

Partners



LIFE ECO-SANDFILL project details

 **Project reference**
LIFE15 ENV/ES/000612

 **Duration**
36 months

 **Budget**
Total costs: 2,313,350 €
EU contribution: 1,343,488 €

 **Start date**
01/07/2016

 **Consortium**
5 Partners from Spain

 **End date**
30/06/2019



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Spent Foundry Sand valorisation in Construction Sector through the validation of high- performance applications



Stakeholders



LIFE ECO-SANDFILL is co-financed by the LIFE Programme, the financial instrument for the Environment and Climate Action of the European Union (Grant Agreement No. LIFE15 ENV/ES/000612)



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INTRODUCTION

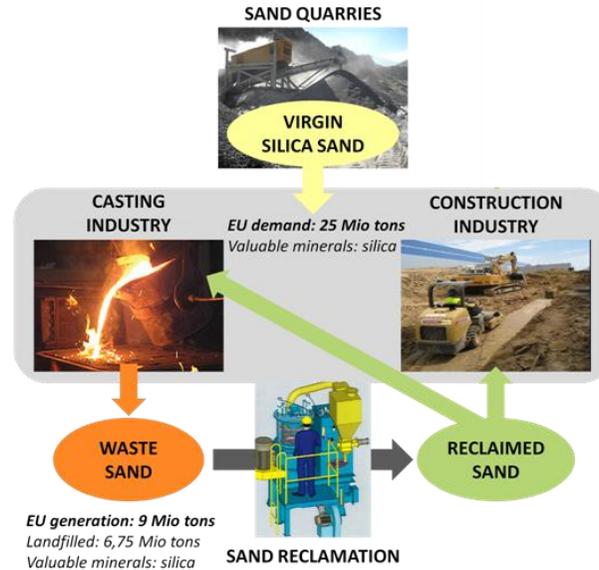
Spent foundry sand (SFS) generation is part of the intrinsic process of casting production.

Currently, there are more than 4,500 active foundry operations in Europe that generate about 9 Mt of waste sand per year, being the ferrous industries the major generators.

Only 25% of the sand is recycled in a few applications, namely cement industries, but these sectors are unable to absorb the total amount of sand generated, so the remaining 75% is still landfilled (6.75 Mt).

LIFE ECO-SANDFILL Objectives

- ❖ Demonstrate technical and economic feasibility of using reclaimed Spent Foundry Sand (SFS) as an eco-friendly fine aggregate in construction applications.
- ❖ Explore high quality reutilisation of treated SFS in foundry sector for core and mould making.
- ❖ Contribute to “close to zero landfill” (reducing annual volume of SFS disposed of in landfills)



LIFE ECO-SANDFILL Expected Results

- ❖ Sand impurities removal (efficiency >90%), achieving environmental safety (leaching).
- ❖ Integration of innovative reclamation prototype in a foundry facility.
- ❖ Valorisation of ca.1500 t SFS in the Basque Country (ES).
- ❖ High quality reutilisation of treated SFS in foundry for core and mould making.
- ❖ Three construction demos (embankments, mortars, CLSM), substituting (100%) virgin fine aggregates by reclaimed SFS.
- ❖ Development of Best Practices and Processing Methodology for chemical & green sand reclamation in construction applications.

Foundry sand as feedstock for construction applications.

Pre-treated SFS will be used as eco-friendly fine aggregate for geotechnical applications such as embankments, mortars, and Controlled Low Strength Material (CLSM), a completely new technological solution in Europe



VALORISATION STRATEGIES



Re-use the sand in the own foundry for core and mould making.

After a novel mechanical process of SFS reclamation, the cleaned sand will be recirculated in the casting process, reducing new sand intake.