

KUBA

Sustainable Plastic Value Chain - Pilot Case Plastics in Construction and Buildings

Funded by the Federal Ministry of Education and Research under the project number 033R214D for the period December 12th, 2018 until May 31st, 2020

Project partners:

- DECHEMA Gesellschaft für Chemische Technik und Biotechnologie e.V. Frankfurt (Projektkoordinator)
- Fachhochschule Münster, Institut für Infrastruktur, Wasser, Ressourcen und Umwelt
- Fraunhofer IML, Institut für Materialfluss und Logistik
- Karlsruher Institut für Technologie (KIT), Institut für Technische Chemie (ITC)
- RWTH Aachen, Institut für Aufbereitung und Recycling I.A.R.
- Wuppertal Institut für Klima, Umwelt, Energie GmbH.

The construction sector is the second largest plastics application in Germany after packaging. In contrast to the packaging sector, however, there is still no recycling concept for the plastics used there. The pilot project KUBA will investigate how plastics from the construction industry can be used in cycles and how resources for new products can be recovered.

Using the example of rigid foams based on polystyrene or polyurethane, the ITC is investigating *chemical recycling*. By means of material flow and techno-economic analysis thermochemical recycling paths of (mixed) construction waste to basic chemicals are described and evaluated. These raw material recycling routes are considered on the basis of modelling the pyrolysis and the gasification processes. It takes into account the mechanical pretreatment sorted construction demolition waste as examined in the project for model thermal insulation composite systems. The kinetically controlled pyrolysis process is described on the basis of literature data and exemplary measurements for product distribution.

The project involves 11 industry representatives and relevant associations as associated partners.

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