

FUTURE LIGNIN AND PULP PROCESSING RESEARCH

Start: 01.04.2013

Duration: 4 years

In this COMET K-Project, the efforts are focused on establishing structural know-how to make more efficient use of major raw materials streams of the paper and pulp industry - cellulose and lignin. The single projects focus on applications in the pulp and paper value chain but also in areas outside the classical product chain. The goal of FLIPPR is to transform this empirical domain into a science-based endeavor and to give the current product and process development approaches in the field of lignin and fibre usage a new direction.

ISIS is together with the Wegener Center responsible for the Area Life Cycle Sustainability Assessment. ISIS will conduct a life cycle sustainability assessment (LCSA) of "high potential" biorefinery-products, based on the innovations from other project partners. Besides the ecological assessment additional emphasis is placed on social impacts, sustainability and life cycle costs. Thus an integrated system for lifecycle sustainability assessment (LCSA) is developed and applied.

In more detail, ISIS is responsible for the following tasks:

- Environmental LCA for standard industrial feedstock of paper and pulp industry partners
- Environmental LCA of state of the art products which can be substituted by innovations of the pulping industry
- Life cycle sustainability assessment (including environmental LCA, social LCA and life cycle costing) of biorefinery-products based on the results of other project parts

The purpose of these tasks is to find the critical issues (hotspots) for the three pillars of LCSA – environmental LCA (E-LCA), social LCA (S-LCA) and life cycle costing (LCC) – that really determine the contribution of the lignin and/or cellulose-derived products to the emergence of sustainable low carbon systems.

Project team at ISIS

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Project Partners

Lead Institution: Future Lignin and Pulp Processing Research Project GmbH

Company Partners: Sappi Gratkorn-Produktions GmbH, Mondi Frantschach GmbH, Norske Skog Bruck GmbH, Zellstoff Pöls AG

Scientific Partners: University of Natural Resources and Life Sciences (Vienna+Tulln), Graz University of Technology (Graz), University of Graz (Wegener Center)