



Recycling of Lithium from Secondary Raw Materials and Further

 [Lithium-relief.eu](https://lithium-relief.eu)

Crossing Boundaries for a Circular Future RELiEF's Multi-Industry Model for Lithium Recovery

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Structure

1. The RELiEF Project & WP8 objectives
2. Circular Economy of Lithium
3. Multi-industry model of RELiEF
4. Regulatory framework
5. RELiEF LCA framework
6. Overview of Sustainable Business Modelling

LET'S GET STARTED!



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What makes a
business model truly
sustainable?



1. The RELiEF Project & WP8 objectives

Global LITHIUM DEMAND is constantly INCREASING



LIMITED AVAILABILITY and HIGH ENVIRONMENTAL IMPACT



RELiEF Technology for Innovative recycling:

Give **New Life** to previously unrecovered Li sources through **RECYCLING** of unused **secondary Lithium sources**

Role of WP8

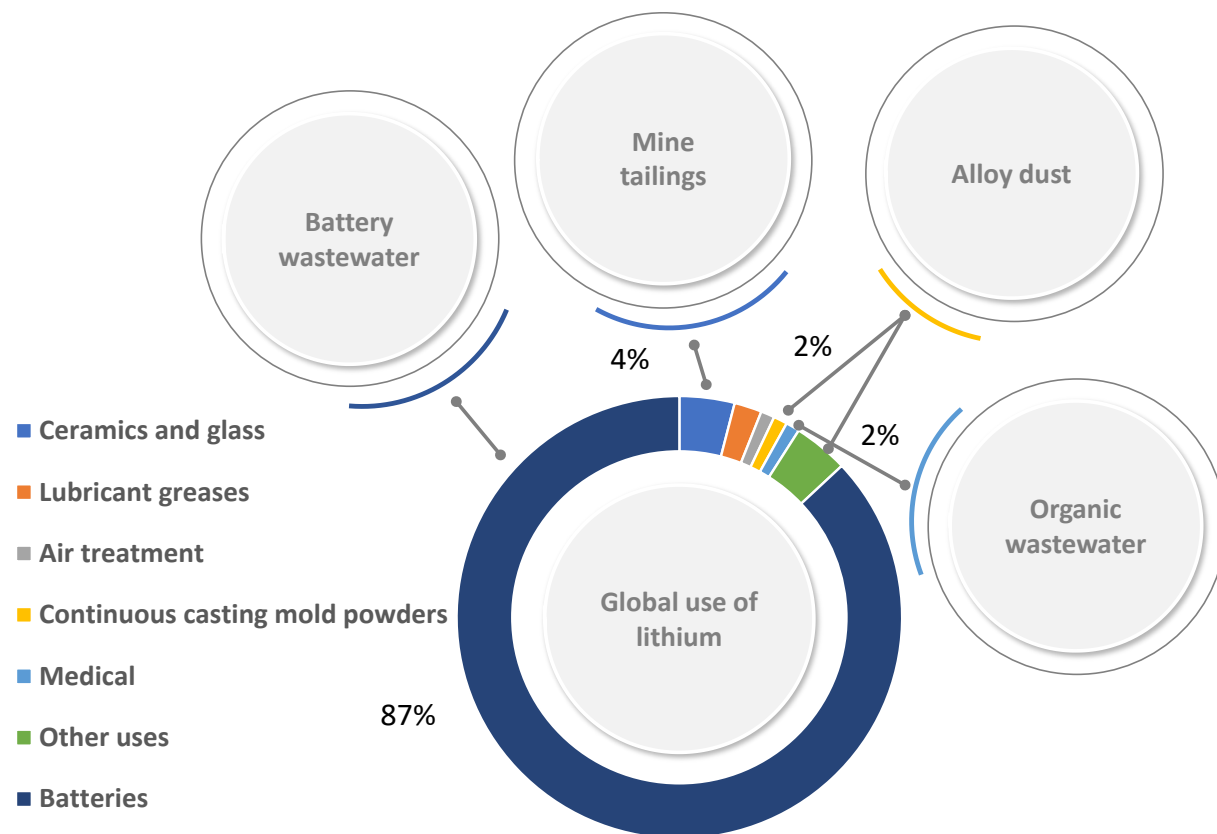


- Assess **the environmental, costs and social impacts** of the RELiEF technologies
- Determine the main hotspots and **provide targeted sustainability improvement actions**
- Integrate the sustainability aspects and develop a **circular business model**

