

CCUS at Heidelberg Materials. More future through less CO2.

Asier Ochoa de Eribe Iturrieta

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Heidelberg Materials is one of the world’s largest building materials companies

49,000
employees
on 5 continents

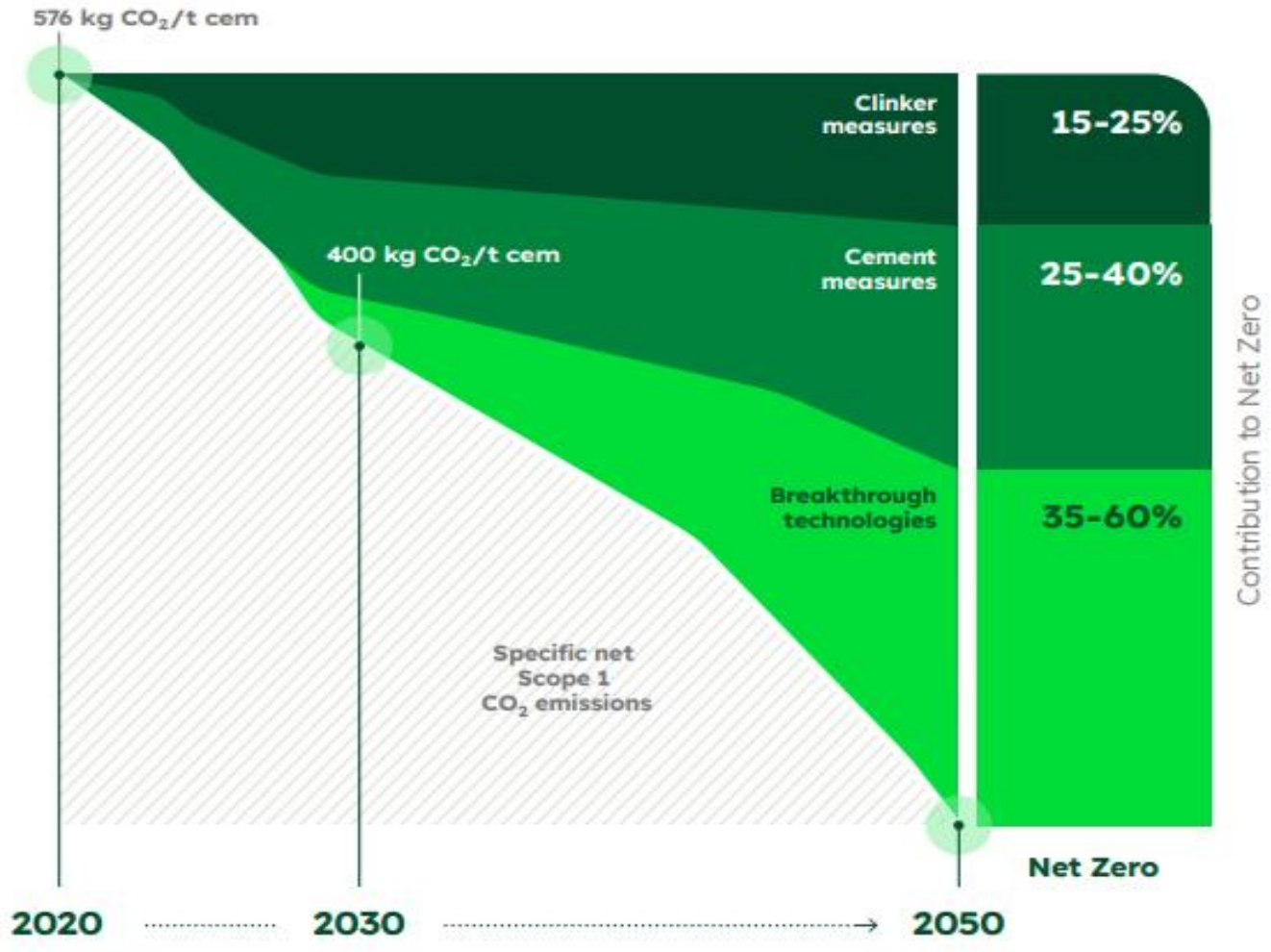
3,000
locations
worldwide

Leading positions in cement, aggregates, and ready-mixed concrete



