



Overview from non-ferrous metal sector

RemovAL project: policy stakeholders' workshop *“Towards an EU regulatory framework boosting use of slags and residues of the metal sector”*

Brussels, 6th November 2019



On the programme today

- 1 Final slags – setting the scene
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Final slags – setting the scene

Issue	Description
What	Rock-like material (produced together with metallic products) where metals contents is reduced to the lowest level (economically and technically viable). Often qualified as ‘artificial aggregates’.
How	Generated when a desired metal is separated from the source material (ores, concentrates and recycling materials) through primary or secondary metallurgical processes
Quantity	> 10 million tons/year at the EU level
Application	<ul style="list-style-type: none">• Construction sector (road, embankments)• Mine backfilling• Concrete and asphalt applications and other fill applications• Soil fortification• Dyke fortification• Clinker production or mineral addition to blended cement
Regulatory approach	REACH / waste → divergent approaches/interpretations in the Member States

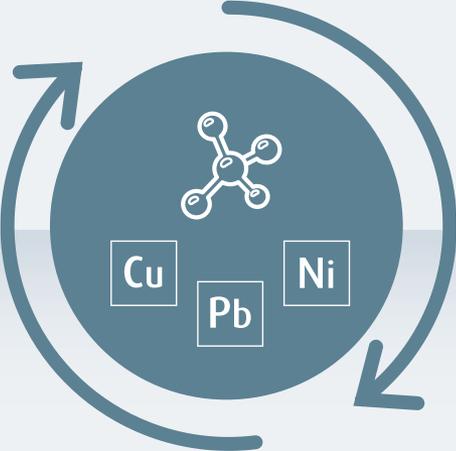
Secondary production: How does recycling of metals work?

Recyclables



Industrial by-products

Collector metals



Metals and metal compounds



Slags



Industrial waste (disposal)



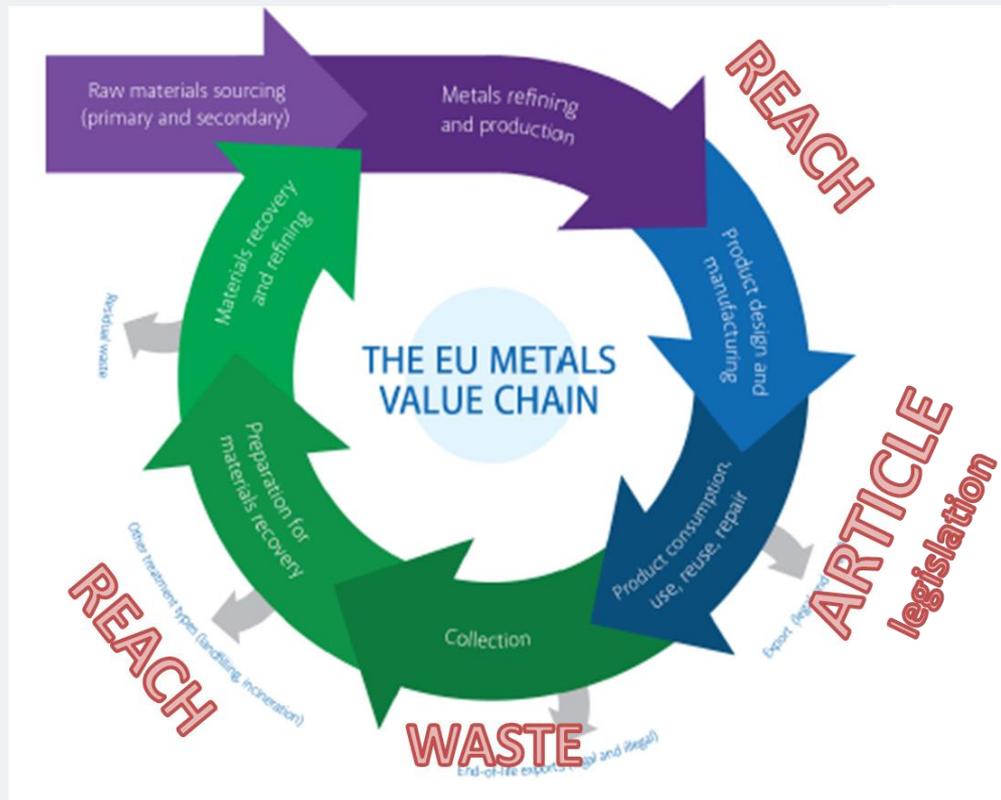
Maximise

Optimise

Minimise

Whatever “enters” the flowsheet, “leaves” as: refined metal, final slag or waste

The EU management scheme for “chemicals”



- From an EU perspective: “substances” that are manufactured or used and are not waste or an article, are considered as CHEMICALS
- Final slags are regulated by REACH → safe use through the risk management measures

Final slags and REACH

Status under REACH

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graph TD; A[Status under REACH] --> B[ARTICLE]; A --> C[SUBSTANCE];
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ARTICLE

- Physical form of the final slag is more critical to its function than its chemical composition
- EN standards regulate slag appearance & performance

SUBSTANCE

- UVCB or multi-constituent substance
- Registration under REACH + fulfillment of information requirements according to the volume

WASTE

- Waste status = immediate exemption from REACH
- Waste legislation applies
- Divergent interpretation in countries or regions on waste classification (haz. or not)
→ Different disposal/landfill conditions, taxes, reporting obligations...
- Waste status = principles of Circular Economy are breached

Final slags and Circular Economy

technopolis |group|

Wuppertal Institute
for Climate, Environment
and Energy

thinkstep

Fraunhofer
ISI

Final report, 13 July 2016

Regulatory barriers for the Circular Economy

Lessons from ten case studies



There is a market potential for slag (out of primary and secondary metal production) which can be used as a material in the construction sector.

