

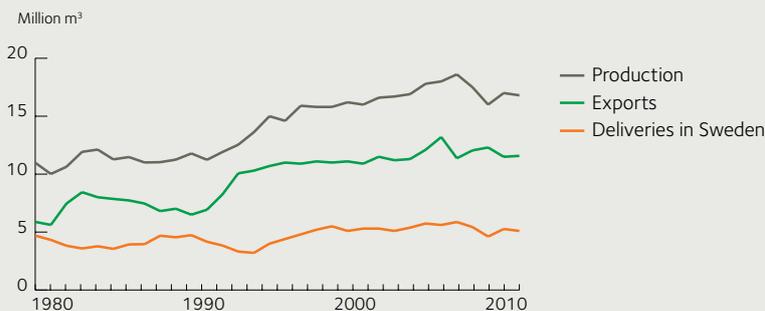
Swedish sawmills

Sustainable production of high-quality wood products

Swedish sawmills in brief

The forest based industries play a large role in the Swedish economy. The sector accounts for 11–13% of the total employment, turnover and added value within Swedish industry and it accounts for 11% of Sweden's export.

PRODUCTION AND EXPORTS OF SAWN TIMBER



Production 2011: 16,8 million m³
Exports 2011: 11,6 million m³

Source: Statistics Sweden, Swedish Forest Industries Federation

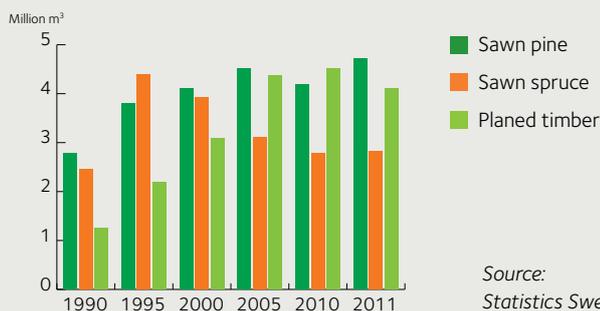
Swedish sawmills – market information

World-wide, Sweden is the third largest exporter of sawn timber. In Europe, the Swedish sawmilling industry holds a prominent position, as the second-largest producer and the largest exporter of sawn softwood. The industry consists of approximately 50 companies/company groups with in total 140 sawmills (with a production above 10 000 m³ sawn timber). The Swedish sawmilling industry has undergone

significant structural rationalization, resulting in fewer and larger companies and production units; the 20 largest producers today account for 70% of production. Continued rationalization and consolidation are to be expected in order to increase competitiveness. With few exceptions, the sawmilling industry in Sweden is Swedish-owned with relatively few production units outside its borders.

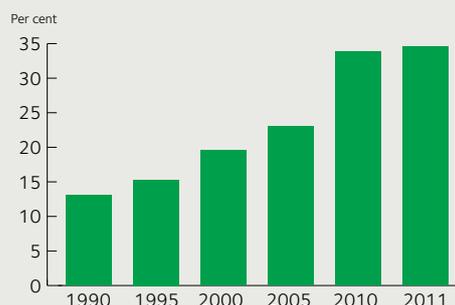
In 2011 the total production of sawn and planed timber was 17 million m³ whereof 12 million m³ was exported (around 70% of the production). The sawn timber is mainly softwood – spruce/whitewood (*Picea abies*), also called Norwegian spruce, and pine/redwood (*Pinus sylvestris*), also called Scots pine.

EXPORTS OF SAWN AND PLANED TIMBER FROM SWEDEN



Source: Statistics Sweden

NON-EUROPEAN MARKET SHARE OF SWEDISH SAWN TIMBER EXPORTS



Source: Statistics Sweden

Modern timber processing – technical development and automation

Large investments in the modernization of the Swedish sawmills have resulted in automated high speed manufacturing technology. This enables the sawmills to produce high quality products according to customer demands in an efficient way. The process is often fully automated and computerized - from debarking the logs to drying the sawn timber. In the most high-tech mills, operatives are there only to ensure the smooth-running of the processes.

There is a long tradition of woodworking in Swedish industry, ensuring high quality in production. The labour force is well educated, with the skills to operate highly automated and computerized production units. Information technology is exceptionally advanced and is used extensively. Production is dependent on sawing technology, the raw material and the final requirements of the produced products. Internationally, Swedish sawmills have high productivity as a

result of the continuous development and modernization of the industry. Basically all sawn timber is kiln dried; 50% is dried in compartment kilns and 50% in progressive kilns. Compartment kilns have become more common in response to market demands for lower and more accurate moisture content.