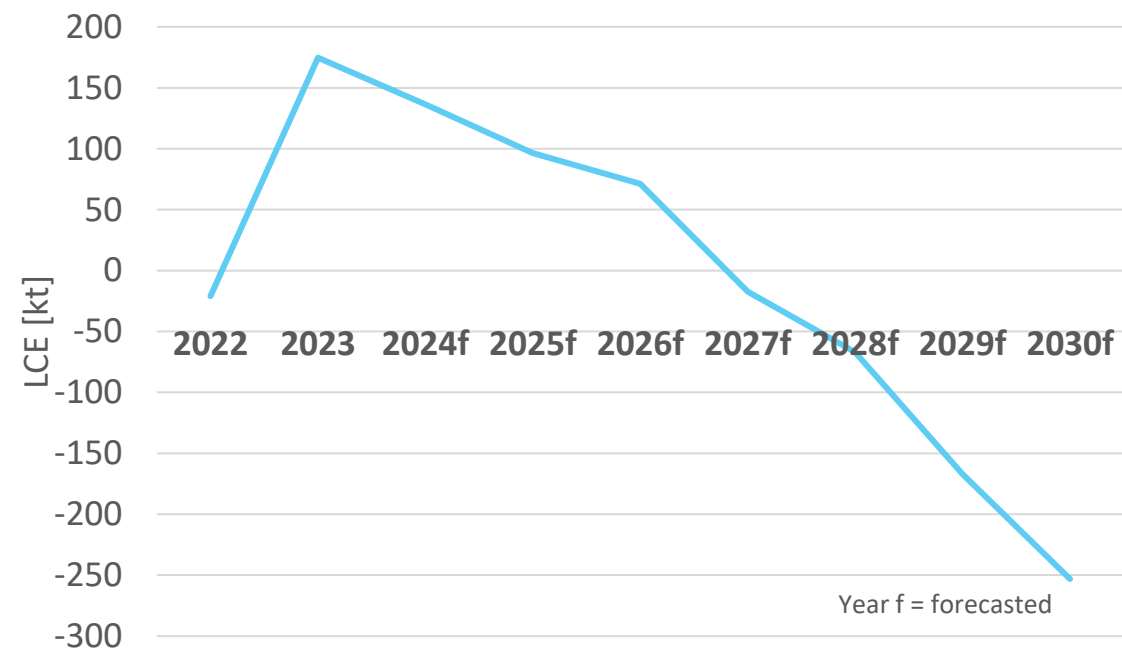


2. Circular Economy of Lithium

Global use of lithium and Li containing wastes¹



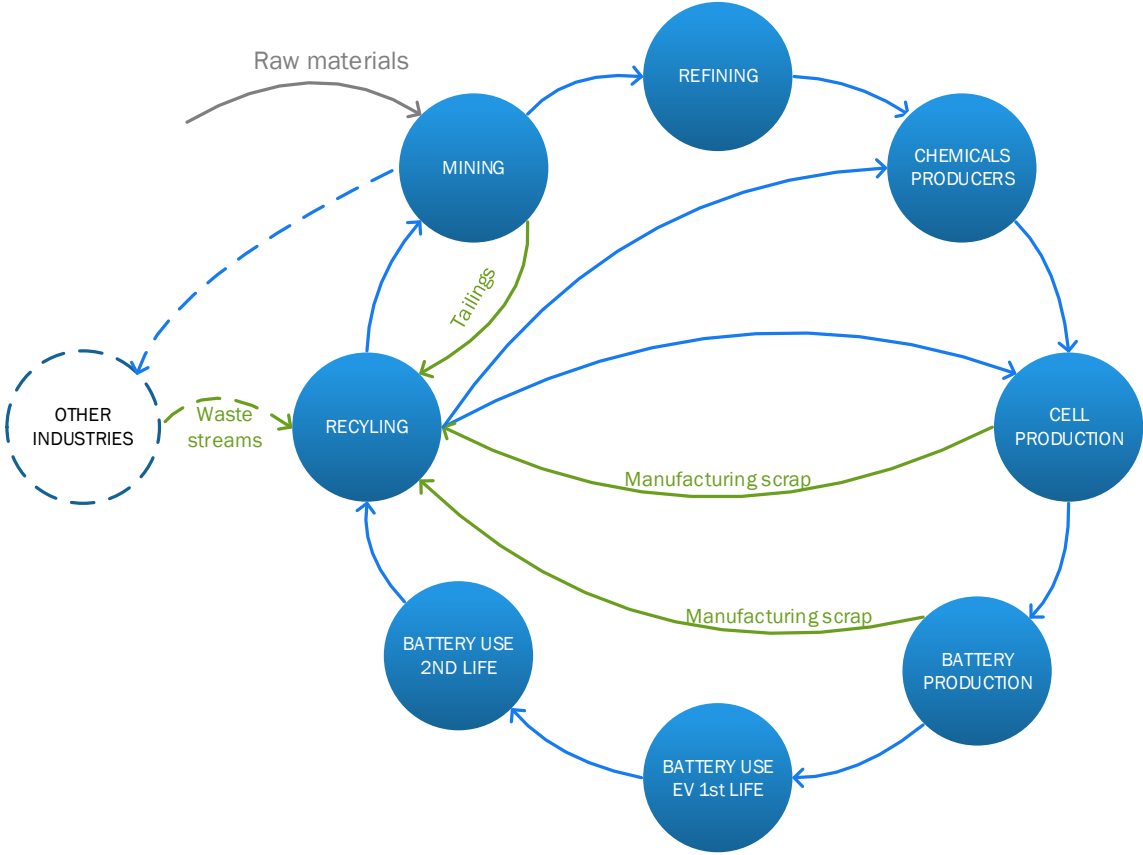
Lithium supply-demand balance²



¹ U.S. Geological Survey. (2024). Mineral commodity summaries 2024: U.S. Geological Survey. <https://doi.org/10.3133/mcs2024>

² Fastmarkets. (2024). Webinar Battery Raw Materials Global Outlook 2025. <https://www.fastmarkets.com/webinars/battery-raw-materials-global-outlook-for-2025/>

