

Recycling opportunities for PEF

The challenge of any new material is to become adopted in the market in a circular way. This is particularly the case for renewable plastics, where in many cases the fit to the current recycling ecosystem is not strong. This is different for the emerging renewable polymer Poly (Ethylene 2,5-dicarboxylate) (PEF). PEF is a plant-based polyester which Avantium Renewable Polymer will bring to market end 2024.

PEF has an excellent (gas) barrier performance, making it an interesting material for packaging applications. However the market potential is not limited to packaging: there is commercial interest from fiber and durables applications as well. Due to the chemical and physical similarities PEF has with PET, PEF can be processed on all conventional PET melt processing, stretching and recycling equipment. The focus of this presentation will be on the circular performance of PEF, particularly on the mechanical recycling process. The results of an industrial sorting trial will be shared as well as how PEF can be recycled to PEF and industrial scale results on what happens with the quality of rPET when PEF would enter the PET recycling stream for instance when using PEF as a barrier layer in PET packaging.