.

Roundwood	2009 EUR/m ³	2010 EUR/m ³	Change %	2011 EUR/m ³	Change %
Pine sawlogs	46.0	54.0	17	58.0	8
Spruce sawlogs	46.6	55.0	18	59.0	7
Birch sawlogs	36.3	39.5	9	42.0	6
Pine pulpwood	13.9	15.3	10	16.4	7
Spruce pulpwood	18.3	18.5	1	19.3	5
Birch pulpwood	13.5	15.3	13	16.2	7

Source: Finnish Forest Industries Federation and Finnish Forest Research Institute

tax relief has created peaks in roundwood sales and may still do so before the year's end.

The price level of softwood sawlogs is expected to rise further in 2011 despite the increased uncertainty on the sawnwood market. Pulpwood prices are also expected to be up by about the same proportion as for sawlogs. In all, stumpage prices are expected to rise by 5–8% on the 2010 average prices.

In 2011, commercial fellings will be up by 3% in non-industrial private forests and by 6% in company-owned forests and in forests owned by Metsähallitus. Commercial fellings of sawlogs will be up by 4% and pulpwood by 3%. Stocks of harvested roundwood are expected to remain at about the 2010 level.

If it is assumed that the increase in Russia's roundwood export duties to at least EUR 50/m³ will not come into effect at the start of 2011, Finland's roundwood imports are likely to continue their moderate growth. The duties do not yet apply to small-diameter birch (less than 15 cm), and the duty on chips is 5%. The threat of a rise in duties is very likely to increase roundwood imports, even though roundwood duties on softwood and on birch sawlogs are already fairly high, at EUR 15/m³. On the other hand, Finnish harvesting organisations have, for the most part, dismantled their Russian operations. Russian timber harvesters are in a weak financial situation, and the risks concerning investment in machinery and equipment are increased by the stop-go excise duty policy.

Use of Forest Chips Continues to Increase

In 2009 the use of forest chips rose by a third to 6.1 mill. m³, of which thermal and other power plant use accounted for 5.4 mill. m³. At the same time, the power plant price of forest chips rose by EUR 3/MWh to about EUR 18/MWh, which, with the exception of harvesting small-diameter trees, also means the creation of a higher-than-harvesting-costs 'stumpage price' for energy roundwood intended for power plant use. Harvesting of crown mass and stumps has been profitable even at a lower price level.

A number of major new power stations have come on stream during 2010, and more are

under construction or planned. This is already boosting the demand for energy wood, stocks of which need to be accumulated in advance. The timetable for harvesting energy wood differs considerably from that for its use, as it needs to first dry out in storage for 1–2 years, and there are major seasonal fluctuations in its use. The supply of wood processing industry by-products is also increasing as the use of industrial wood grows, which will slightly ease the pressure to expand forest chip procurement. Furthermore, the volume of timber directed for energy use in any given year depends especially on the availability of peat, energy taxation and emission allowances.

For the full year 2010 the average power plant price of forest chips is expected to be up by only a little, and so the price will still be around EUR 18/MWh. Growth in the use of forest chips will be down slightly, to 6.3 mill. m³, an estimated growth of 4%. In 2011, energy wood will become more competitive against other fuels as a result of new production subsidies for electricity produced with renewable energy and due to the new energy tax regime, and the average power plant price for forest chips is forecast to rise to about EUR 20/MWh. Energy wood deliveries will increase, and the use of forest chips will grow to 7 mill. m³.

3.3 Investment and Profitability in Non-Industrial Private Forestry

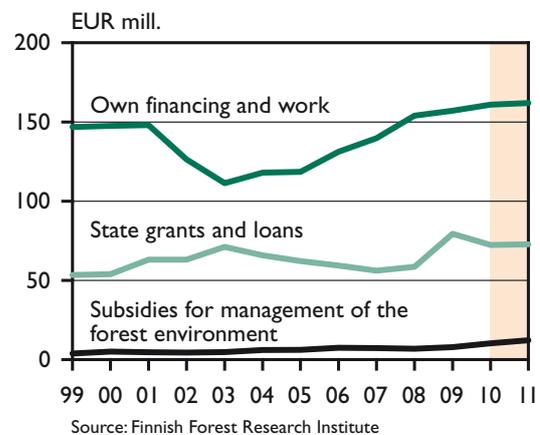
Forestry is recovering rapidly from the economic downturn, and the key profitability figures are returning to normal levels. Gross stumpage earnings for 2010 will rise to EUR 1.4 billion, and in 2011 will reach EUR 1.5 billion. Total investment in timber production in Finnish non-industrial private forestry for the full year 2010 and in 2011 will remain at just over EUR 220 mill. The amount of financing and work input by private forest owners in timber production investments will amount to about EUR 160 mill. of this, and government subsidies to EUR 60 mill. The per-hectare operating profit from