Circular Lithium recycling value chain for Lithium-ion batteries

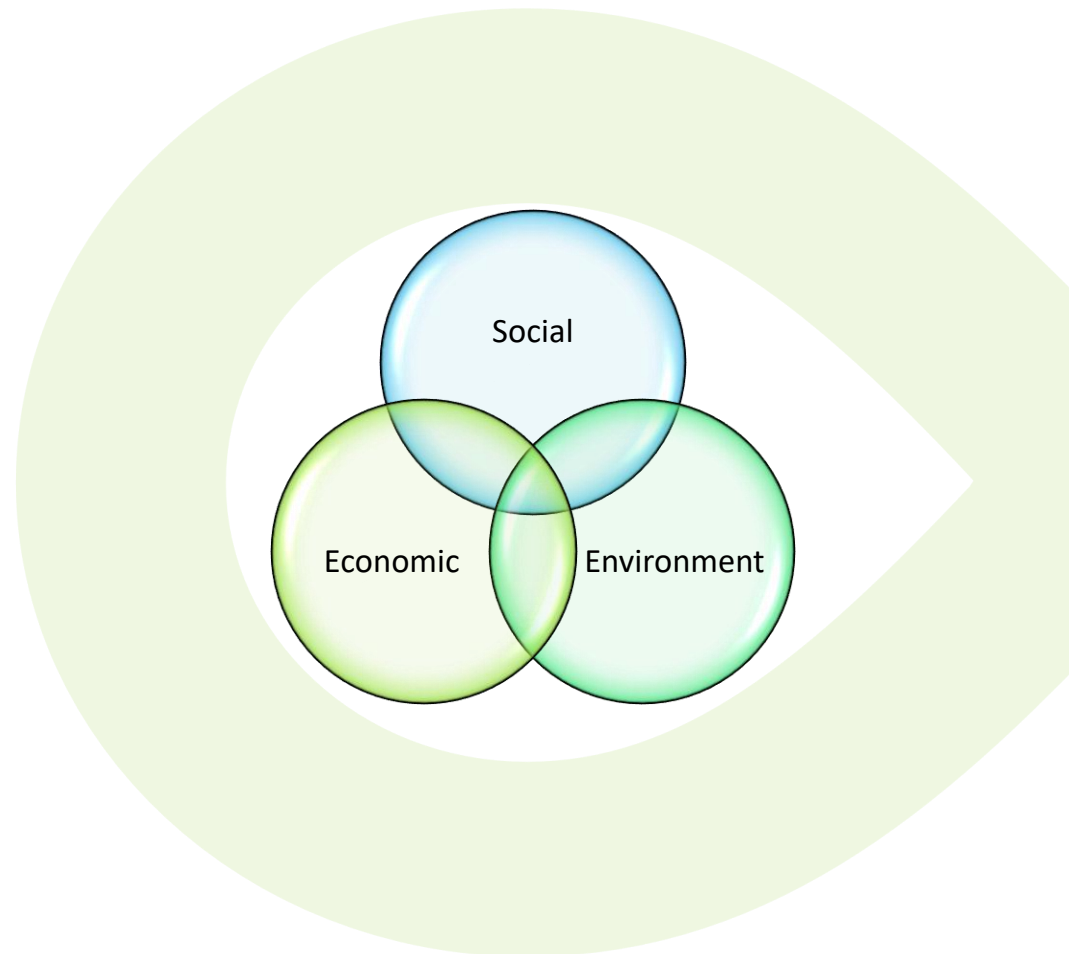
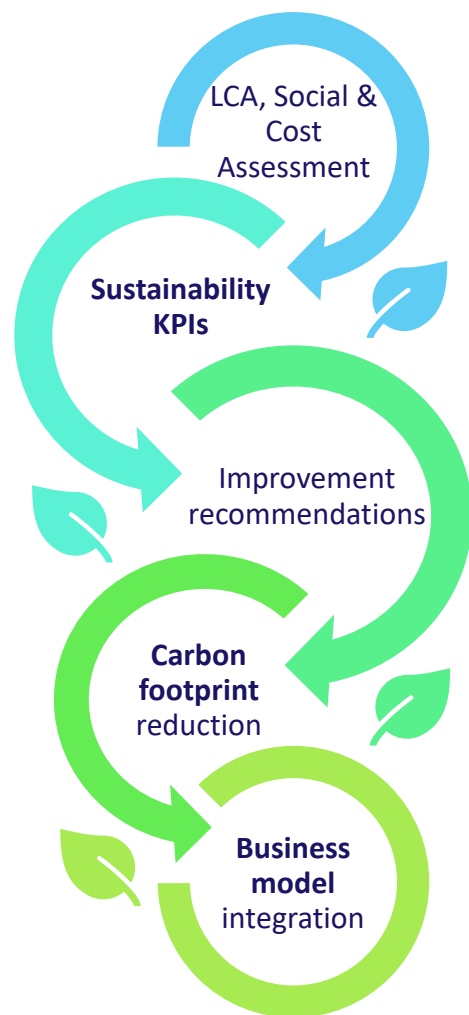




4. Regulatory Framework

EU Critical Raw Material Act (CRMA)	EU Battery Regulation	Corporate Sustainability Reporting (CSRD)	Battery passport
<ul style="list-style-type: none">• >25% of EU's demand sourcing from recycling• <65% of EU's demand from a single 3rd country	<ul style="list-style-type: none">• >6% lithium recycled content by 2031• >12% lithium recycled content by 2036	<ul style="list-style-type: none">• Companies must disclose scope 1-3 emissions• Decarbonization plan	<ul style="list-style-type: none">• GHG emissions• Recycled content

