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TransZeroWaste project: Decision support tool providing LCA, LCC and Circularity Indicators to support the transition towards green steel

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Introduction



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A screenshot of the TRANS ZERO WASTE website. The header includes the logo and navigation tabs for Introduction, LCA, LCC, Circularity, and Comparison, along with a search bar. The main content area features the heading "Support the transition to sustainable steel." followed by a description of the tool and a "Start now" button. A circular graphic with arrows and a globe is centered on the page. The footer displays logos for the Luxembourg Institute of Science and Technology (LIST), the European Union, and a note that the project is funded by the European Union.

TRANS ZERO WASTE

Introduction LCA LCC Circularity Comparison Search

Support the transition to sustainable steel.

A web-based decision support tool designed to help your company assess sustainability indicators and circularity aspects within trans-zero-waste pathways.

[Start now](#)

LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY LIST **Funded by the European Union**

future



Transition towards zero waste in the European steel industry



Decision support tool



Environmental, economic and circularity assessments

Methodology

System boundaries definition

Define the process steps at your production site

What type of steel do you produce?

Tinplate

Where is the plant located?

Germany

Steel production route

BF/BOF

DR/EBF

Select the production steps at your site:

☒ Sintering

☒ Pelletizing

☒ Coking

☒ Blast Furnace

☒ Blast Oxygen Furnace

☒ Reheating

☒ Ladle Furnace

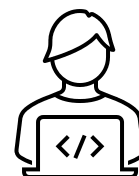
☒ Continuous casting

☒ Hot rolling

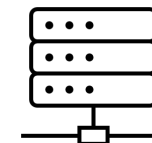
☒ Cold rolling



ecoinvent



User-friendly
interface



System
boundaries and
inventory
definition



Local
conditions
considered

Conclusions



- The tool offers different assessment methodologies and scenario analysis.
- Cross-sectional comparison for analysing multiple impacts simultaneously.



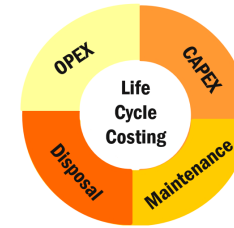
- The **uncertainty of results** depends on the **accuracy of the system boundaries** and the quality of the **provided data defined by the user**.
- **Site-specific adaptations are required** for detailed evaluations.

See the Impact. Shape the Future.



Life Cycle Assessment (LCA)

Environmental Impacts with LCA.
LCA shows the environmental cost of steel, from ore to final product. Track every stage of steel production and uncover where the potential opportunities lie.



Life Cycle Costing (LCC)

Estimate the overall cost
Life Cycle Costing (LCC) goes beyond upfront prices estimating the potential cost of steel over its entire life-cycle.



Circularity Indicators (CI)

Close the Loop, Measure the Impact.

Circularity indicators show how well steel products stay in the loop, reducing waste and maximizing value.

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