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KartAL III – Mapping of anthropogenic stocks Cluster 1: Mineral building materials

German Environment Agency

**Umwelt
Bundesamt**

KartAL III

Mapping of anthropogenic stocks in Germany – Establishment of a material flow management by integrating recycling chains to increase recycling of metals and building materials in terms of quality and quantity

Background

Over the past several decades, a comprehensive stock of various materials has accumulated in buildings, infrastructure and consumer durables in Germany, also known as anthropogenic stock. After a phase of accumulation, the materials are set free by demolition and renewal to enter waste management systems. Considerations within a system context must be made to promote high-quality recycling aimed at avoiding as much as possible downcycling through quality degradation.

The whole recycling chain, from the emergence of waste or residual materials to the reuse of quality-assured secondary materials, needs to be considered. However, as yet participating stakeholders – waste producers, collectors, traders, recyclers, waste processors and product producers – are rarely vertically integrated along the recycling chain. Their decisions are also often based on ambiguous interests and incentive systems.

Goals and approaches

The project shall advance the circular economy towards a resource-saving material flow economy using systematic and participatory methods. It addresses German government claims that are included in the update of the German resource efficiency programme (ProgRess II) concerning urban mining and avoiding downcycling in waste flows to increase the use of secondary materials in production. Waste flows and outflows from anthropogenic stocks must be understood as secondary raw materials.

Apart from basic and specialty metals, the project also includes the following mineral building and demolition wastes:

- ▶ **concrete**
- ▶ **sand-lime brick**
- ▶ **aerated concrete**
- ▶ **bricks**
- ▶ **flat glass**
- ▶ **insulation materials**
- ▶ **gypsum**
- ▶ **plaster and mortar**
- ▶ **tiles and ceramics**

With the aim to improve material flow management of the secondary raw material economy recommendations for action for these materials are to be developed. This is done on the basis of a flow forecast and extensive dialogue processes. Two model regions were selected for the analysis, the greater Berlin area as well as the region Palatinate. These regions not only have different geographical situations (primary raw-material supplies), but also economic and socio-demographic developments.

Technical, logistical, organizational and legal barriers as well as possible incentives for more effective, cooperative solutions and synergies in the recycling chain are to be discussed.

Integration of stakeholders

Both in the course of preliminary talks as well as in dialogue panels, knowledge and estimates of industrial stakeholders in the two model regions are decisive.

The first dialogue panel at the end of 2017 seeks to gain a common understanding for quality standards of recyclates, tighten knowledge gaps and support the networking of the industrial stakeholders. In the second dialogue panel in late 2018, action approaches and solution strategies will be discussed. Those shall be intensified in form of success factors for a better material flow management at a comprehensive final symposium in 2019.