Sustainable business model



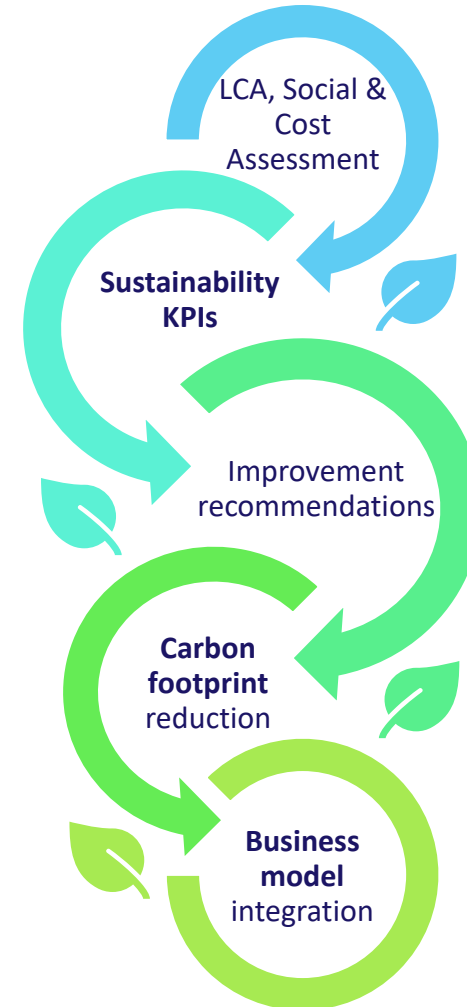
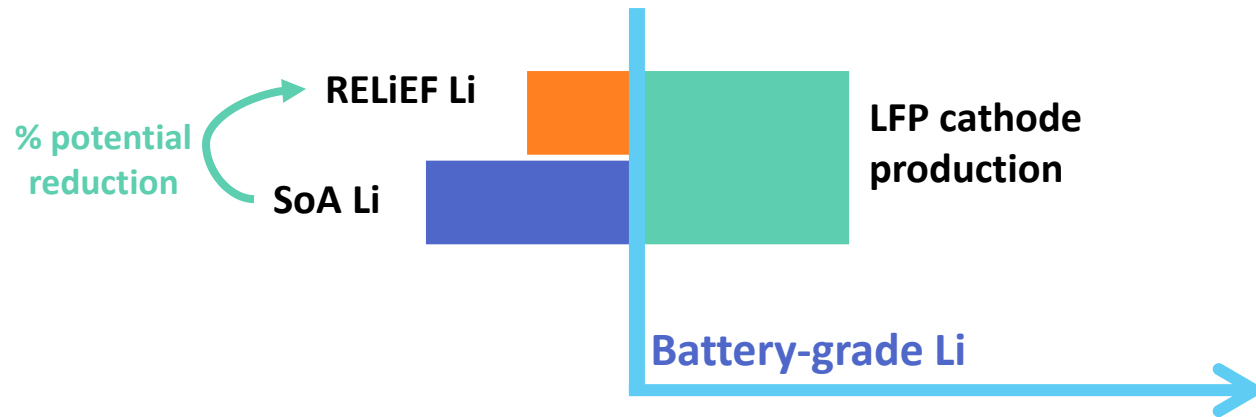
ISO 20400
Sustainable
Procurement

Understanding
the expectations
of Stakeholders



5. RELiEF LCA Framework

Focusing on what matters in the end for the final product output:

