

Wood Materials and Products in the Development of Bioeconomy – Research, Development and Innovation Programme (2014-2018)

Erkki Verkasalo, Henrik Heräjärvi, Riitta Hänninen, Katri Kärkkäinen, Jari Lindblad
Finnish Forest Research Institute, Metla

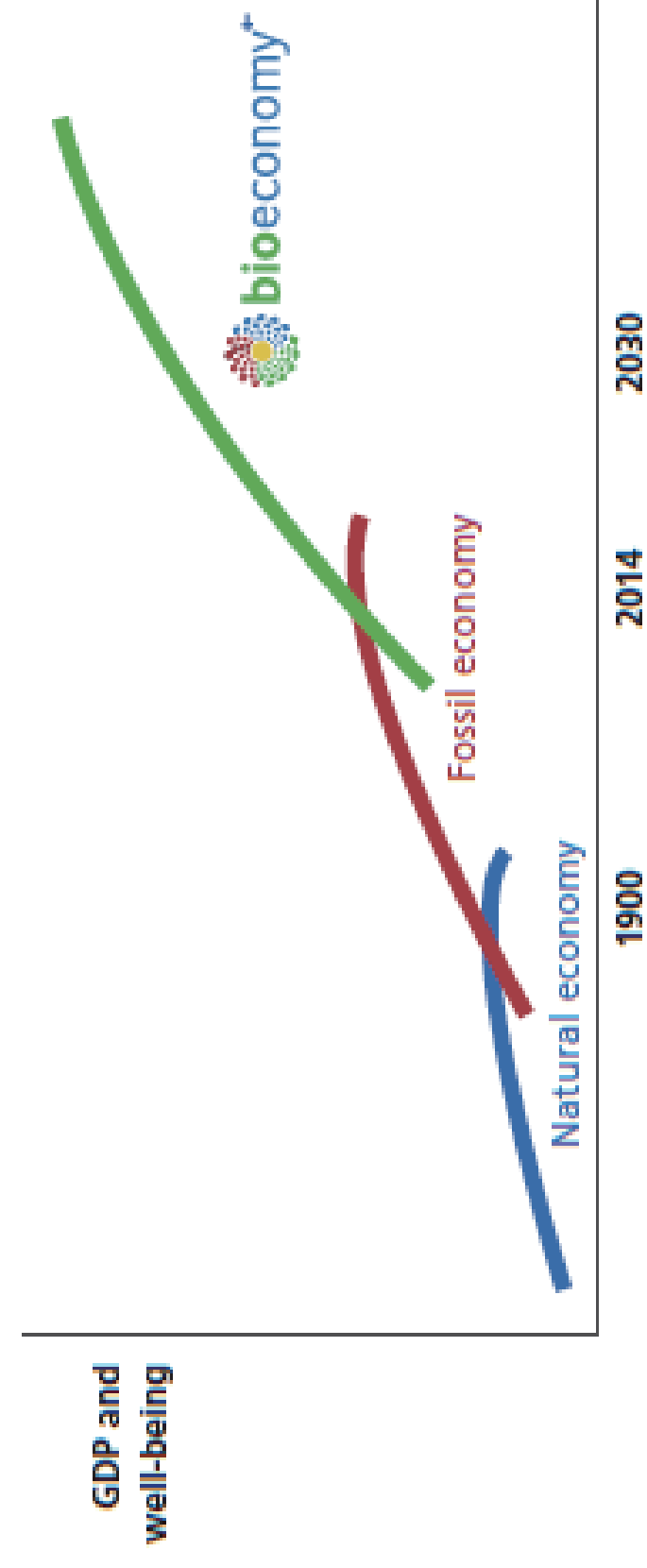
Introduction

The emphasis in industries using wood-based biomass as raw material is moving toward the green economy. New opportunities are arising to versatile use of wood biomass and side streams. Finland has three significant means to increase the wood utilization: a large increase and specialization in pulping, advanced bioenergy generation and biorefining, and a large-scale manufacture of wood products.

Wood products cluster is in a key position in the development of the Finnish bioeconomy. New business and operation models, products and services combined with life-cycle thinking increase the competitive ability of wood product industries. They contribute to efficient utilization and control of material streams and answer to the growing needs of building and living products and service, logistics solutions, advanced biorefinery products, and environmental performance.

Raw material basis and demand for products create opportunities while also imposing limits for the strategic decision-making within the wood products cluster. Forest genetics and tree breeding offer new opportunities to match wood quality to the prospective products. Developments in measurement and grading, along with the management and utilization of data, support the actualization of the new opportunities in the raw material and product markets.

Renewal of the wood products cluster is based on knowledge that is created by research, development and innovation processes. Finnish Forest Research Institute (Metla) launched the MAT programme, Wood Materials and Products in the Development of Bio-Economy (2014–2018). Metla is actively seeking international collaboration to carry out successful projects in the field of the programme.



Bioeconomy will be the next wave of economy. Source: The Finnish Bioeconomy Strategy (Finnish Ministry of Employment and the Economy).