non-industrial private forestry in 2010 will rise to over EUR 80, and in 2011 it is expected to rise to EUR 90.

Demand for Energy Wood Boosts Work on Tending of Young Stands

Total investment in timber production in Finnish non-industrial private forestry in 2010 will amount to approximately EUR 222 mill., or a little less than the previous year's figure. The decrease in final cutting in 2008 and 2009 has reduced the need for forest regeneration, but the growing demand for energy wood has boosted the amount of work on tending of young stands. In 2011 the total investment in timber production will be at about the same level as in 2009 and 2010.

Financing by private forest owners themselves accounted for EUR 157 mill. of the total investment in 2009, or EUR 3 mill. more than in 2008. Forest regeneration accounted for the largest share (EUR 70.3 mill.) of this internal financing. Financing by private forest owners in 2010 and 2011 will rise to over EUR 160 mill., on account of the increase in the tending of young stands. Investment in forest regeneration will be down by about 7%, because the amount of clearcutting is significantly less than in previous years. The area covered by forest



State and forest-owner funding of investments in non-industrial private forestry, 1999–2011 at 2009 prices (cost of living index).

use notifications concerning final cutting fell by 40–50% in 2008 and 2009 on the average for 2003–2007.

Additional Subsidies for Energy Wood

For 2010, the government has granted more than EUR 72 mill. for work to ensure sustainable roundwood production, and an estimated EUR 12 mill. of this is for harvesting energy wood and for chipping. The energy wood subsidies were used up by the end of June, however, and assistance is expected from the autumn's supplementary budget to speed up payment of the subsidies for new locations. Although felling residues and stumps from areas of final cutting can be harvested profitably as energy wood without subsidies, the profitability of harvesting small-diameter trees and chipping are to a great extent dependent on subsidies.

In 2011 the investment in timber production is expected to be at about the same level as in 2010. EUR 73 mill. has been budgeted for sustainable forestry funding, and in autumn 2010 the Ministry of Agriculture and Forestry is preparing a new energy subsidy for small-diameter trees. In its budget proposal the Ministry of Employment and the Economy proposed EUR 13 mill. in energy subsidies for small-diameter trees in 2011. EUR 21 mill. of the funds for sustainable forestry funding have been budgeted for tending of young stands, and EUR 13 mill. for harvesting energy wood and chipping. Energy wood subsidies promote the use of renewable energy, and in 2009 almost half (6.1 mill. m³) of the target for 2020 (13.5 mill. m³) had already been achieved. From the employment viewpoint, subsidies for tending of young stands and for energy wood are well justified, as these activities account for more than 70% of the man-years for sustainable forestry funding.

Forest Biodiversity Programme for Southern Finland (METSO) Increases Diversity in Private Forests

The amount of sustainable forestry funding for furthering the management of the forest

environment in private forests in 2010 is more than EUR 10 mill., and in the budget for 2011 this is increased to EUR 12 mill. The subsidies are used for implementing the Forest Biodiversity Programme for Southern Finland 2008–2016 (METSO), which is connected with the National Forest Programme 2015. The voluntary protection under the METSO programme is carried out by means of both continuing and fixed-term measures.

In forests in non-industrial private ownership the aim is to increase the area of biodiversity protection by 82 000–173 000 ha in the period 2008–2016, which will also include 400–800 projects to manage the forest environment. Sustainable forestry funding is used to fund 'METSO habitats' fulfilling the METSO programme's ecological criteria, and about half of these habitats are in heath forests. The environmental grant agreements made in 2008–2009 covered a total area of about 13 000 ha.

