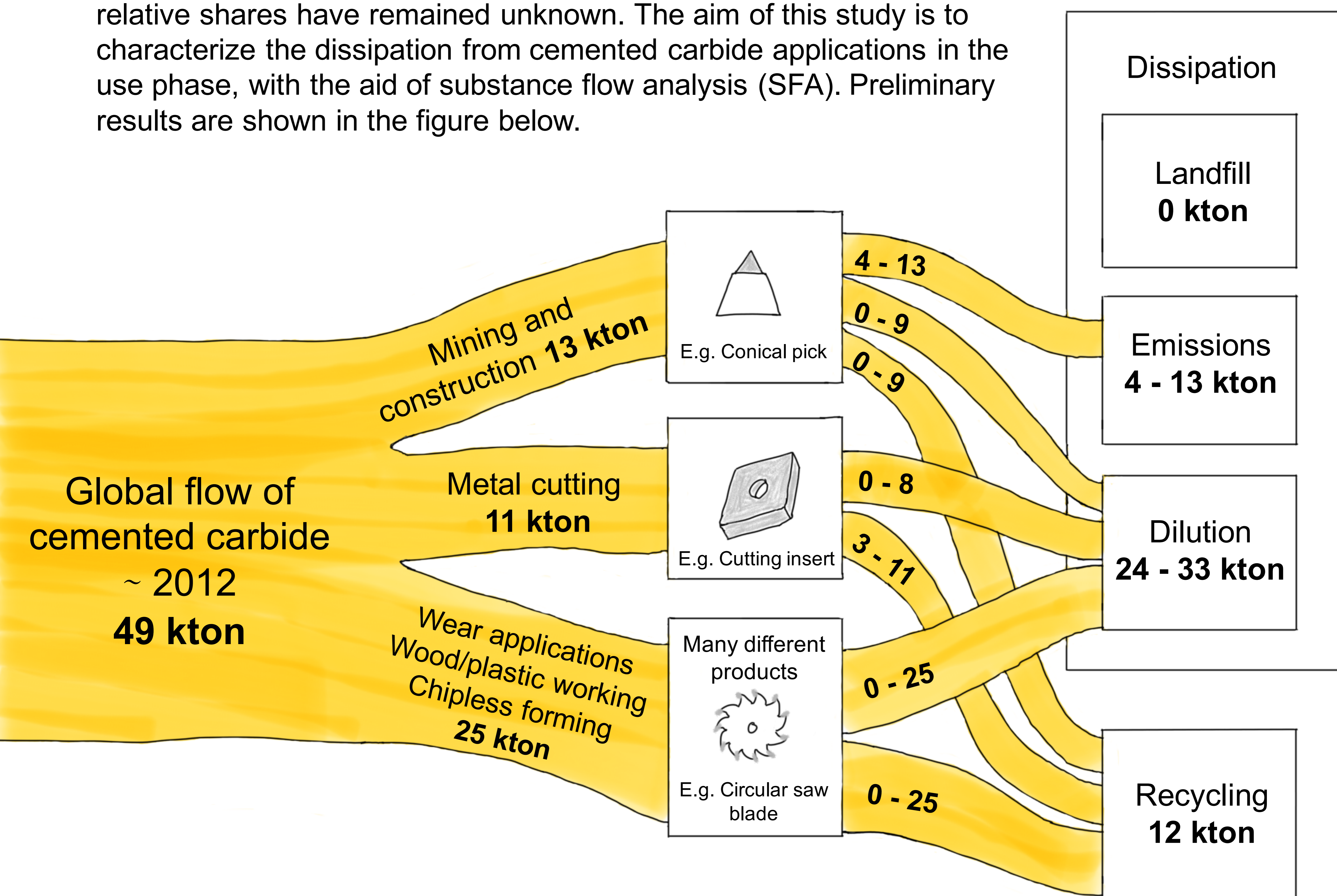


Towards circular flows of tungsten - Characterizing dissipation

OUR RESEARCH

Cemented carbide constitute more than 50% of the global tungsten consumption and is mainly used in applications where high hardness and toughness are required. The considerable dissipation of cemented carbide is a hindrance for circular material flows of tungsten. It is recognized that tungsten dissipates through flows to landfill, emissions to the environment, and dilution in other material flows. However, their relative shares have remained unknown. The aim of this study is to characterize the dissipation from cemented carbide applications in the use phase, with the aid of substance flow analysis (SFA). Preliminary results are shown in the figure below.



RESULTS SO FAR

- Dissipation is dominating over recycling by about a factor of three
- Dilution constitutes the largest share of the dissipation (>60%)
- Data on flows for the use phase and recycling are scarce