



Abstract to speak at the Renewable Materials Conference, 11-13 June 2024 (Cologne)

Advanced recycling of mixed plastic waste : the future lies in intelligent combination of processes

The GreenDot group is dedicated to address the plastic waste crisis by developing solutions and assets which close the circularity loop of plastics. The foundation of the group was laid more than 30 years ago in Germany with Der Grüne Punkt which created the world's first nationwide EPR program for household packaging, including hard to recycle plastics like flexible films. Over the years the group has constantly expanded its business portfolio which nowadays includes both mechanical and chemical recycling, Extended Producer Responsibility (EPR) licensing services as well as consulting on EPR systems and design-for-recycling.

To recycle more plastic waste into quality recyclates for contact-sensitive plastic food packaging GreenDot focuses on advanced recycling which utilizes feedstock from used and mixed plastics which are difficult to recycle and could therefore be destined for incineration or landfill. Advanced recycling converts the mentioned feedstock of used plastic packaging back to the molecular level by heating it at elevated temperatures in an oxygen-free environment. The resulting product pyrolysis oil then enters the traditional production chain just like fossil-based feedstock to create new packaging materials which are compliant with strict quality requirements, such as the European food contact safety standards for food packaging. GreenDot leverages its long-term expertise in sorting plastics for mechanical recycling to provide and prepare the required for advanced recycling through its own sorting and pre-treatment plants in Germany, Italy and Austria.

As an enabler of providing pyrolysis oil GreenDot already today works together with value chain partners to implement plastics circularity in the food packaging segment. Leveraging both on mechanical as well as advanced recycling GreenDot ensures recycled content will be available in time for the plastic packaging market in Europe so brand owners can comply with their legal obligations and proactive commitment. In addition GreenDot's EPR business ensures according access to and ownership of feedstock making the group a holistic provider which serves all requirements of the circular economy for plastics.