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HeidelbergCement pioneers new carbon capture technology in Redding, USA

HeidelbergCement's US subsidiary Lehigh Hanson and Silicon Valley-based materials technology company Fortera have announced a collaboration to implement a new type of carbon capture and utilisation (CCU) technology in a pilot installation at Lehigh's Redding California cement facility, with an expected 60% reduction in CO2 emissions per tonne of product. Both partners will construct and operate a small commercial plant where CO2 will be captured from the kiln exhaust and converted into a cementitious material. The final product will be suitable for use as a new low carbon SCM (Supplementary Cementitious Material) in the production of high-quality concrete with a lower CO2 footprint.

"We are delighted to add yet another technology to our existing portfolio of carbon capture initiatives, contributing to the circular economy", says Dr. Dominik von Achten, Chairman of the Managing Board of HeidelbergCement. "Carbon capture and utilisation or storage (CCU/S) is one key lever to significantly reduce otherwise unavoidable greenhouse gas emissions in the cement industry. This is why building new partnerships towards CCU/S and investing in breakthrough technologies are a core part of HeidelbergCement's climate strategy."

The product generated within the new carbon capture process at the Redding plant will be the first cementitious material produced commercially from CO2 captured directly from a cement kiln. Fortera's proprietary recarbonation (ReCarb™) process works by tapping into the existing feedstock and equipment at the plant, while production carries on as usual from the quarry to the kiln. Instead of then releasing CO2, the kiln exhaust is captured and mineralized into a cementitious material. The material can be co-blended with portland cement and used by ready mixed concrete producers as a Supplementary Cementitious Material (SCM) or as a cementitious binder for preformed concrete materials like bricks, blocks or precast structures.

The collaboration with Fortera aims to prove the commercial scalability, the quality of the final product, and the competitive economics of the technology.

About HeidelbergCement

HeidelbergCement is one of the world's largest integrated manufacturers of building materials and solutions, with leading market positions in aggregates, cement, and ready-mixed concrete. Around 54,000 employees at more than 3,000 locations in over 50 countries deliver long-term

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