Transform steel slag into raw materials for the chemical and cement industries.

Reduce primary resources by valorising secondary materials in another sector.

**KEY INSIGHTS**
- value waste streams
- reduce primary resources
- reduce CO₂ emissions
- create new markets

**CROSS-SECTOR COLLABORATION**
Steel industries have a high potential to valorise slag in chemical and cement industries. Chemical and cement industries have a growing demand for (secondary) raw materials.

100-300 kg slag/ton steel produced

- chemicals 10-20%
- cement 70-80%

**APPLICATIONS**
- high value material recovery
- waste water treatment
- mineral CO₂ sequestration
- thermal storage
- innovative binders
- aggregate material in cement & construction industries

**SUSTAINABILITY IMPACT**

**Wins for industry**
- for suppliers: 20-50% disposal cost reduction¹,⁴
- for industry: 20-60 €/ton slag as raw material cost¹

**Environmental gains**
- CO₂ emissions reduction:
  - 0.5-0.6 ton CO₂ saved/ton slag⁷

**Wins for society**
- public health benefits due to emissions reduction¹
- improved business relations in regional clusters
- job creation and new skills development

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¹ H2020 project EPOS - Enhanced energy and resource Efficiency and Performance in process industry Operations via onsite and cross-sectorial Symbiosis
² This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 679386
³ This work was supported by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 15.0217
⁴ Figure 1: Synergy scheme
⁵ Figure 2: Cross-sector potential
⁶ Figure 3: Sustainability
⁷ This work was supported by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 15.0217
REFERENCES


