Heidelberg Materials

Capture the imagination

More future with less CO₂: carbon captured net-zero cement



Revolutionising cement production

Decarbonising cement is one of the most complex tasks in the Green Transition. At Heidelberg Materials, we are addressing this challenge with our full energy.

We're taking the lead in the decarbonisation of our sector. With our Brevik CCS project, we're pioneering carbon capture and storage in our industry at scale. Our new evoZero range makes us the first company in the world to offer carbon captured net-zero cement through the application of CCS technology in Brevik, Norway – and without using offsetting with credits generated outside our value chain.

Pioneering the decarbonisation of our sector

Carbon capture technology has the potential to completely transform cement production and enable a whole new level of CO₂ reduction. We have been developing the industry's first large-scale CCS facility in Norway since 2005.

Once operational, the facility at our Brevik plant will capture 400,000 tonnes of CO_2 annually, equaling 50% of the plant's emissions.

The success of Brevik CCS is the result of our unique team spirit and belief in new technology, plus years of expertise and thousands of hours of hard work. As the world's first site to capture carbon emissions from clinker production on an industrial scale, Brevik is revolutionising cement production.



Introducing our evoZero® products

The world's first carbon captured net-zero cement with 100% quality and transparency

By introducing the world's first carbon captured net-zero cement, we're giving forwardthinking construction partners the opportunity to build a better tomorrow.

Our customers will be able to choose between two evoZero products:



evoZero Carbon Captured Brevik is our mass-balanced product, produced in and

mass-balanced product, produced in and delivered from Brevik. The net-zero footprint is achieved over the entire life cycle.



Carbon captured

evoZero Carbon Captured can be delivered from any European plant nearby a customer project, while leveraging the unique carbon saving attributes realised in Brevik. It features a net-zero footprint upon delivery.

The carbon capture and emission accounting mechanisms have been reviewed by a thirdparty verifier, with each tonne of captured CO₂ only accounted for once. To support our ambition of becoming a tech leader in our industry, we will use blockchain technology to offer an additional layer of trust and provide proof that each carbon saving attribute is only consumed once.

For details on how we will assure net zero for both products, please see the figures on pages 5 and 6.



Demand for cement and concrete is set to increase by more than one-third by 2050.

iap.unido.org/articles/steeland-cement-can-drive-decadeaction-climate-change-how



"With evoZero, we have created the industry's most innovative, globally unique product for our customers, enabling them to deliver on their own ambitious sustainability targets and to drive cutting-edge, environmentally-friendly construction projects."

Dr. Dominik von Achten CEO Heidelberg Materials

Delivering complete flexibility with trusted product performance

As CCS technology will not change the chemical composition and performance of the cement, evoZero® can be used for all kinds of applications.

Our customers will benefit from complete flexibility and trusted product performance. Through CCS technology, we can offer our full local cement portfolio as evoZero Carbon Captured, from conventional highest strength CEM-I to CEM-III and rapid compression, regardless of weather conditions.



world is expected to build the equivalent of another New York City every month. iap.unido.org/articles/steeland-cement-can-drive-decade-

action-climate-change-how



Carbon Capture offers net-zero cement without compromising on quality

CO₂ footprint in [kg CO₂/t cement]						Reduction
				Clinker Share	Strength Class	
Regular CEM-I			870	95%	52.5R	Conventional product
Lowest Carbon CEM-II B		480		60%	42.5N	~ 45% reduction via alternative fuels & lower clinker ratio
Lowest Carbon CEM-III	200			30%	32.5N	~ 80% reduction via alternative fuels & lower clinker ratio
evoZero Carbon Captured [net-zero]			any	any	 ~ 100% reduction via CCS • No compromise • High performance 	

Understanding our products: evoZero® Carbon Captured Brevik Net-zero footprint achieved over the entire life cycle

The net-zero claim is based on a mass-balance allocation approach of carbon savings from Brevik's CCS facility as well as downstream carbon savings over the whole product lifecycle achieved through natural recarbonation, which can be claimed by the customer (see study by Swedish Environmental Research Institute IVL). The mass-balance allocation process is independently reviewed by Det Norske Veritas (DNV).



3. Based on study by Swedish Environmental Research Institute IVL

4. The methodology for carbon accounting and mass balance chain of custody on cement level has been independently reviewed by DNV for a net-zero claim; representation in EPDs.

5. The carbon saving allocation is tracked through blockchain technology to prove that each carbon saving attribute is only consumed once.

- carbon emissions
 - carbon savings

Understanding our products: evoZero® Carbon Captured Net-zero footprint upon delivery

The net-zero claim is based on a book-and-claim allocation approach of carbon savings from Brevik's CCS facility (a process independently reviewed by Det Norske Veritas (DNV)) as well as downstream carbon savings over the whole product lifecycle achieved through natural recarbonation, which can be claimed by the customer (see study by Swedish Environmental Research Institute IVL). The allocation of carbon savings within Heidelberg Materials' own value chain (even if across sites) is also known as 'insetting'. The book-and-claim allocation process is independently reviewed by DNV.



3. Based on study by Swedish Environmental Research Institute IVL.

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carbon emissions
 carbon savings

Inspiring you to create the sustainable buildings of tomorrow

We want to inspire our customers and partners to build 'lighthouse' projects with evoZero", the first carbon captured net-zero cement.

Using the world's first carbon captured net-zero cement will transform your project into a sustainability flagship.

Using evoZero, you can...

- Reduce the carbon footprint of your construction projects
- Contribute towards climate targets
- Contribute towards achieving environmental regulatory requirements and green procurement criteria
- Work towards sustainable building certifications
- Work towards commitments such as the GHG protocol, the Science Based Targets initiative, etc.
- Become sustainability pioneers in your field of business.



Need more information?

If you have any questions about evoZero, please get in touch. We will gladly explain the available specifications and possible areas of application, or discuss how evoZero can be used for your sustainable building project. Please send your enquiries to:

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