OMV ReOil® –
Chemical Recycling – a technology enabling the recycling of plastics complementary to mechanical recycling

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CV - Information about the speaker

Wolfgang Hofer holds a MS degree for mining and mine surveying from the Montanuniversity Leoben/Austria. For more than 20 years, he has been involved in many upgrading and optimization projects in all refineries of OMV as a project manager in the project definition phase, with project scopes up to 1 billion, coordinating/coaching multicultural teams on various locations. He has a broad experience in all different “classical” refinery processes as well in innovative approaches.
Since 2011, he leads the new technology group in the Refinery Innovation Department of OMV. The main tasks are the enlargement hydrocarbon based feedstock for Refining (e.g. anthropogenic residues, Bio-waste) as well as CO2 conversion and upgrading to advanced fuels. He is the mastermind of the ReOil® technology, which was his first innovation project.
Currently he is since 2018 technical Advisor at the Plastic to Oil group, to develop the business and the roll out.

Abstract

Abstract The innovative process of ReOil® converts post-consumer plastics under moderate pressure and normal refinery operating temperatures into so-called synthetic pyrolysis oil. Via ReOil® mechanically not recycable polyefine plastics, which would otherwise go into incineration, can be further used to generate virgin monomers. The pyrolysis oil is converted via the Refinery and Petrochemical assets to finally produce new virgin like polymers.
One particular advantage of this synthetic oil is its low content of heavy components. Another advantage is a shorter logistics route of this syncrude in comparison with conventional crude oil. Since 2009 OMV has been researching ways to harness the highly interesting resource potential of used plastics. The ReOil® chemical recycling process was developed and is based on thermal

cracking, a proven refining technology, whereby long-chain hydrocarbons are cracked into shorter-chain light hydrocarbons. This unique process utilizes a solvent to decrease the viscosity of the plastics feed and to improve the heat transfer and, is currently patented in Europe, USA, Russia, Australia, Japan and many other countries. Since 2019 OMV operates a Pilot Unit with a capacity of around 100 kg/h in a 24/7 mode. This unit is fully integrated into the refinery Schwechat/Austria and already succeeded in over 13.500 cracking hours.
The planning for the upscaling for the next plant size of 2000kg/h input is ongoing.

This enables OMV together with Borealis to provide a holistic circular economy loop of complementary technologies comprising of mechanical and chemical recycling.