

## Research focus

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# Sustainable MDF/HDF recycling: Characterization of recycled fibers

The Fraunhofer WKI is developing an industrially suitable recycling process for MDF/HDF in order to optimize fiber quality and close the raw material cycle. The analysis and evaluation of recycled fibers is crucial for sustainable wood-based material production and supports the bioeconomy.

The aim of the research project at the Fraunhofer WKI is to develop an industrial recycling process for MDF/HDF that is both ecologically and economically sustainable.

In view of the growing demand for wood-based materials, the recycling of existing materials is becoming increasingly important. Recycled fibers can be a valuable source of raw materials, but there are challenges posed by additional ingredients such as adhesives and additives that affect fiber quality.

The project involves the comprehensive characterization of recycled fibers in order to assess their suitability for MDF production.

The chemical-physical and optical analysis of the fibers is crucial in order to achieve a homogeneous and impurity-free recycled MDF. Previous results show that different extraction methods provide different qualities of the cellulose obtained. While one method produces a brown color, the other yields almost pure, white cellulose.

The next step is to analyze the fate of the adhesive in order to test milder digestion conditions. The research supports the strategic orientation of policy towards a raw material-efficient economy and promotes the circular economy.

## Contact

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