Some Solutions for End-of-Life Tires

In Europe, through the joint efforts of recyclers and tire producers, it had been possible to convince the EU authorities not to ban the use of tire-derived granules in artificial turf infill pending further research into their environmental and health impact.

This represented a major issue given that infill constituted a "very big" application area for end-of-life tires (ELTs) in the region, it was explained to the BIR Tires & Rubber Committee meeting in Berlin by its Chairman, Ruud Burlet of Rubber Resources in the Netherlands. As reported, latest studies conducted in Europe had raised no environmental or human health concerns over the use of crumb rubber in infill, it was pointed out by Jean-Pierre Taverne, Coordinator of Environment & ELT Technical Support at the European Tire & Rubber Manufacturers' Association.

The same speaker emphasized the major boost to the Circular Economy that could be provided by Green Public Procurement (GPP), which accounted for approaching 20 percent of the EU's GDP (gross domestic product). His organization was therefore pushing for revised GPP guidelines which would "encourage public authorities to foster demand for secondary raw materials and develop new market opportunities".

Photo: O. Kürth

Wilma Dierkes of the Faculty of Engineering Technology at the University of Twente in the Netherlands provided delegates with an update on some of the different approaches to tire recycling, including her team's work on the continuous devulcanisation of SBR (styrene-butadiene rubber) in an extruder under protective atmosphere with intensive cooling of the devulcanizate.

Another treatment approach for ELTs, namely pyrolysis, was addressed by fellow guest speaker Jan van den Brand, Executive Director of Rumal Kargro in the Netherlands. His company was participating in a new pyrolysis venture under the Dutch Green Carbon banner which was engaged in "upcycling carbon black, oil and gas" from ELTs. "Demand in the carbon black market is diversified and offers attractive opportunities," the speaker stated. Capable of producing 4,500 tons of carbon black on an annual basis, the plant had entailed an investment of around 12 million Euro.