Challenges in plastics recycling

Recycling of waste plastics still remains a challenging area in the waste management sector. The current and potential goals proposed on EU or regional levels are difficult to achieve, and even to partially fulfill them the improvements in collection and sorting should be considerable. A study was undertaken to investigate the factors affecting quality in plastics recycling. The preliminary results showed factors primarily influencing quality of plastics recycling to be polymer cross contamination, presence of additives, non-polymer impurities, and polymer degradation. Deprivation of plastics quality, with respect to recycling, has been shown to happen throughout the plastics value chain, but steps where improvements may happen have been preliminary identified. Example of Cr in plastic samples analyzed showed potential spreading and accumulation of chemicals ending up in the waste plastics. In order to assure a functional recycling scheme and maintain consumer and market acceptance of recycled plastics, transparency in data on quality of plastics and better monitoring should be induced.

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