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SisAl Pilot

Innovative pilot for Silicon production with low environmental impact using secondary Aluminium and silicon raw materials



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 869268

www.sisal-pilot.eu

THE PROJECT

The timing of SisAl Pilot is impeccable with respect to key European challenges; the transformation to a circular economy, the strongly enhanced focus on climate and future expected EU-ETS CO₂ allowances with associated risk for carbon leakage from Europe, the rapidly increased difficulty of exporting aluminium scrap from Europe to China, and modern society's ever-increasing need for silicon metal. With SisAl, all these challenges are turned into new European opportunities.

SisAl Pilot aims to demonstrate a patented novel industrial process to produce silicon (Si, a critical raw material), enabling a shift from today's carbothermic Submerged Arc Furnace (SAF) process to a far more environmentally and economically alternative: an aluminothermic reduction of quartz in slag that utilizes secondary raw materials such as aluminium (Al) scrap and dross, as replacements for carbon reductants used today.

FINAL PROJECT RESULTS

After almost 5 exciting years, the SisAl Pilot project has ended. These years have been filled with lots of labs and pilot-scale experiments both in pyro and hydro, intense discussions about Life Cycle Assessment and future business cases, and last but not least incredible memories from project meetings around the globe. The consortium has constantly worked on implementing innovative pilots for Silicon production, with low environmental impact, using secondary Aluminium and silicon raw materials.

We have demonstrated that the SisAl process have not just possible in small scale but also in large scale! It has been shown that different types of silicon and alumina qualities can be produced with the process.