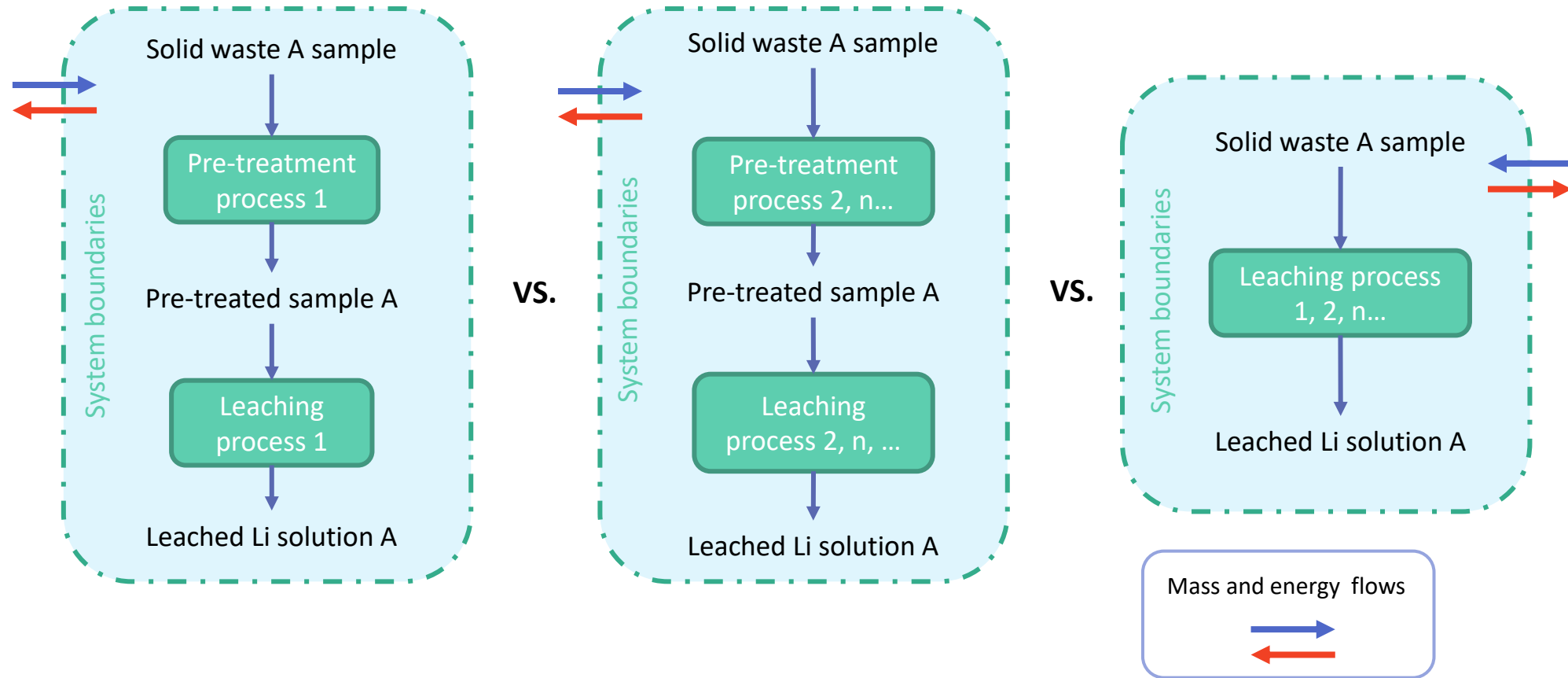


LCA and Cost system boundaries: Leaching alternatives for the solid waste samples



Solid samples: **Mine