

Evaluating circularity potential of various recycling technologies for biocomposites waste from the aircraft industry

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Application of biocomposites in the aircraft industry has to face extra difficulties since the recycling technologies for biocomposites are still under early phases of research and development. The presentation will share key insights from the EU funded project ELIOT. The ELIOT project aims to demonstrate full-scale viability of most promising End of Life (EoL) methods for biocomposite waste from aircrafts with the aim to set the basis for uptake of biocomposites in the aircraft industry. The presentation will share a semi-quantitative multicriteria assessment methodology, that was applied to evaluate 12 EoL treatment methods for biocomposite waste. The evaluation methodology has four key assessment parameters: 1) type and form of output products recovered, 2) potential applications of the output products, 3) SWOT analysis, and 4) technology readiness level (TRL). Further, circularity potential of the 12 EoL methods for recycling biocomposites was evaluated; some technologies scored higher than other on the circularity potential criteria. Next, a comparison of recycling technologies through technology desirability matrix was performed. Four recycling technologies ranked better on both the evaluation criteria, i.e. circularity potential analysis and technology desirability matrix, and were recommended for further investigation before evaluating the most promising technologies at lab and pilot scale. The semi-quantitative multicriteria assessment methodology can be applied for selection of promising recycling technologies for other composite and non-composite materials.

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