Final report “Regulatory barriers for the Circular Economy” (July 2016) → commissioned by the EC as a direct contribution to the EU Action Plan on Circular Economy

Final slags and Circular Economy



The use of final slags in industrial applications is considered as best available technique to prevent and reduce the quantities of waste sent for disposal from non-ferrous metals production

[EC BAT conclusions, 2016]

Final slags and Circular Economy

- **Product value:**

- Quality construction material following strict EN standards
- NFM content in final slags reduced to a minimum to ensure stable and safe products

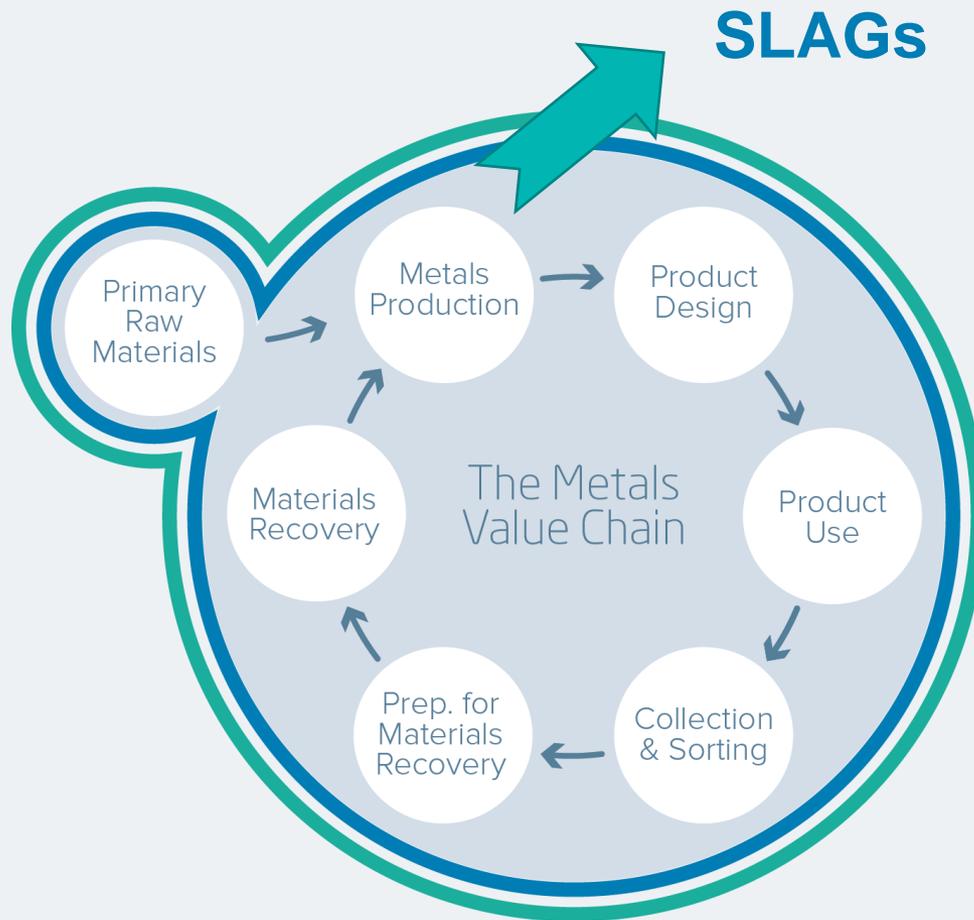
- **Societal and industrial value:**

- Landfilling avoidance
- Conservation of natural mineral resources (natural aggregates) and energy

- **Safe use:**

- Compliance according to REACH (exposures scenarios) and national/regional requirements → *impact on environment and human health assessed throughout the whole life cycle*

Chemicals Policy and Circular Economy



CHEMICALS POLICY

Focus on handling materials safely

- Safe use
- Safe manufacturing
- Safe recycling
- Article legislation



CIRCULAR ECONOMY POLICY

Focus on keeping materials in the loop

- Industrial Symbiosis
- Ecodesign
- Waste management
- Secondary raw materials markets

Slags are assessed under REACH

BUT... chemical management objectives are not always aligned with Circular Economy

Conclusions



Conclusions

- **Slags, in the EU, are treated as chemicals** (if not a waste), **to which chemicals legislation applies** (REACH and CLP)
 - *Control of the composition and “behavior” during use*
- **Successful application of final slags saves natural resources and environmental emissions**
 - *Landfilling large tonnage would mean significant environmental impacts and a loss for society + impact on the competitiveness of metals and recycling industry (landfill costs)*
- **Use of final slags contributes indirectly to the recycling of metals**
 - *Restraining it would reduce/block the capacity and efficiency of metals recycling conflicting with the circular economy objectives*
- **Avoid double regulation of slags** (i.e. under waste and product legislation) due to regional/national interpretations

THANK YOU

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