tailings** and **Al/Li alloy dust**

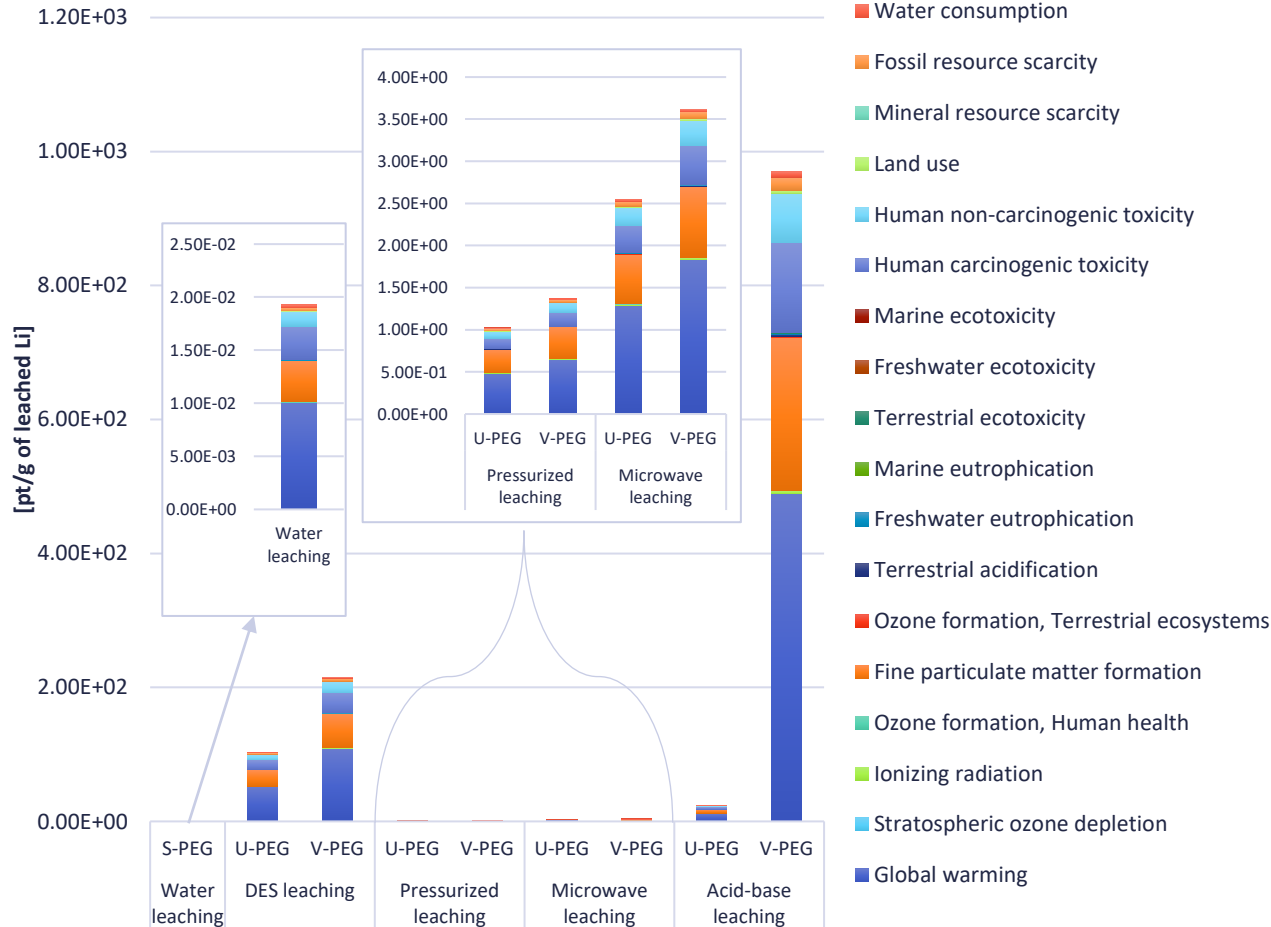
For each solid sample, **several technologies were developed in RELIEF**