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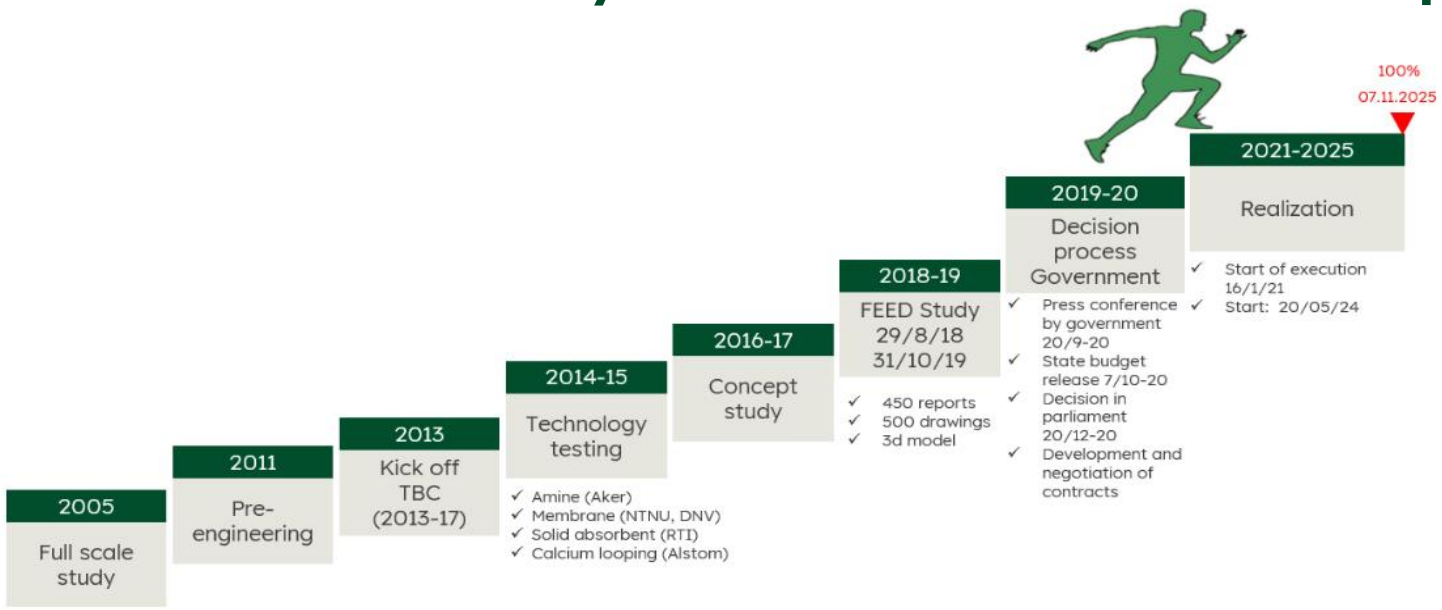
We are pulling all levers on our path to Net Zero

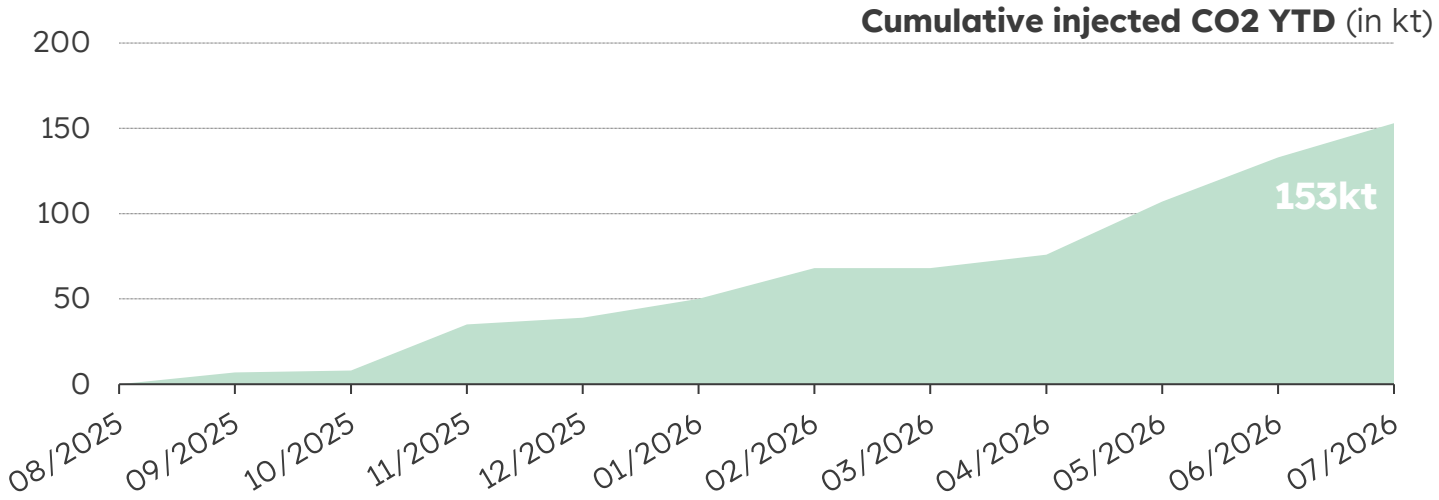


Levers to reach Net Zero

- **Clinker Measures**
  Increase efficiency of plants
  >50% Alternative fuels rate
  20% Biomass fuels rate
- **Cement Measures**
  Clinker incorporation: <64%
  Drive circularity
- **Breakthrough technologies**
  New technologies, such as CCUS