Stumpage Earnings Almost Return to Normal

Gross stumpage earnings in non-industrial private forestry in 2009 fell to their lowest level since the deep recession of the early 1990s, amounting to EUR 1 billion. The rise in stumpage earnings and the increase in fellings in 2010 will raise the year's stumpage earnings to EUR 1.4 billion,

Non-industrial private forestry balance sheet calculation for 2009 and forecast for 2010 and 2011, EUR/ha.

	2009	2010	2011
Gross stumpage earnings			
Whole country	74.7	104.0	113.5
Southern Finland	94.9	132.8	145.2
Northern Finland	32.3	43.4	47.0
– Gross costs			
Whole country	26.4	26.0	26.2
Southern Finland	30.5	30.1	30.2
Northern Finland	17.8	17.5	17.6
+ Subsidies			
Whole country	5.1	4.6	4.6
Southern Finland	5.0	4.5	4.5
Northern Finland	5.4	4.9	4.9
= Operating profits (before taxes and external capital costs)			
Whole country	53.4	82.6	92.0
Southern Finland	69.3	107.2	119.5
Northern Finland	19.9	30.8	34.3

*Northern Finland is defined as the Provinces of Oulu and Lapland
Source: Finnish Forest Research Institute*

but earnings will nevertheless be significantly below the average for the past ten years (EUR 1.6 billion). Earnings in 2011 are expected to rise to EUR 1.5 billion. Investment in timber production will be about 15% of gross stumpage earnings.

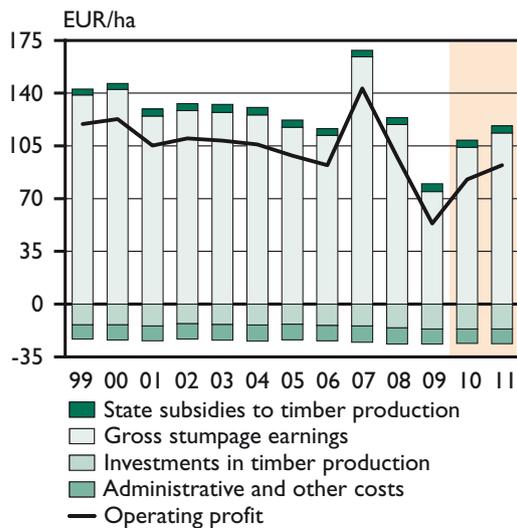
Operating Profit from Timber Production Increasing

In 2009 the economic downturn held per-hectare gross stumpage earnings from private forestry at EUR 75, the same level in real terms as that during the early 1990s recession. The moderate rise in stumpage prices and the increase in felling volumes will push up the full-year 2010 earnings to over EUR 100/ha. The rise will continue in 2011, to more than EUR 110/ha, which is nevertheless still significantly below the 2000–2009 average in real terms (EUR 123/ha). In 2011, earnings will rise to more than EUR 140/ha in Southern Finland and more than EUR 45/ha in Northern Finland.

Total per-hectare costs of timber production for 2010 will be EUR 26/ha. In Southern Finland, the figure will be EUR 30/ha and in Northern Finland EUR 17/ha. The same level of costs will apply in 2011.

With roundwood demand having picked up and prices risen, the operating profit from timber

production in non-industrial private forestry will be up in 2010 to more than EUR 80/ha, which is over 50% higher than in 2009. Growth is also expected to continue in 2011, when a moderate rise in stumpage prices and an increase in fellings will push up the per-hectare operating profit to more than EUR 90. This will nevertheless be significantly below the 2000–2009 average in real terms (EUR 105/ha).



Source: Finnish Forest Research Institute

Earnings, costs and operating profit in non-industrial timber production, 1999–2011 at 2009 prices (cost of living index).



Featured Topic

Wood-Based Construction in Russia Since 2000

Juhani Marttila

Considerable Growth in Construction

Residential construction in Russia has increased rapidly since 2000, when, according to Russia's Federal State Statistics Service, annual housing production totalled 30 million m². In 2008, a post-Soviet record was achieved, at 64 million m². The economic downturn led to a lower figure of 60 million m² in 2009 (see Fig. 1). Construction has focused on major urban areas and oil production districts. Besides the Moscow and St Petersburg regions the highest levels of construction have been in Krasnodar Krai and in the Republic of Tatarstan and Republic of Bashkortostan. For comparison purposes, residential construction in Finland totals around 3–4 million m² per year (Statistics Finland).

