

## Modeling materials recycling

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The method for modeling material recycling can have a decisive impact on the environmental assessment of products if they have a high content of recycled material or if they are recycled after use. How recycling should be modeled in LCA has been discussed since the early 90's but no consensus has yet been reached. The recent EU guideline on Product Environmental Footprint includes a rather complex approach. In response to this, the Swedish Life Cycle Center gathered Swedish companies, researchers and authorities in a project aiming to collect and disseminate knowledge on existing approaches to allocation at open-loop recycling, to systematically assess these methods, test important and promising methods in case studies, and to investigate to what extent a consensus can be reached among the Swedish actors regarding how recycling should be modelled in an LCA. Information on existing approaches to open-loop recycling is collected through a literature survey. The criteria used for assessing the methods are established as part of the project through an assessment and possible revision of an earlier set of criteria. These were based on the assumption that methods for environmental systems analysis are good to the extent that they can be assumed to contribute to reduced environmental impacts or, at least, to reduced environmental impacts per functional unit. For this purpose the methods has to be applicable and preferably easy to apply. The results should indicate what options reduce the total environmental impact, preferably with high accuracy. The method and the results should be possible to understand and preferably easy to communicate. The results should be perceived as relevant by decision-makers, and the method should be robust enough not to lend itself to creating obstacles to environmentally good actions. In this conference, we will present the results from the first part of the project with a focus on the systematic assessment of the open-loop approaches and the final criteria used for this assessment.