The world's first and only industrial-scale carbon capture unit in a cement plant





- **90% performance rate** already within 8 months
- > **150,000-tonne CO_2** stored; not a single shipload rejected
- The principle of **evoZero® deliveries** to customers including certification
- How to **collaborate with government**
- Unique vehicle to **support** other projects in **advocacy**

Lengfurt Cap2U. JV, enabling market-ready, purified and liquefied foodgrade CO_2

Cap2U CCU Plant

- **Largest commercial CCU plant in Europe** in the cement sector
- **Capture capacity:** ~70,000 t CO_2 per year (10% of plant's CO_2)
- **Technology:** OASE® blue solvent absorption with CO_2 purification + liquefaction ("foodgrade CO_2")
- **CO_2 use cases:** food & beverage / food industry, greenhouses, water treatment, mineralization (remineralization)
- **Delivery model / operator:** JV with Linde – turnkey delivery and operations
- **Start of operations:** ~end 2026
- Supported by **KEI** (BMWK-funded)





kei KOMPETENZZENTRUM KLIMASCHUTZ IN ENERGIEINTENSIVEN INDUSTRIEN

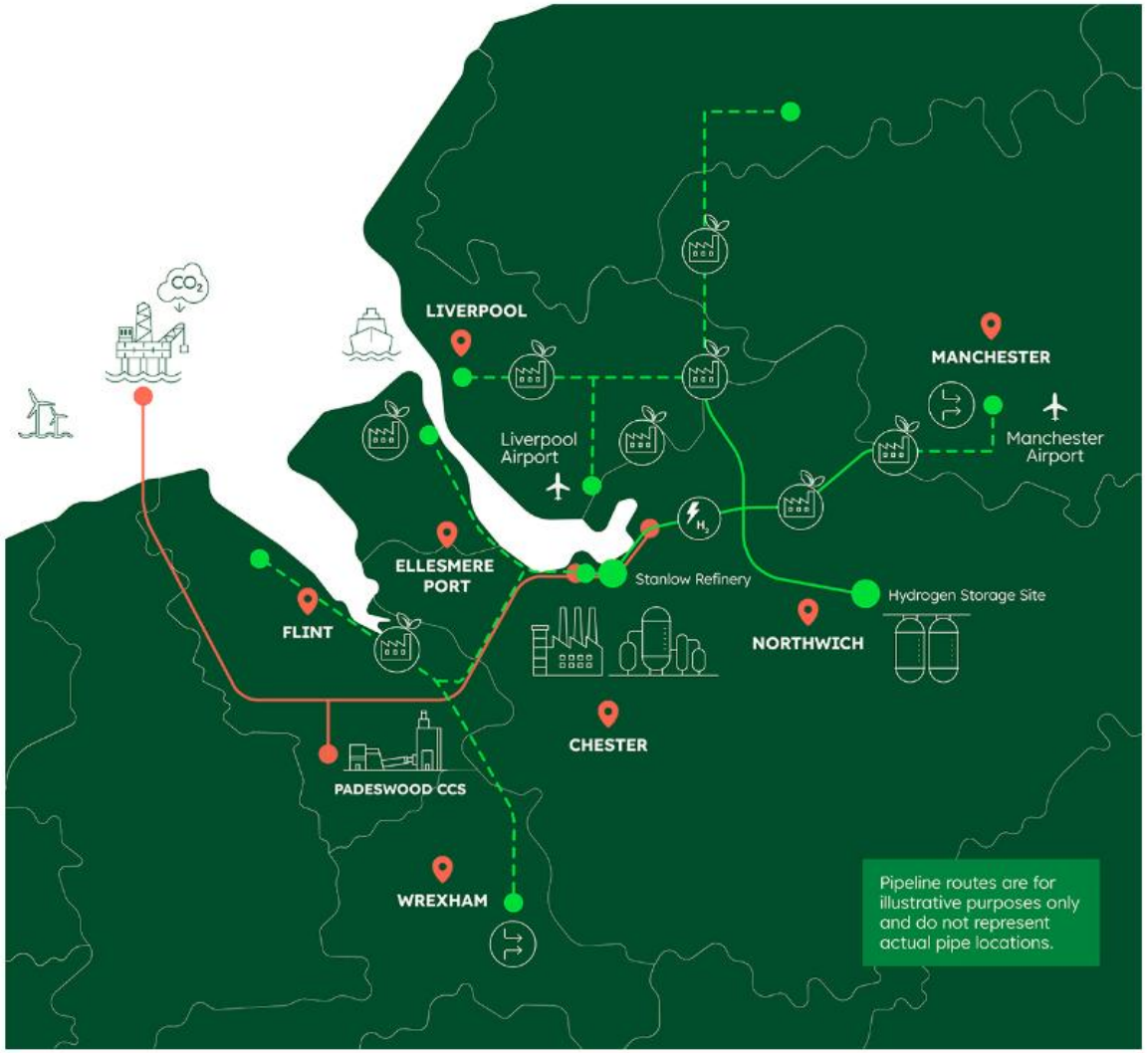
Linde

Heidelberg Materials

Gefördert durch: Bundesministerium für Wirtschaft und Klimaschutz aufgrund eines Beschlusses des Deutschen Bundestages

Finanziert von der Europäischen Union NextGenerationEU

Padeswood CCS. HyNet Cluster



- World's first carbon capture facility to enable **fully decarbonised cement production.**
- Around **800.000 CO_2 tonnes/year** captured and stored.
- Will produce **evoZero** carbon-captured near zero cement
- Part of the wider **HyNet** North West decarbonisation cluster.
- Could save **10 million tonnes CO2/year**
