

# LIFE CYCLE ASSESSMENTS AT WACKER TO ANALYZE ENVIRONMENTAL IMPACTS

## Definition: Life Cycle Assessment

Life cycle assessment<sup>1</sup> is a method of evaluating the environmental impacts of a product throughout its life cycle.

## Life Cycle Assessment: Contents

In accordance with applicable standards (ISO 14040 and ISO 14044), life cycle assessment should include:

- Material and energy flows (raw materials, auxiliaries, electricity, heat, operating media, water, products, waste, emissions)
- Transportation and packaging
- Impacts on soil, air and water

## Life Cycle Scope

For a product's life cycle, the following scopes are used:

- 1 Cradle-to-gate
- 2 Cradle-to-grave
- 3 Cradle-to-cradle

## Cradle-to-Gate at WACKER

For most of its products, WACKER has conducted life cycle studies for the cradle-to-gate scope.

Cradle-to-gate assessments cover the impacts from the raw materials, their transportation to WACKER and our production processes – up to the factory gate.

## Results of Life Cycle Assessments

WACKER lists the results of its life cycle assessments in standardized impact categories. These categories include: global warming potential (the one most frequently requested by customers), resource consumption, ozone depletion potential and acidification potential. WACKER conducts its life cycle assessments with the GaBi® software.

## Applying the Results

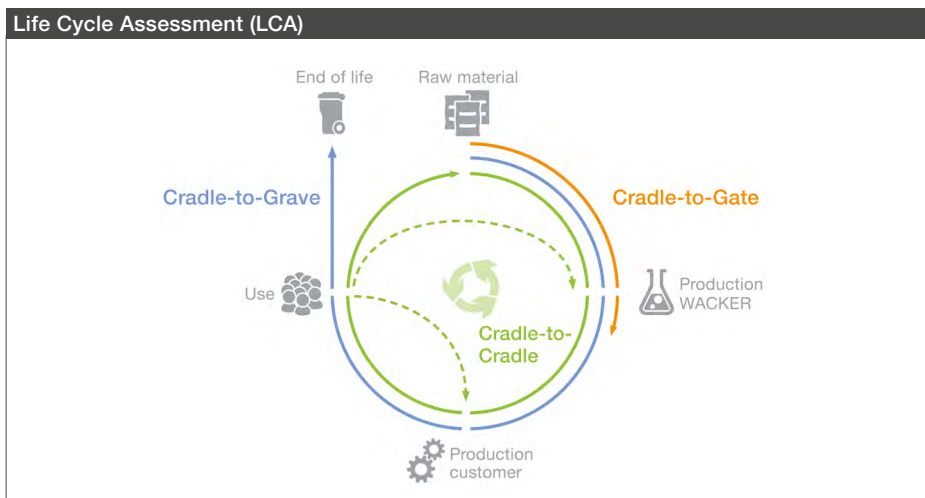
Life cycle assessment identifies which environmental impacts are associated with raw-material producers, with transportation and with WACKER's production processes.

The results of the life cycle assessment are used, for example:

- To optimize processes and compare existing products with newly developed ones
- To provide data for EPDs (environmental product declarations) and for PEF (product environmental footprint) methodology, so that customers can launch end products on the market.
- As a basis for calculating WACKER data, e.g. CO<sub>2</sub>e emissions due to bought-in raw materials

## Our Goals

Through life cycle assessment, we aim to anchor life cycle thinking more deeply at WACKER. We are looking for meaningful data from suppliers, customers and end users, so that we can expand our life cycle assessments across the entire life cycle – stretching from cradle to grave or from cradle to cradle (see diagram).



**Support Tools and Links**

- [Further details about life cycle assessment](#)
- [Contact for customer inquiries: sustainability@wacker.com](mailto:sustainability@wacker.com)
- [GaBi® software](#)
- [EPDs, PEF](#)

<sup>1</sup>Also called life cycle analysis

Wacker Chemie AG, Hanns-Seidel-Platz 4, 81737 Munich, Germany, [www.wacker.com/contact](http://www.wacker.com/contact), [www.wacker.com](http://www.wacker.com)

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