

## Optimization of the use of SCMs in low clinker cement (clinker factor lower than 50%)

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Replacement with different SCMs in cements is one of the potential alternatives to reduce CO<sub>2</sub> emissions related to cement production. However, blended cements present some limitations. First, and depending on clinker replacement levels, blended cements show lower early age strength development compared to PC resulting from the lower reactivity of SCMs, in particular slag and fly ash. Secondly, at late ages, SCMs slow down their own reaction. Since there is a lack of data to explain the factors that could limit or inhibit SCMs reaction, this project investigates several hypotheses using different as SEM, XRD, <sup>1</sup>H-NMR.... Once the limitations are well understood, the clinker factor will be reduced down to 30% which will help to reduce further the CO<sub>2</sub> emissions.