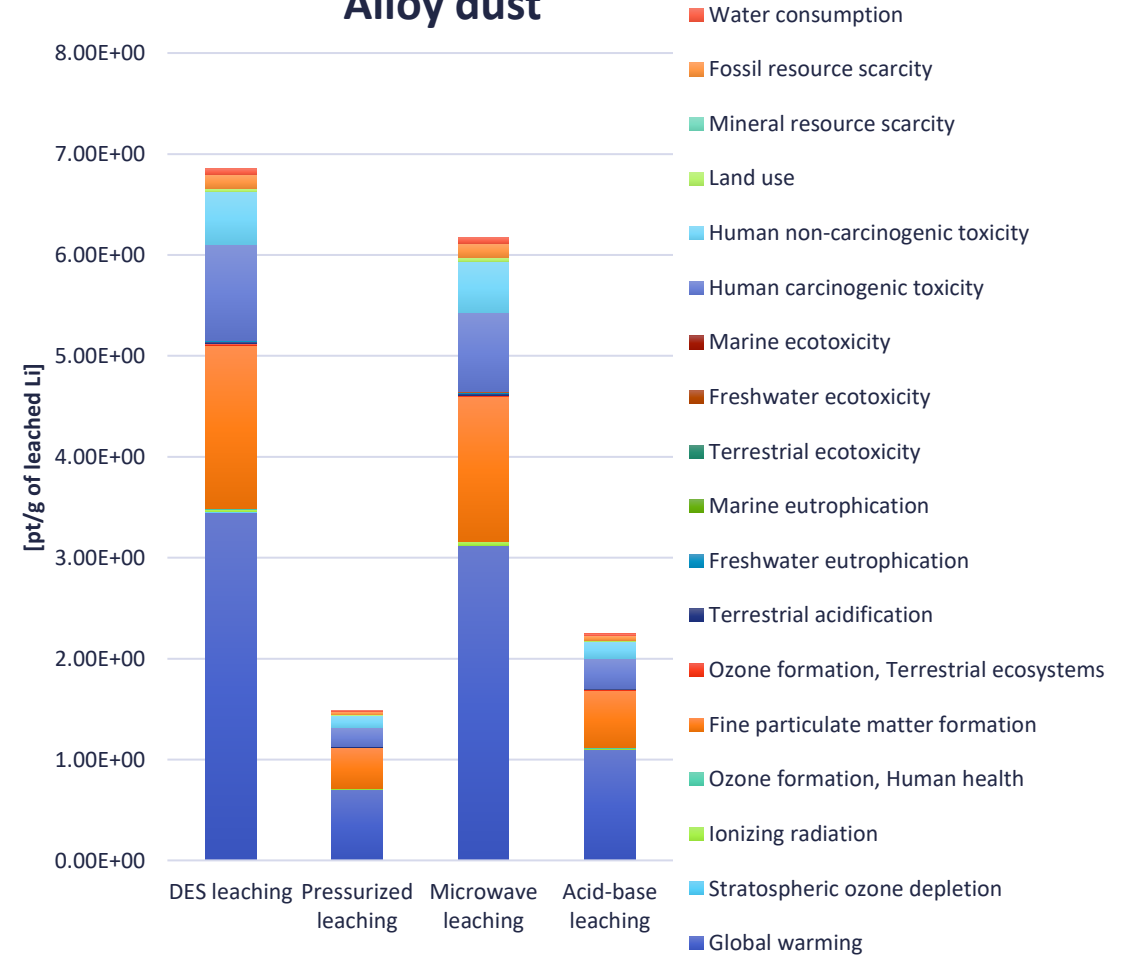
LCA results: Leaching technologies



Mine tailings



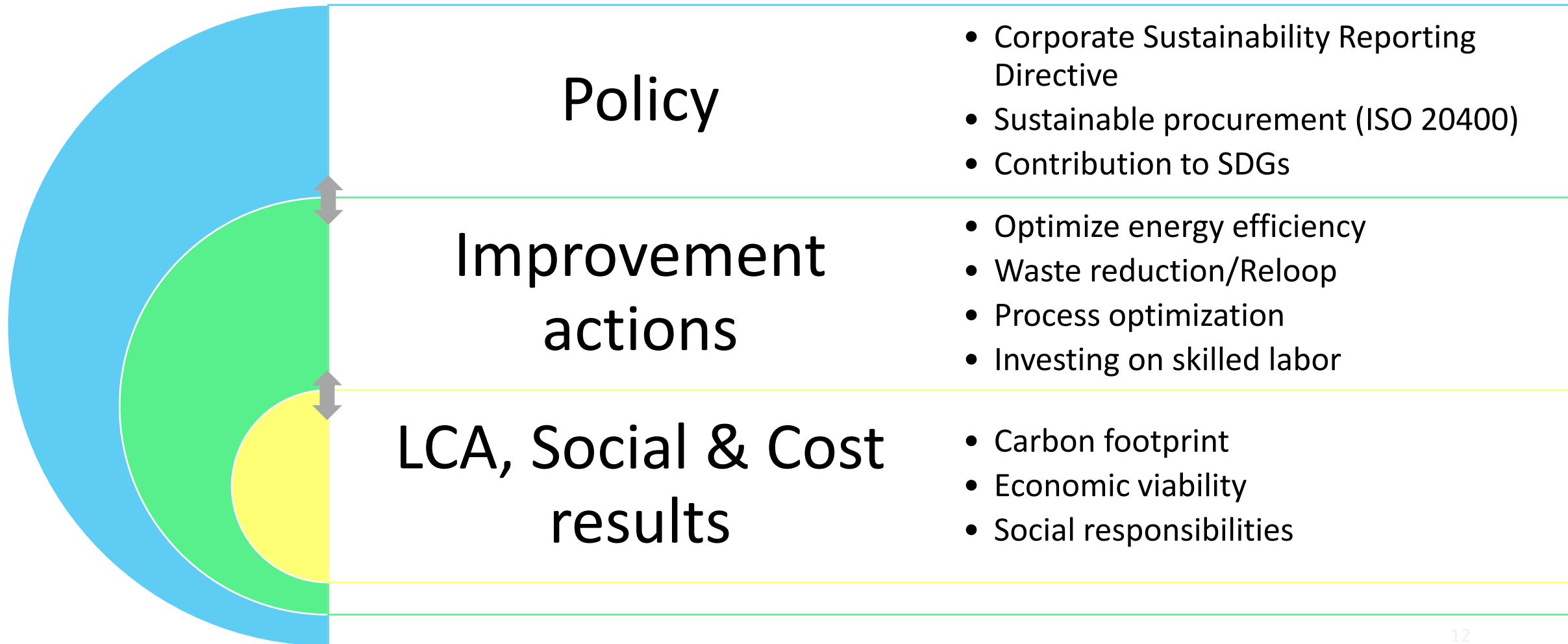
Alloy dust



Overview of Sustainable Business Modelling



RELiE - GA n. 101069789





Thank you