



Potentials for the utilisation of roundwood and wood raw materials in relation to the wood product markets 2002–2007

*A research programme by
the Finnish Forest Research Institute, Metla*

METLA

Further Information

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Background and challenges

Some of the key challenges facing roundwood producers and wood product companies in Finland are to ensure the demand and supply of domestic roundwood, with the support of imported wood. In the product markets, the competitive ability, demand and customer perceptions of wood-based products are crucial for the development of the industries.

Several recent national and European forest sector programmes – e.g. Finnish National Forest Cluster Programme (NRA), Roadmap 2010 for the European woodworking industries, Strategic Research Agenda (SRA) for the Forest-based Sector Technology Platform, Finnish WoodWisdom Programme, Finnish-Swedish Wood Material Science and Engineering Research Programme, Pan-European WoodWisdom-Net Programme – aim at enhancing the interaction and synergy between research, development and execution of wood raw material issues as well as wood processing, wood product markets, marketing and forest-wood-industry-market supply chains. Research and development have central roles in creating the compatibility between the needs, opportunities and limitations in linking together end-product markets, manufacture of wood-based products, supply potential of wood raw materials and roundwood sales. The Finnish Forest Research Institute has as a multi-disciplinary, diversified and independent research organisation an excellent potential for this work.

Aims of the programme

The research programme produces and compiles research information on and offers expertise in alternative techno-economic and market-driven potentials of wood raw materials in order to develop the strategic and operative conditions of wood utilisation, timber trade, wood product marketing and, more specifically, to diversify and develop wood utilisation in the wood product markets. The programme combines the know-how of the Finnish Forest Research Institute in wood science and technology, forest technology, markets and marketing of wood and wood products, as well as in selected items of silviculture and forest pathology, supported by collaboration with the partners from different R&D organisations.

The specific objectives of the research programme are:

- To support the objectives of the National Forestry Programmes and various forest industry programmes by producing new knowledge and extension services to forest owners, wood and wood product users and their organisations, public administration and investment funding organisations as well as organisations in charge of marketing and promoting wood products
- To support the government-lead Centre of Excellence Programmes (1999–2006 and 2007–2013) concerning the development actions in wood and forest sector by providing sub-coordination, networking, dissemination and technology transfer
- To accommodate various information needs of forestry and forest industries concerning wood properties, wood usage and wood product markets
- To support diversification and specialisation in wood usage, to develop demand of wood raw materials and wood products as well as satisfy the needs of wood raw materials, especially among the small and medium-size wood product industries (SMEs)
- To network with various research and development organisations, enterprises and interest groups of forestry and forest industries

Research themes

The studies in the programme focus on: 1) assessing technical properties, quality and value of wood and timber of Scots pine, European birch and aspens in selected end-product segments of wood industries, 2) estimating value formation of timber stands and developing modern timber scaling and grading, 3) investigating the market- and competitiveness-based potential for novel upgraded wood products (EW products, modified wood products), 4) determining competitive advantages of Finnish wood and timber in the product markets and 5) supporting procurement and sourcing of optimal wood raw materials in relation to product requirements and timber quality.

Results

The results of the programme show that wood product industries have a lot of opportunities to diversify the use of wood and find new markets, for example by using small-diameter thinning wood, developing the use of pine and birch, creating modified and engineered wood products on customer and end-use bases (Building with Wood, Living with Wood), and embarking on the potential of increasing bioenergy markets. However, the profitability of business requires tailored solutions for individual enterprises based on market and customer analyses, evaluating the specific raw material properties, finding the optimal raw material fractions and creating and adopting product and service innovations. The positive progress in demand of wood products requires detailed analyses of customer preferences for products and services, new innovations and branding as well as critical evaluation of operational and competitive environments in wood procurement, manufacture, marketing and distribution. General and ecological image of wood is good compared with the substitute materials, enabling promotion of its use and increase in its demand, both locally and globally.

The results have been published as reports and articles on different scientific and professional forums. In addition, the researchers have participated in publishing four books. For dissemination, the programme has arranged three public seminars, and the individual projects have organized their own final workshops focusing on specific issues. As well, seminars and other extension among the SMEs have been arranged. The programme's final report will be published, and public final workshop will take place during winter 2007/2008.

Resources and co-operation

The programme consists of seven research projects which are carried out through a total of 23 sub-projects with total or partial external funding. The programme also includes a particular project for customer-funded short-term expert service as well as an extension project "Diversification of Wood Utilisation". The annual budget has been on average 1.0 M€, of which 20–55 % has been funded through external sources. A total of 61 scientists have been involved in the research work.

Projects have cooperated at the national level with several universities and research institutes (5), forest sector enterprises (21), forest industries' organisations (2), Finnish Forest and Park Service, numerous forest owners' associations and common forests. International collaboration has included three international research projects, and several networking activities. International project partners have been from Sweden, Russia, Germany, France and Canada.

A new research programme "Cost Efficient Procurement and Utilisation of Roundwood" involving some fields of this programme is under planning at the Finnish Forest Research Institute, with the targeted start-up in 2009.

Programme homepage:
www.metla.fi/ohjelma/pkm/index-en.htm