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CARBON CAPTURE AT CEMENT PLANTS, POTENTIAL EFFECT ON ENVIRONMENTAL PROPERTIES OF CONCRETE.

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Abstract

The cement and concrete industry is responsible for approximately 5 % of the Green House Gas emissions worldwide. An increasing focus on the environmental impact of our industry has led to a change in the perception of the sustainability of our products. This again has led to an increased competition from other building materials with more focus on environmental properties than cost and technical performance. We have during the last years experienced reduced competitiveness of concrete especially on residential and commercial buildings. At our cement plant in Brevik, HeidelbergCement have an ongoing pilot project in cooperation with the Norwegian government, to install a full scale CO₂ capture plant on the cement kiln. Capture capacity of this pilot will be approximately 400.000 t CO₂ pr. year which will reduce the emissions by more than 50%. Carbon Capture is an essential part of the Zero CO₂ vision for our products which in combination with other reducing measures will bring the CO₂ emissions to a very low level. Drastic CO₂ reduction is necessary to re-establish the perception of our products as environmentally friendly and to secure our position as competitive building material for both residential and commercial buildings. This paper summarises the carbon capture project at Norcem Brevik, put this in the context of our zero vision and gives an overview of the effect this will have on the environmental performance of our cement and concrete products.

Keywords: Cement, Concrete, CO₂ emissions, Carbon capture, Environmental performance.