



Upgrading of low-quality iron ores and mill scale with low carbon technologies

Research for novel technological approaches



TransZeroWaste at LCM 2025: Showcasing Decision Support Tools for Green Steel

The LCM (Life Cycle Management) Conference Series has long been recognized as one of the world's leading forums for advancing environmental, economic, and social sustainability. Held every two years, it brings together academia, industry, NGOs, and public institutions, with a clear focus: turning life cycle thinking into practical solutions for strategic and operational decision-making.

In 2025, the conference took place under the theme “Global to Local”, highlighting methods, tools, and best practices that can accelerate the sustainable transition. By integrating diverse geographical, political, socio-economic, and professional perspectives, LCM 2025 operationalized participatory approaches and strengthened the case for sustainability in business and policy.

As part of the TransZeroWaste project, the Luxembourg Institute of Science and Technology (LIST) contributed to LCM 2025 with both a short oral presentation (5

minutes) and a poster session.

The presentations showcased the first draft layout of the decision support tool that is being developed in Task 5.5, designed to indicate potentials and effects of the transition towards a net-zero-waste European steel industry on different indicators. The concept of the tool was developed to address the need for evaluating strategies to reduce CO₂ emissions from steelmaking in order to support the EU's goal of carbon neutrality by 2050.

This work of TransZeroWaste-project aims for a novel decision-support tool for the steel industry, featuring dedicated sections for Life Cycle Assessment (LCA), Life Cycle Costing (LCC), and Circularity Assessment, along with a final section for cross-indicator comparison to support informed decision-making into a single, unified platform.

Thanks to its flexibility and ease of use, the platform will be suitable for a broad range of users, including research and development institutes as well as universities, providing general understanding of potential effects of different scenarios. When used by non-professionals or with insufficient data, the risk of entering inaccurate or absence of crucial data arises and may lead to imprecise or even misleading results.

Key Conclusions

The tool supported scenario analysis, allowing the comparison of different transition pathways. Accuracy remains crucial: results depend on the quality of user-provided data and system boundaries. Finally, flexibility proves valuable: site-specific adaptations are possible for more detailed evaluations.

By integrating these elements, the tool delivers insights that may support strategic decision-making for implementation.





[Read more...](#)

[View this email in your browser](#)

Want to change how you receive these emails?

You can [update your preferences](#) or [unsubscribe](#)