Reslag Project Details

Duration
42 months

Composition
19 partners from 8 countries

Start date
01-09-2015

End date
01-03-2019

Budget
Total cost: € 9,668,551.93
EU contribution: € 8,022,006.68

Technology Readiness Level
TRL: 5-7

Interest Groups

- INDUSTRY
- KEY PROFESSIONALS
- SCIENTIFIC COMMUNITY
- POLICY MAKERS
- GENERAL PUBLIC
- STUDENTS

For more information www.reslag.eu

linkedin.com/company/reslag

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Partners

ENEA, ArcelorMittal, CIC energiGUNE, liten CEA tech, OPTIMUMCEMENT ready-mix solutions, ETH zürich, Fraunhofer ISC Project Group IWKS, FAU Friedrich-Alexander Universität Erlangen-Nürnberg, GE, VTT, DLR Deutsches Zentrum für Luft- und Raumfahrt German Aerospace Center, hasten ventures, IK4 AZTERLAN Research Alliance, Imperial College London, Renotech Oy, masen Moroccan Agency for Solar Energy, NOVARGI, LIFE CYCLE ENGINEERING

Reslag Coordinator

CIC energiGUNE energy cooperative research centre

Dr. Javier Rodríguez

e-mail: jrodriguez@cicenergigune.com

Tel: +34 945 297 108

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Alava Technology Park Albert Einstein
48 - ED. CIC 01510
MIÑANO, Álava

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REslag

Turning waste into value

HORIZON 2020

Funded by the European Union's H2020 Programme Waste-1-2014. GA - 642067

Reslag **Presentation**

The European steel industry generates more than 20 million tons of slag per year. About 25% of this by-product is not recycled, representing a severe environmental problem in Europe. Reslag project faces the challenge of the valorisation of the steel slag providing 4 eco-innovative industrial alternative applications opening new markets for the steel slag.

Reslag **Objectives**

The main objective of RESLAG project is to make an effective valorisation of the steel slag and reuse it as a feedstock for 4 innovative applications. This view is aligned with the search of a circular economy in the steel sector with a cross-sectoral added value approach. The developed technologies oriented for the steel slag recycling will be technically demonstrated at industrial pilot level, led by first line end-user industries.

Specific targets for different priority areas are also envisaged, such as:

Close to zero-waste steel industry

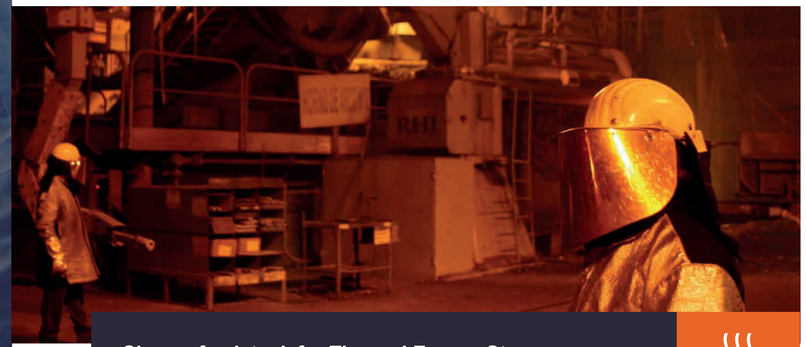
Eco-innovative technology development

Social, Sectoral and Policy making

Reslag **Valorisation Strategies**

Slag as feedstock to extract high added value metals

The objective is to extract between 0.1 and 3 % of high added value metallic elements such as, Cu, Cr, Ni, Zn and other critical metals. This pilot will target a new methodology based on selective hydrometallurgy for non ferrous high added value metal extraction from steel slag.



Slag as feedstock for Thermal Energy Storage systems in industrial waste heat recovery applications

The RESLAG project aims to design and construct a high temperature, high thermal performance and cost effective heat recovery system oriented to the waste heat recovery in the steel industry. In particular, the heat content of the off-gas coming out from the Electric Arc Furnace (EAF) is the recovery target. This approach presents a double objective: recover up to a 15% of the primary energy, contained in the EAF off-gas stream and the use of steel slag as a successful heat storage material.

Slag as feedstock for Thermal Energy Storage systems in Concentrated Solar Power applications

RESLAG project aims to remove the constrains present in current storage technologies for Concentrated Solar Power applications. Two different Thermal Energy Storage concepts will be validated:

a

Thermal Energy Storage using air as heat transfer fluid.

The objective of the pilot is to demonstrate the viability of air and steel slag to obtain a low cost and effective storage at high temperature (800ºC) for solar central receiver systems. This storage alternative will open new technologies for high temperature solar thermo-electric production.

b

Thermal Energy Storage using molten salt as heat transfer fluid.

The key point of this technology is the noticeable cost reduction of the currently implemented molten salt storage solution. As a result, a competitive, efficient, and technically enhanced storage system is obtained, with a full compatibility with current CSP plants.

Slag as feedstock for refractory and ceramics material production

The aim of this pilot is to develop a processing route able to convert the slag into feedstock for refractory ceramics. The approach is to maximise the amount of by-products in raw material mixtures for castable refractory material production.