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KartAL III – Mapping of anthropogenic stocks Cluster 2: Metals

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

- ▶ **aluminium**
- ▶ **stainless steel and its alloy elements**
- ▶ **magnesium**
- ▶ **brass**
- ▶ **rare earths in magnets**
- ▶ **zinc**
- ▶ **tin**

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.

Besides determining the essential product groups for each basic and specialty metal, stakeholders along the entire value chain shall be identified and approached.

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 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.