Although wood has traditionally been an important building material in Russia, the main materials today are concrete and brick. Wood has nevertheless accounted for a growing share in recent years. Although logs will probably retain a key position in the construction of detached, semi-detached and other two-family houses, a more prominent role is being taken by sawn timber. Figures from Russia's Association of Wood Housing indicate that wood accounted for 39% of one- and two-family dwelling construction in 2009, suggesting that there is further scope for increasing this share. In Fin-

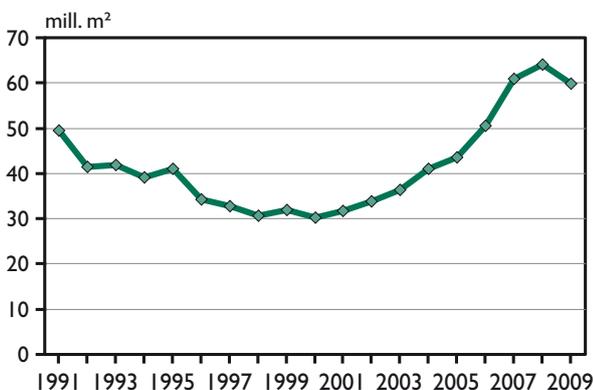


Figure 1. Volume of housing construction in Russia, 1991–2009 (Federal State Statistics Service).

land, wood has accounted for 80–90% of one- and two-family dwelling construction in recent years.

Timber Use Boosted by Federal Grants and Other Promotional Measures

Russia has launched a series of national programmes aimed at increasing wellbeing in society. One such programme focuses on promoting moderately priced, attractive housing. The need to increase and encourage wood-based construction for one- and two-family dwellings is seen as one element of this federal-level programme. The programme is also intended to encourage the development of the country's wood products industry. Although the programme focuses mainly on social aspects of construction, the political approval for promoting wood-based construction is likely to be reflected in other timber-using projects.

The standardisation reforms currently under way will also have an impact on the future of wood-based construction. The country's aim is to reform the outmoded Soviet-era standardisation system to meet today's needs. Key elements in this process will be the quality requirements and specifications for various structures (e.g. log houses and prefabricated element houses) and housing types (e.g. one- and two-family dwellings and terraced houses).

The adoption of international standards could provide a number of advantages for wood-based construction in Russia. It would be easier to use imported wood products, and the competitive position of Russia's own wooden housing industry on the international market would improve. It would also increase international competition on Russia's home market, which could offer new export opportunities in Russia for the Finnish wood products industry.

Housing Schemes in St Petersburg and the Leningrad Oblast

Alongside building projects for individual consumers, there are also developers' larger scale housing schemes using wood-based construction that offer an alternative

model for promoting the use of timber. On the plus side, such housing schemes offer the advantages of scale and of efficiency in industrial fabrication. The following are two different types of housing scheme using wood-based construction that have proceeded in the St Petersburg region in the past few years.

Novaya Izhora is a zone of wooden housing in the Kolpinsky district of the city of St Petersburg. The company behind the scheme is the vertically integrated Baltros consortium. Part of this consortium is the DSK Slavyanskiy company, which supplies houses for the scheme. *Novaya Izhora* covers 285 ha and the plan is to build a total of 4500 dwellings in the form of one- and two-family dwellings and terraced houses. The district strongly supports the quantitative construction targets for housing under the national programme and also offers the opportunity to own a house in the vicinity of St Petersburg. The zoning plan for the area is extremely linear, however, and the scope for individual design nonexistent (see Fig. 2).

Kymleno is a housing scheme for 36 homes and has been built by YIT Lentek in collaboration with Finnish wooden housing manufacturers. The site is at Koltushi in the Leningrad Oblast, about 25 km east of St Petersburg. The idea is to showcase Finnish wood-based construction in Russia. The key elements comprise the design of the surroundings, the design of the buildings and the design of the details. The challenge for this type of construction is to keep within a reasonable cost level and to ensure that the buildings suit the Russian environment.

