

MEASURING THE IMPACT OF CARBON AVOIDING SOLUTIONS IN THE CONSTRUCTION INDUSTRY

SikaGrind®-285 enables avoided emissions in cement grinding processes

10% CO₂ reduction

per ton of cement produced

470'000 tons of CO₂ avoided

during plant operation between 2018 and 2023, considering an annual production of 1Mt of cement

Business-as-usual Scenario

- Cement production in Peru without the use of any quality improvers or additives
- The production of 1 ton of cement was defined as the functional unit to compare scenarios



Low Carbon Scenario

- SikaGrind®-285 is a highly efficient liquid additive to facilitate grinding processes and improve the quality of cements
- SikaGrind®-285 is incorporated into the feed material by a continuous dosing system at a point close to the mill.
- The use of this product enables energy savings in the grinding process and replacement of clinker with SCMs to achieve reduction of CO₂

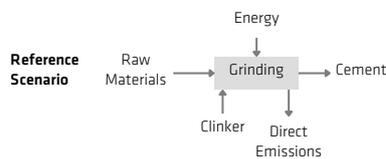
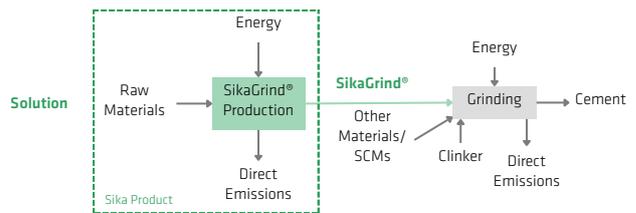
Capturing Avoided Emissions

Assessment Details

Functional Unit (FU):	1 ton of cement produced
Impact:	0.079 t CO ₂ e avoided per FU
Approach:	Year-on-year (2018 - 2023)
Scope:	Assessment of a single context, use in a project in Peru
System Boundaries:	Production of SikaGrind® to be used as quality improver in cement production
Lifecycle Emissions:	
Solution	3'729'502 t CO ₂ e per 6 Mt cement
Reference Scenario	4'203'720 t CO ₂ e per 6 Mt cement

How It Works

System Boundaries



WBCSD Avoided Emission Eligibility Gates

- Gate 1 (Climate Action Credibility)
- Gate 2 (Climate Science Alignment)
- Gate 3 (Contribution Legitimacy)

Environmental and Social Side Effects

Improved production efficiency, enhanced cement performance, tailored cement quality, increased cost efficiency

Offers a low carbon solution to reduce Scope 1 and Scope 2 of cement producers.

Assumption

Real operating data was used for solution, while plant trial data was used for reference scenario.

An annual production of 1 million tons is considered for this study. The estimated dosage of SikaGrind® is 0.5 kg/ton of cement.

- We assessed the potential negative side effects of our solution(s) in terms of environmental trade-offs and sustainability goals beyond GHG impact.
- We assessed and shared the potential rebound effects of our solution(s).



Sika's Avoided Emissions

Scan for more details and further information.

Third-Party Verification

Calculation is based on the data from the following EPDs: [SlagCement EPD](#), [CEM I EPD](#)

Based on the WBCSD Avoided Emissions Framework: [Avoided Emissions](#) | [WBCSD](#)

Contact