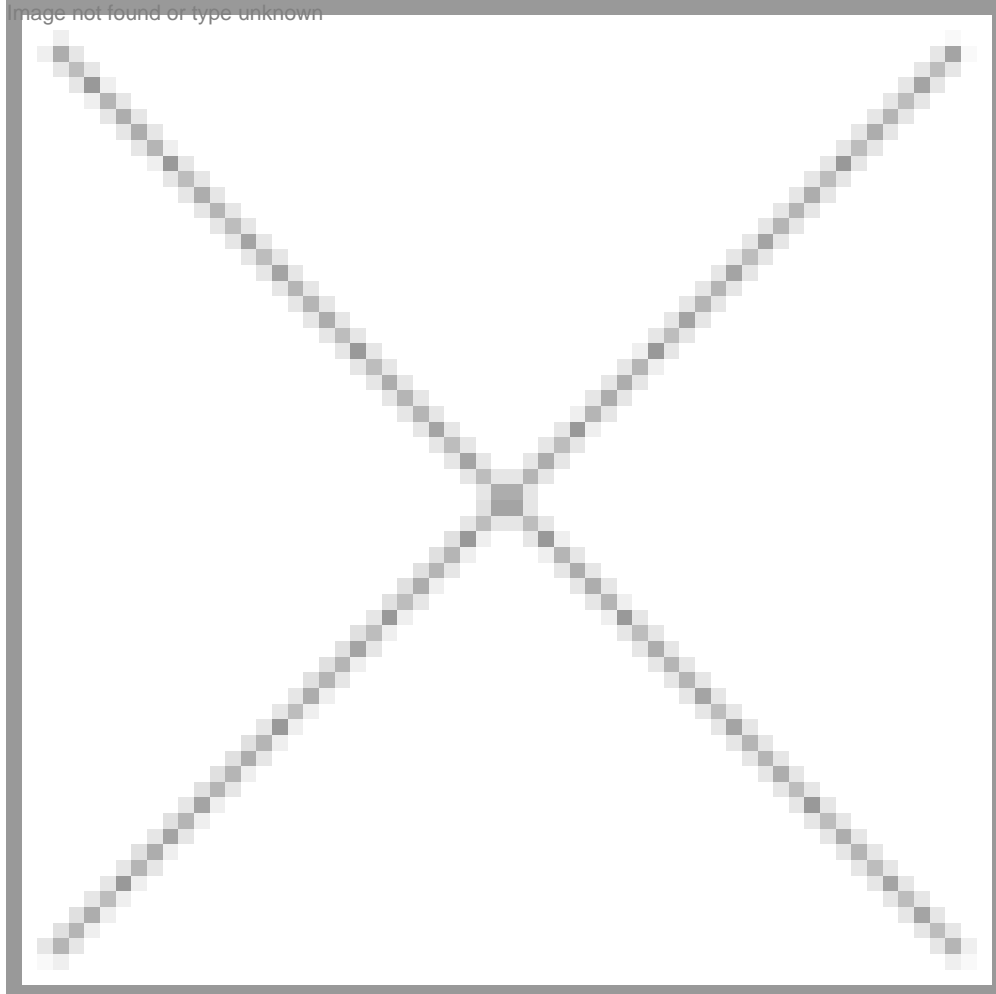


## A.SPIRE

Post date:

31/01/2024 - 19:01



### REslag Project

#### Energy-Intensive Industries move one step closer to circularity

**The REslag project** (Full title: Turning waste from steel industry into a valuable low-cost feedstock for energy-intensive industry) was launched on the 1st of September 2015 and ended on the 31st of July 2019. It was funded by the Horizon 2020 Programme under the **SPiRE** contractual Public-Private Partnership (active between 2014 and 2020). The project was implemented by a consortia of 19 partners under the coordination of the **A.SPIRE** member, **CIC EnergiGUNE**.

#### Project goals

The REslag project, fully aligned with the **Processes4Planet Strategic Research and Innovation Agenda 2050**, aimed at making effective valorisation of the steel slag by reusing it as feedstock in four eco-innovative applications (metal extraction, heat recovery, Concentrated Solar Power (CSP) plants and refractory sectors).

### **Heat capture and storage systems**

The traditional industrial processes generate heat. In Energy-Intensive Industries, 30-40% of the energy consumed is lost as waste heat and discharged into the atmosphere. However, the discharged heat can be captured and reused. Steel slag is the ideal candidate for building economically feasible heat storage systems as a cost-free waste energy-dense material.

### **Pilot plant. One step closer to market deployment**

Reusing waste heat as a source of energy has great potential in carbon emission reduction. To demonstrate this, CIC energiGUNE developed the modelling, construction, design and prototype (1/10 scale) of an innovative system for heat capture and storage (more details [here](#)). The prototype demonstrator is up and running on **ArcelorMittal** facilities in the Basque Country, showing the potential in flexibility and feasibility of the solution.

According to the data provided by CIC energiGUNE, the system is not yet running, but preliminary analysis indicates that, at current fossil fuel prices, there is a heat recovery potential of around **15%** of the total waste heat. The experts also stressed that, although it may initially seem small, the 15% translates into **9.2 GWh/year/ EAF** (a "significant figure"). Furthermore, the demonstrator already recovered **500 MWh/year** in energy. CIC energiGUNE also specified that "the pilot plant is also a demonstrator of a low-cost thermal energy storage system, reaching an incomparable system storage cost of **5€/kWh**".

REslag proved that the industrial sectors can reuse the landfilled slag with notable environmental benefits if properly supported by the right technologies. The project also brought the steel sector (with a cross-sectorial added value approach) one step closer to circularity and net-zero waste.

A.SPIRE considers the REslag project (developed under the SPIRE Partnership) a success story and an inspiring example of circularity. A potentially valuable tool for climate mitigation was created by giving a second life to steelworks waste and employing it to build a solution which turns heat into a valuable low-cost feedstock.

Check out the [document](#) for more details on this success story.

If you want to learn more about A.SPIRE and the current Partnership - Processes4Planet, contact the **team**.



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