The principal factors in promoting wood-based construction include establishing the right image and achieving sales. To this end, the wooden housing industry should ensure that it demonstrates the benefits of wood in construction from the viewpoint of the pro-

spective customer. Altering the commonly held view of wood-based construction in Russia will nevertheless take time. New experimental housing schemes would allow the development of wood-based construction to become a reality.

In Russia the challenge is to obtain suitable land for construction sites. Close cooperation with the planning authorities is important in such projects. In the major urban areas, intensive land use and high land costs are an effective barrier to the construction of low-rise wooden housing. Wood-based construction therefore tends to gravitate towards far-flung suburbs and smaller settlements. Swedish, British and North American models of apartment block construction have not yet made an appearance in Russia.

Spread of New Forms of Corporate Cooperation and Partnership

In Russia, construction projects have traditionally been implemented by vertically integrated multi-sectoral companies. Many of these operate locally and date back to Soviet times. Alongside these companies, new specialised enterprises have also sprung up in recent decades. The main direction of development in the last few years has been the differentiation of construction segments and the increased presence of foreign companies.

According to a survey of Russian experts on wood-based construction carried out by the Finnish Forest Research Institute in 2009, vertically integrated multi-sectoral companies will still play the most significant role in implementing wood-based construction projects over the next five years. The second most common form of scheme was seen as the developer-led project in which a single company is responsible for the imple-



Figure 2. Uniformity in housing design at *Novaya Izhora* (photo: Juhani Marttila).

mentation. Western-style competitive tendering was considered to be the least common form. However, the order of importance of these three forms was expected to be reversed over the coming 5–10 years. The assessment was that competitive tendering would become the principal form, the developer model would retain its second rank and the conglomerates would be in third place. Such a radical change would be likely to improve the position of small companies in the wood products industry. It would also require an increase in the level of trust prevailing in the market. Land-purchasing policy would have to be stable and forms of cooperation reliable. Improved quality and keeping to timetables would also be essential.

Many international companies in the construction and wood products industries are planning to establish business operations in Russia. Some have already done so. There is also some movement in the opposite direction: Russian companies have already acquired a number of wood-product and log-housing manufacturers in Finland.

Contrary to the situation in Finland, in Russia completion of construction after a house's frame is ready has traditionally been the responsibility of the house buyer. However, rising living standards will probably lead to new business opportunities in the construction of house interiors. To ensure the availability of products, it is very important that the wood products wholesale trade and companies serving independent builders be further developed in the future.

Future Outlook

In Russia, people still live in considerably more cramped conditions than in most European countries, and so the consequent need for more spacious dwellings is likely

to keep construction activity brisk in the years to come. There is a need both for advertised high-quality housing schemes of an individualised nature and for efficient, mass-produced housing based on the high-volume use of wood. The construction projects for the Sochi Winter Olympics in 2014 will gain a wider audience for modern wood-based construction.

A 2008 survey by the Finnish Forest Research Institute indicated that environmental factors are still not very significant in housing construction within the St Petersburg region, but in the future they may lead to an increase in the use of wood in construction. Timber is, after all, renewable and is also an efficient carbon store, which are important for slowing climate change.

As this overview has demonstrated, wood-based construction in Russia is experiencing considerable changes. The use of wood has increased rapidly, but it has not yet reached the position of concrete and brick. In Finland, the present annual construction use of wood per capita is about 1 m³, which is considerably more than in Russia. Since most timber is used in construction, an improvement in the usability and use of wood products in different types of construction projects will offer significant opportunities for Russia's own wood products industry, and also for Finnish exporters of wood products.

Sources:

- Association of Wood Housing. <http://www.npadd.ru>
- Federal State Statistics Service <http://www.gks.ru/eng/>
- Marttila, J. & Ollonqvist, P. 2010. Puurakentamisen suomalais-venäläinen liiketoiminta Venäjällä – vientikaupasta verkostoihin. Finnish Forest Research Institute, Working Papers 151. 73 p. www.metla.fi/julkaisut/. (In Finnish)
- Statistics Finland. Building and dwelling production. http://pxweb2.stat.fi/database/StatFin/rak/ras/ras_en.asp