

Orchestrating Sustainable User-driven Bioeconomy: Policy, Transformation and Benefits (ORBIT)



Competitive bioeconomy needs to encompass both tangible component associated with bio-resources, but also intangible component in terms of ability to produce and process knowledge to ensure adaptation in the changing global economic context and sustainability challenges. From this view, there is a need to identify sustainable business strategies and practices of bioeconomy networks in Finland and globally, and throughout this, enhance renewal of the smart, sustainable business to create sustainability leadership and to secure competitiveness and consumer acceptance in the international markets.

The overall purpose of this project is to orchestrate research on end-user driven systemic development and promote growth of sustainable and diversified forest-based bioeconomy with the research agenda organized under four work packages (WP)s, which focus on: 1) Grand societal challenges and related policy drivers, 2) Changing consumer behavior and consumer-driven business models, 3) Bioeconomy industry transition and business networks, 4) Orchestrating user-driven sustainable forest-based bioeconomy. With the share of forest sector as high as 50% in national bioeconomy output in Finland, our core focus is placed on the forest-based bioeconomy. However, with sectoral boundaries blurring in the bioeconomy via policy drivers and substitution effects in the markets, new forms of competition and co-operation emerge between established and new business actors from, e.g, forest, chemical, food, biotechnical and construction sectors. Thus, our research is highly relevant on the interlinkages across a range of renewable and non-renewable resource-based activities within society, contributing to making Finland's position a world leader in the sustainable bioeconomy. The result is a game-changing bioeconomy strategy, which outlines how the traditional bulk-producing forest sector will expand increasingly to consumer markets with high value-added biomaterial-based products.

To meet empirical targets of four WPs, the analysis is narrowed down to groups of relevant case-products with very different characteristics and positioned at different levels of forest

bioeconomy value-pyramid: a) lignocellulose-based materials/chemicals driven from tall oil (highest value-added level); b) biomaterials for packaging use based on pulp or recycled fiber, c) new uses of wood in the multi-story construction (bottom level). ORBIT project team is highly multidisciplinary and via its international collaboration brings together leading experts from forest sciences, environmental economics, consumer science, sustainability management, strategy research and futures studies. The common denominator is the combination of both quantitative economic and statistical econometric modelling and a range of qualitative methods to the topical problems of industry and consumer behavior and by addressing the means of policy measures. We also use various and largely participatory futures research methodology tools as a cross-cutting approach. As a result of this, an evolutionary and systemic view on possible future developmental pathways is built together with providing information on the related bottlenecks that may influence to this development.

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