- Helping the **UK** meet its **decarbonisation targets**

GeZero

GeZero. Being pragmatic to follow the path

GeZero Plant Scope

- **Full-scale Oxyfuel kiln** with carbon capture & storage plant
- CO2 capture unit: Cryogenic CO2 capture
- Clinker production capacity: ~2,700t/day | Storage **volume: ~700 ktpa CO2**

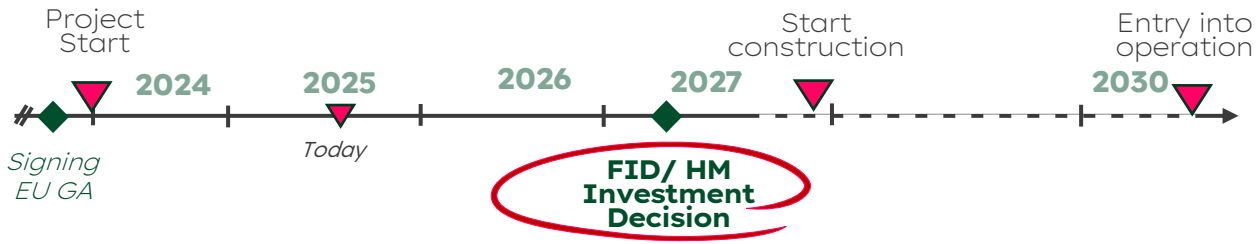
Transport & Storage

- **Transport to storage location by railway**
- CO2 Storage: **Offshore storage in Danish North Sea or onshore in Denmark**

Invest-ment & Funding

- **Secured EU Grant: 190.9 m€** (total investment sum exceeds €0.5 billion)
- EU Grant payments according to defined milestone plan
- Uncertainty about future of German CCfD

Timeline according to EU IF



GeZero: Implementation of the CO_2 capture project paused – Geseke site remains important

Heidelberg, 22 October 2026 – Heidelberg Materials has decided to pause its GeZero project in Geseke, Germany, in its current form and to further optimise the project setup. Despite all efforts, the implementation of the project cannot progress as planned. Current framework conditions are not yet sufficient to support a robust business case. In particular, the relevant value chains are not yet mature enough to ensure that CO_2 transport and storage infrastructure solutions will be available on time, and at an acceptable level of economic risk for us as a CO_2 producer.

"As a listed company, we will only pursue CO2 capture if we have a stable, sound business case for it. We do not yet have that in Geseke," said Dominik von Achten, CEO of Heidelberg Materials, describing the decision to pause project execution as necessary under current market conditions.

