Für Mensch & Umwelt

Umwelt Bundesamt

Im Auftrag des:

Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit

Mapping the anthropogenic stock IV

project duration
January 2018 – October 2020

UFOPLAN-FKZ
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Development of a building passport and a building cadastre concept for the regional identification of material stocks and flows in order to optimise recycling processes

(KartAL IV)

Background

To exploit the potentials for resource conservation in the building sector, it is necessary to develop and realise a strategy for urban mining. To date, a lack of information hinders the operationalisation of the concept of a more circular anthropogenic metabolism in the building and construction industry. One approach for resolving these obstacles is the development and implementation of effective informational tools for long-term assessment.

Objectives and methodology

The objective of the project is the conceptual design of instruments for the documentation of material stocks and flows in the life cycle of buildings and the dynamic resource budget of regions. As a result, there will be concepts made available for describing and updating the physical composition of buildings as well as the material cadastre of settlements. Field tests with practice partners from the government and industry will be performed to verify those concepts. To this end, the following research questions will be focused on:

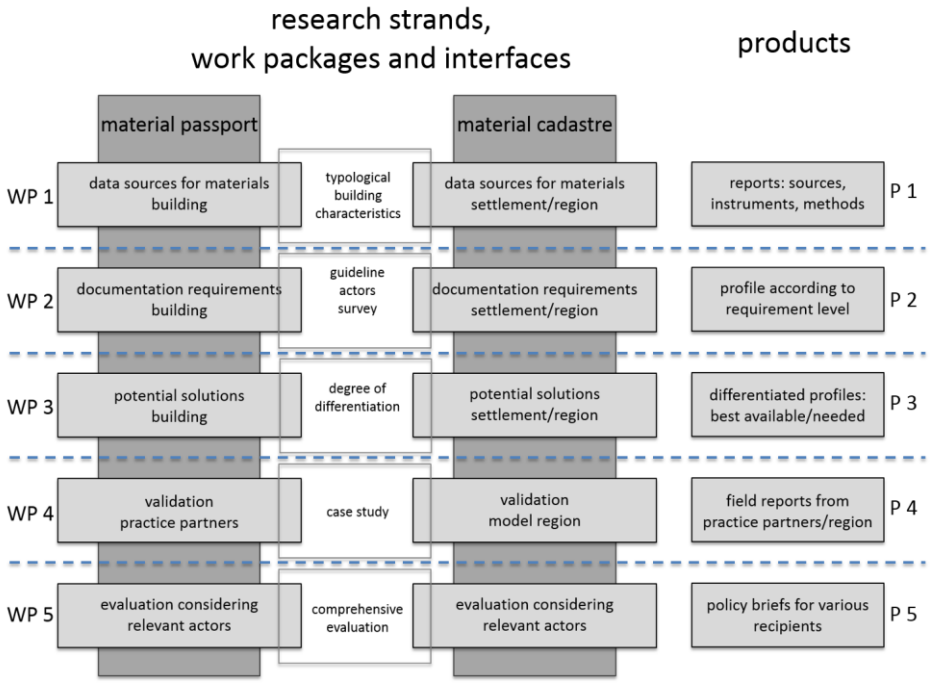
1. How should data be collected and structured concerning individual buildings, the existing building stock and dynamic changes to this stock through a variety of construction activities? What sources of information are available and how much effort is involved in their analysis?

2. Who are the recipients of this information? What objectives, interests and tasks of individual groups of actors can be taken into account? On what occasions does information about the material flow influence decisions?

A dualistic research approach along the following strands is being pursued: (1) a material passport for individual buildings and (2) a material cadastre for settlements/regions. Those two strands differ in the level of scale but at the same time have defined interfaces. The methodology is aimed at achieving a relevant practical applicability of the instruments. To attain this, the project uses a case study approach involving practitioners.

Work plan

The project is divided into five work packages (WP). In **WP 1**, basic principles will be developed that compile the state of knowledge regarding relevant data sources and methods. In **WP 2**, potential recipients will be identified and their information needs analysed. In **WP 3**, the previous findings will be merged into differentiated requirement profiles. In **WP 4**, the informational tools will be tested and validated. In **WP 5**, the results will be transferred in a generalisable way and recipient related concepts.



Dualistic research approach, structured along two strands with their respective work packages and defined interfaces

Client

The research project is conducted on behalf of the Federal Environment Agency (Umweltbundesamt) within the scope of the Environmental Research Programme of the German Federal Ministry for the Environment, Nature Conservation und Nuclear Safety and is government-funded.

Contact

Felix Müller
Tel.: +49 (340) 2103-3854
E-Mail: felix.mueller@uba.de

Section III 2.2 Resource Conservation, Material Cycles, Minerals and Metal Industry

Umweltbundesamt
Wörlitzer Platz 1
06844 Dessau-Roßlau
Germany
www.umweltbundesamt.de/en

Contractors

Leibniz Institute of Ecological Urban and Regional Development (IOER)

Weberplatz 1, 01217 Dresden, http://www.ioer.de/1/home/

Dr.-Ing. Georg Schiller (project management, contact person material cadastre)
Tel. +49 351-4679-259,
g.schiller@ioer.de

Karlsruhe Institute of Technology – KIT

Kaiserstraße 12, 76131 Karlsruhe, https://www.kit.edu/english/index.php

Prof. Dr.-Ing. habil. Thomas Lützkendorf (contact person material passport)
Tel. +49 721 60848340,
thomas.luetzkendorf@kit.edu

ifeu – Institut für Energie- und Umweltforschung

Wilckensstraße 3, 69120 Heidelberg, http://www.ifeu.de/en/

Florian Knappe
(contact person flow of information in waste management)
Tel. +49 6221-4767-26,
florian.knappe@ifeu.de