SIKA'S RECO$_2$VER® CONCRETE RECYCLING TECHNOLOGY

In August 2023, Sika announced that its reCO$_2$ver® technology, which "involves a novel concrete recycling process that allows old concrete to be entirely reused while facilitating the sequestration of CO$_2$," has received a commitment by Switzerland's Climate Cent Foundation, which is "guaranteeing the purchase of CO$_2$ certificates" in the amount of approximately $11.2 M USD ($10 M CHF) by the end of 2030.[1]

Fig. 1: Sika's reCO$_2$ver® recycling technology.[3]

According to MIT's Climate Portal, Carbon offset certificates are "tradable 'rights…linked to activities that lower the amount of Carbon dioxide (CO$_2$) in the atmosphere. By buying these certificates, a person or group can fund projects that fight climate change instead of taking actions to lower their own carbon emissions. In this way, the certificates "offset" the buyer's CO$_2$ emissions with an equal amount of CO$_2$ reductions somewhere else".[2]

Because CO$_2$ emissions from the construction and building industries account for approximately 40% of global emissions, and the cement industry, in particular, accounts "for more than 8% of greenhouse gas emissions," Sika has developed the reCO$_2$ver® technology to "make it possible to completely recycle concrete demolition waste".[1]

Sika's reCO$_2$ver® technology separates old concrete into its individual components (gravel, sand, and cement stone), and it binds "additional CO$_2$ through a chemical process" which is later "optimized using Sika additives." Since October 2021, Sika has operated a pilot facility for this process in Switzerland, and now that the test phase is over, the recycled concrete can be "repurposed as a substitute for cement in concrete production".[1]

Congratulations to ASA Sustaining Corporate Member, Sika, on this major accomplishment in developing and funding sustainable practices within the concrete and construction industries.

REFERENCES:

1. "CHF 10 Million in Financial Support for Sika's Innovative Concrete Recycling Technology," Sika, published August 24, 2023, https://www.sika.com/en/media/media-releases/2023/support-for-sikas-innovative-concrete-recycling-technology.html

2. Angelo Gurgel, "Carbon Offsets," MIT Climate Portal, updated November 8, 2022, https://climate.mit.edu/explainers/carbon-offsets.

3. "ReCO$_2$ver," Sika, published February, 24, 2022, https://www.sika.com/en/media/insights/sikanews/recover.html.