GeZero will be first large-scale Oxyfuel project for HM and Germany's largest single location investment in history

Hub COnet2 North



Petronor

Heidelberg Materials

Calcinor

Terresis Centro de Magnesitas Navarras

Otras industrias emisoras

Emissions to abate in the Basque Country, Cantabria, and Navarre

~2,0 Mt/a

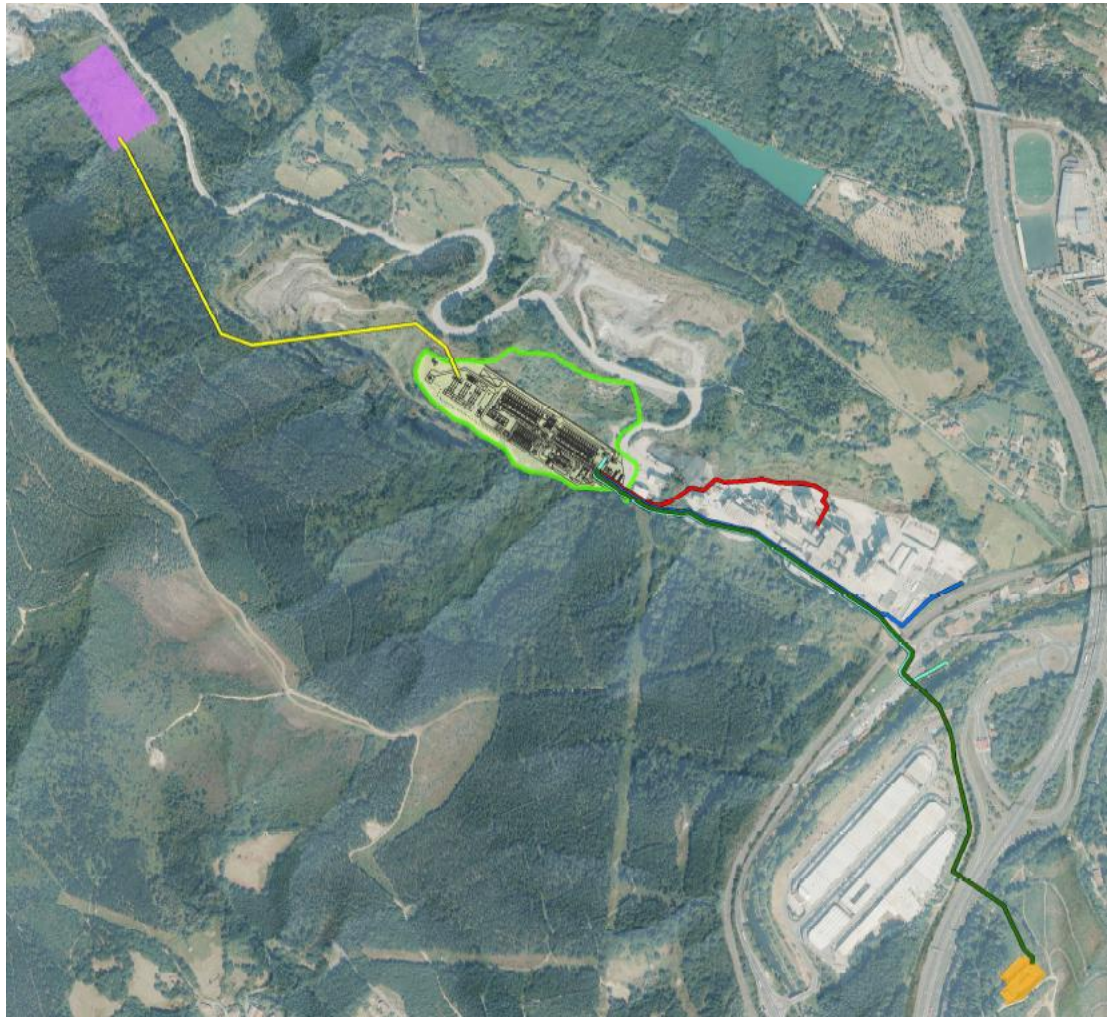
Start date

2033

The Hub includes capture facilities in the different emitters, pipelines for transporting the captured CO2 to the BBG (owned by EVE and Enagas) and El Musel (owned by Enagas) plants where it will be temporarily stored and liquefied, taking advantage of the residual cold of liquefied natural gas for its subsequent maritime transport to storage facilities in Europe.

Hermes

- **Synthesize RFNBO** for transport or chemical industry **out of green hydrogen (H_2) and carbon (CO_2)** captured from our cement plant in Arrigorriaga (300 kt CO2/y).
- The green hydrogen is **generated using electrolysis,** with the resulting **oxygen (O_2) used for oxyfuel combustion** at HM kiln
- Joint Venture with the right partners: **Repsol/Petronor**, **Enagas Renovable**.
- **Two phases: H2 and CCU/S**





Heidelberg Materials