



# Life Cycle Assessment of metal packaging in Europe

## Short Executive Summary



Metal Packaging Europe

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# Executive Summary (Short)

## Background

Metal Packaging Europe commissioned RDC Environment which is an independent consultancy based in Belgium with extensive experience in conducting LCA studies and facilitating critical stakeholder review processes. RDC Environment provided Metal Packaging Europe and member companies with an LCA study which has been conducted according to the requirements of the international standard ISO 14040/44.

## Goals

The goals of the study are the following:

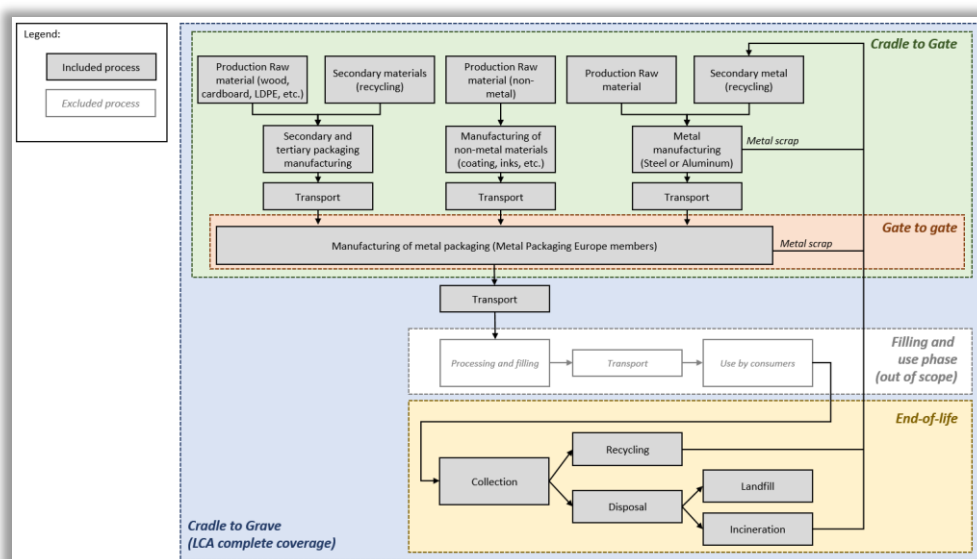
- To determine the environmental impacts and benefits along the life cycle of the average metal packaging produced in Europe.
- To track performance of the average metal packaging production in Europe by comparing the foreground data of production year 2013 with those ones of the production year 2008, 2006 and 2000, which were used to perform the previous Metal Packaging Europe's LCA study (published in 2012).
- To generate Life Cycle Inventories (LCIs) of the average metal packaging produced in Europe.

## Functional Unit

In accordance with the general goal of this study, the functional unit is defined as:

*One unit of packaging required to protect and decorate one standard unit of content for each of the 6 sectorial packaging types: steel food cans, steel general line cans, steel aerosol cans, steel closure, speciality packaging and aluminium food cans.*

## Systems boundaries



## Main limitations of the study

Limitation due to potential methodological inconsistencies between background databases: most of the background datasets used in the study come from EcoInvent v2.2 database and few other ones come from other databases (such as Gabi).

As a rough estimation, the influence of this limitation on the results is assumed to be lower than 10%.

Limitation due to the use of EcoInvent v2.2 database: most of the background datasets (e.g., for energy, raw materials, transport, etc.) used in the study come from EcoInvent v2.2 database which was updated for the last time in 2010

The influence on the results is assumed to be lower than 5% for all impact categories, excluding ionizing radiation and toxicity

It is assumed that the influence on the results of the other limitations has an order of magnitude of one percent.

## Main assumptions

The allocation rules for the recycling benefits follow the "0-100 allocation".

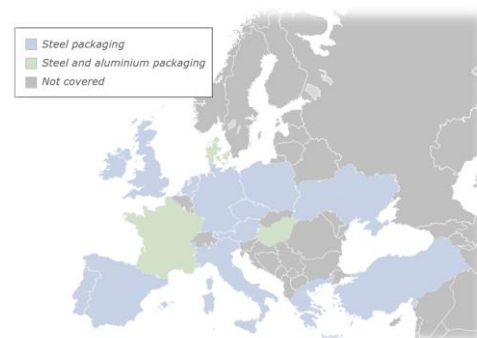
The recycling rates are assumed to be 75.1% for steel and 71.3% for aluminium (respectively from APEAL and EAA, data for 2013).

## Data collection

The representativeness of the data collection reaches about 57% of the European steel packaging production and 47% of the European aluminium packaging production excluding beverage packaging.

Several members participating to the study covering 74 plants.

With 10 companies involved, the 2013 update has the highest participating rate of Metal Packaging Europe members.



*European coverage of the study*

## Life Cycle Interpretation

Results are complete and consistent.

Completeness checks were carried out at gate-to-gate system boundaries, analysing the completeness of process steps as regards primary data provided by the metal packaging manufacturers and also the energy, input materials as well as emissions from metal packaging manufacturers. Note that in case where no data were available, average from other plants or data from literature has been used

Regarding consistency, the plausibility of the results and main source of impacts were assessed having a critical view on data quality. Consistency has been also done through comparison with results from the previous Metal Packaging Europe LCA.