



Title: Full circularity enabled for renewable chemicals through conversion of sustainable and circular materials

Abstract

Vital economic activities are nowadays heavily dependent on plastics. As a result, the production of plastics has increased twenty-fold in the last 50 years and is expected to double by the year 2035. However, their current level of usage has enormous consequences on the environment. More than 90% of the resources needed for the production of plastics depend on non-renewable resources. Therefore, new innovations and techniques are necessary for finding new alternatives for the recycling and reuse of plastic waste streams. Various technology solutions are being sought to minimize these negative effects, while maintaining the positive aspects. Examples are bio-based building blocks and polymers, mechanical sorting and chemical recycling.

BioBTX has developed a technology that enables the conversion of both biomass and end-of-life materials into platform chemicals from renewable carbon, i.e., aromatics and especially BTX (Benzene, Toluene, Xylenes). These are the basis of 40% of all polymers produced worldwide. The developed technology allows for the achievement of both circularity and sustainability targets, like CO₂ reduction, minimization of use of fossil resources and lowering the amounts of waste going into incineration or landfills. The technology makes it possible to produce chemical building blocks from current waste streams from agriculture, plastics, composites, etc.

In the presentation examples will be given on the flexibility of the technology and its impact on products, performance and environment. Additionally, an introduction will be given into the process and goal of the first commercial plant of BioBTX.