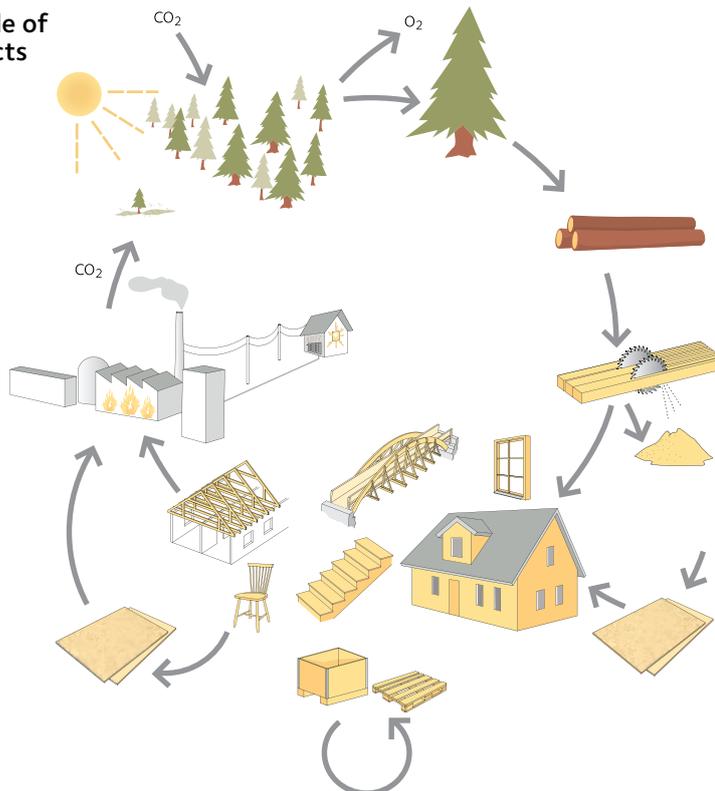


Kiln



Modern sawmill

The eco-cycle of wood products



Wood and the climate

Wood products store the carbon sequestered by the harvested tree throughout their life. Wood has lower carbon dioxide (CO₂) emissions than other construction materials, so substituting wood for other materials saves CO₂. Further CO₂ reductions can be achieved by extending the life of the wood product, recycling into panel products and by energy recovery at the end of the product's, or the recycled product's life.

Swedish timber is of long fibre strong conifer species

Sawn timber in Sweden is manufactured from the commercial wood species spruce/whitewood (*Picea abies*) and

pine/redwood (*Pinus sylvestris*). Swedish sawmilling production is split roughly equally between the two.



Spruce/whitewood (*Picea abies*)

Characteristic: The colour varies from creamy white to light yellow and red-brown. Heartwood is not distinct from sapwood. Spruce is straight-grained with a smooth and even texture. The wood has medium density. Strength properties are excellent. Sawing and

machining is easy, as well as gluing, jointing and assembling.

Common use: The typical end-use of spruce/whitewood (*Picea abies*) is as structural timber in studs and beams, indoors and outdoors. Spruce/whitewood (*Picea abies*) is the most im-

portant building and construction timber in Europe. It is also used for interior construction, external joinery, carpentry, furniture, external paneling, facades, flooring, doors and packaging.

Pine/redwood (*Pinus sylvestris*)

Characteristic: The colour of the sapwood is yellowish-white, while the heartwood is reddish. The heartwood is clearly demarcated from the sapwood. The texture is fine due to slow growing. The big red knots give a decorative character to the timber. The wood is soft and has medium density. The strength properties are good. Sawing and machining is easy.

Common use: Pine/redwood (*Pinus sylvestris*) is used for joinery, interiors and decoration such as doors, windows, flooring and indoor paneling as well as for furniture. It is also used as a building and construction timber, structural as well as non-structural. The Swedish sawmill industries deliver sawn timber according to the qualities, grades and sizes the customers demand.



Structural timber from Sweden

Structural solid timber is used as battens, boards, planks and timber joists/studs and beams, classified according to its strength by visual or machine grading. Structural timber can also be delivered as finger-jointed timber which is planed graded timber glued together lengthwise. Finger-jointed timber can be manufactured in any practical length.



Solid finger-jointed blanks

Planed wood products

Profiled timber and mouldings that measure 9.5 to 40 mm in thickness are referred to as "planed goods". These non-structural products – intended for interior and exterior applications – are manufactured from timber which is first sawn, then planed.

Further processed products



Since the 1990's the sawmilling industry has gradually increased the processing of its wood products, to better serve the needs of the customers. Many types of processed wood products are manufactured at the Swedish sawmilling industries.



DIY boards



Solid wood flooring



Decking



Panel

Wood preservation – pressure treatment

The processing and finishing technologies for wood often require the use of chemicals in the form of adhesives, paints and coatings, as well as impregnation or pressure treatment to improve wood's (biological) long term durability (fungi and insects/termites) and moisture resistance. The application of wood preservatives is made under very strict control in closed systems and conforming to the relevant national regulations. Pressure treated timber for construction, agriculture, landscaping, marine, railway and garden products, and many other applications, provides an extended service life and a good alternative to non-renewable materials.



Deckings by the sea.

SWEDISH WOOD

part of the Swedish Forest Industries Federation

Swedish Wood spreads knowledge, provides inspiration and encourages development relating to wood, wood products and wood construction. The goal is to increase the use of wood in Sweden and in selected international markets through information and inspiration.

Swedish Wood is a department within the trade and employer organisation the **Swedish Forest Industries Federation**. Swedish Wood is supported by the Swedish sawmill sector.

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