

**Wood K plus**  
**WOOD: next generation materials**  
**and processes – from**  
**fundamentals to implementations**

Program: COMET – Competence  
Centers for Excellent Technologies

Program line: COMET-Center K1

Type of project: IIR 5.5,  
01/2019-12/2022, multi-firm

**WOOD**  
**KPLUS**

## **BIOECONOMY IN THE FOREST-BASED SECTOR INCREMENTAL OR DISRUPTIVE CHANGE?**

THE ARTICLE DISCUSSES IF CHANGES THAT ARE SPARKED OFF FROM INNOVATIONS CAN CHANGE THE SECTOR RADICALLY.

The political vision of the bio-economy strives for sustainability in terms of its ecological, economic and social dimension. This scientific paper, published in the Swiss Forestry Journal, was the result of an invitation from the forest economics seminar on the subject of bio-economy. The seminar is a think tank of the Timber Industry & Forest Management Section of the Swiss Federal Office for the Environment and the Bern University of Applied Sciences for Agricultural, Forest and Food Sciences. A key-researcher, a team leader and a company partner of Wood K plus were personally invited by the organisers to discuss the benefits of a bio-economy in Switzerland. The European bio-economy strategy defines innovation as a driving force for change. However, radical innovations often have

difficulty in entering existing markets, as they rarely fit into established sectoral systems. The multi-level perspective according to Geels (2004) provides a conceptual understanding of what conditions must be met in order to overcome barriers for radical innovation. Established sectors are characterised by stable sociotechnical systems consisting of historically developed infrastructure and consolidated networks of actors. Changes happen only incrementally. Niches offer actors a protected experimental space for the development of new ideas, technologies and applications (Schot & Geels 2008). The sociotechnical landscape reflects all external developments which cannot be influenced by niche actors or those of the established socio-technical system, but which affect these two levels,

## SUCCESS STORY

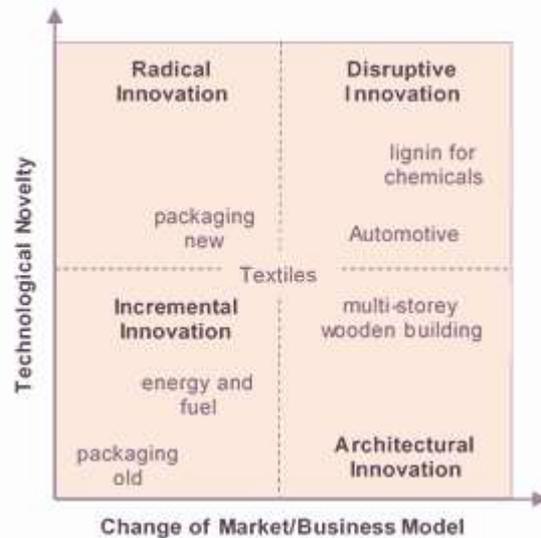
such as societal changes, climate change or economic crises. When developments at the landscape level weaken the established socio-technical system from the outside, innovations from the niche can diffuse and thus fundamentally change the sociotechnical system.

Forest-based innovations were identified in scientific publications and grouped into innovation fields as mentioned in more than four sources. Subsequently, these were described in terms of their driving forces, barriers and potentials. To assess their macroeconomic potential, the comparative multiregional input-output analyses' using the methodology of Asada et al (2020) was conducted. The results were then evaluated using the innovation matrix (Henderson & Clark 1990) in terms of their disruptive potential.

### Impact and effects

Many of these fields of innovation are largely lacking in radical character, but at the same time show potential to achieve the goals of a bio-economy. In addition to technologically new approaches, some technologically established fields of innovation enable the development of new markets and business models. This observation can be explained relatively well by the fact that it is mainly the

established players in the forest-based sector themselves who are driving innovation (Hansen & Coenen 2017). Radical changes usually require impulses from players outside of the sector (Geels, 2004). The observed innovations tend to lead to a partial expansion of the forest-based sector and thus to new sectoral landscapes.



© Swiss Journal for Forestry. Novelty of markets und technologies for the positioning of fields of innovation. (Source: Stern et al., 2021)

### Project coordination (Story)

Franziska Hesser, PhD  
Team Leader  
Wood K plus

T +43 (0) 1 47654 – 73518  
f.hesser@wood-kplus.at

### Wood K plus

**Kompetenzzentrum Holz GmbH**  
Altenbergerstraße 69  
4040 Linz  
T +43 (0) 732 2468 – 6750  
zentrale@wood-kplus.at  
www.wood-kplus.at

### Project partner

- Multi-firm, Austria

This success story was provided by the center management and by the mentioned project partners for the purpose of being published on the FFG website. Wood K plus is a COMET Center within the COMET – Competence Center for Excellent Technologies Program and funded by BMK, BMDW and the provinces of Carinthia, Lower Austria and Upper Austria. The COMET Program is managed by FFG. Further information on COMET: [www.ffg.at/comet](http://www.ffg.at/comet)