Objectives

The MAT programme studies and develops the value chains of the wood products cluster from raw materials to business models and markets in the changing society of bioeconomy. The programme aims to

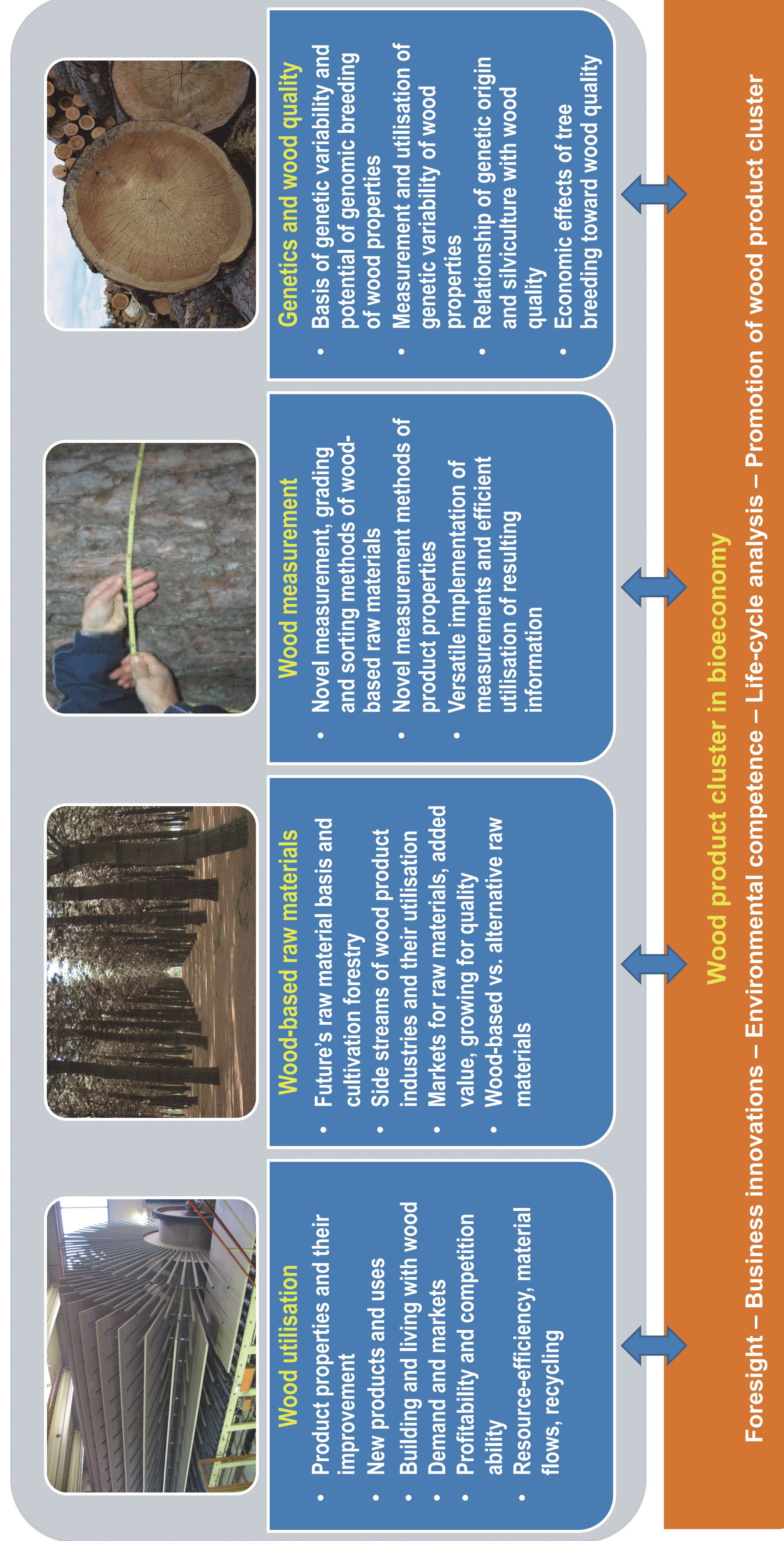
- create a foundation for knowledge and expertise on which Finnish bioeconomy can be built through the wood products cluster
- analyze new opportunities for the wood products cluster in a bioeconomy society
- add to the competitive ability of the entire forest and wood products cluster by providing knowledge of the future's wood-based raw materials, product demand and customers' needs to
 - develop new products and services and
 - generate novel and improved processes and business models.

Wood Materials and Products in the Development of Bioeconomy

Thematic structure

Research of fundamentals: knowledge innovations, development of expertise

Development projects, problem solving, customer service: applications, added value



Expertise and thematic structure

The MAT programme combines expertise from the disciplines of wood science and technology, forest genetics and tree breeding, forest products and their marketing, forest policies and socio-economic research, business economics and foresight research, and network research and life-cycle research.

The activities cover five thematic research areas. The cross-section theme of the programme, “Wood products cluster in bioeconomy”, yields new knowledge and foresight related to the operational environment of the future and utilisation of bioeconomy thinking in the wood products cluster. The research in this theme also brings together elements related to bioeconomy in the four other themes.

In addition to the applied research and development and innovation work pursued in collaboration with the customers of research, the programme's research scientists engage in studying the fundamentals for strategic knowledge-based breakthroughs and developing novel research expertise. They take an active role in the development of policies and collaborative research that support development of the bioeconomy society in Finland and throughout Europe.



More information

Professor Erkki Verkasalo, Programme Director
 Finnish Forest Research Institute, Metla
 P.O. Box 68, FI-80101 Joensuu, Finland
 Phone: +358 50 391 3020
 E-mail: erkki.verkasalo@metla.fi

Website: <http://www.metla.fi/ohjelma/mat/index-en/htm>