| Project Factsheet |

The objective of the CO2ncrEAT project is to contribute to the decarbonisation of the European construction sector, offering a new line of carbon negative precast materials, such as masonry blocks. This project offers a sustainable and environmentally sound alternative to the concrete manufacturing process that is traditionally used for those blocks. Instead of the traditional aggregates and binders used in masonry blocks, the new CO2ncrEAT process will reuse residues from slag recycling centres and CO2 captured from the exhaust gases of a lime manufacturing process. The project will lead to a relative greenhouse gas emissions avoidance of 176% compared to the reference scenario.

Carbstone Technology® is a patented process developed by Orbix Solutions to produce precast elements for the construction sector. This is done through the combination of recycled by-products

### COORDINATOR
PREFER CONSTRUCT

### LOCATION
Belgium

### CATEGORY
Energy intensive industries (EII)

### SECTOR
Glass, ceramics construction material

### AMOUNT OF INNOVATION FUND GRANT
EUR 4,265,136

### EXPECTED GHG EMISSIONS AVOIDANCE
190,967 tonnes CO2 equivalent

### STARTING DATE
01 June, 2023

### ENTRY INTO OPERATION DATE
01 July, 2026

### FINANCIAL CLOSE DATE
30 June, 2025

Updated on 15 April 2024
from the stainless steel industry and CO2 as binder. Thanks to the close collaboration between the members of the consortium, this technology will be adapted to directly use the industrial furnaces from the lime kilns of Lhoist. CO2nCrEAT will use CO2 without purification or liquefaction. The energy needs of the process will be therefore greatly reduced and the masonry blocks will store more CO2 eq than the GHG emissions emitted during the manufacturing process. Based on an annual production of 130,000 tonnes of eco-friendly and durable blocks, in terms of greenhouse gas emissions avoidance CO2nCrEAT will avoid more than 190,000 tonnes of CO2 equivalent over its first ten years of operation. The foundation of the CO2nCrEAT project lies in the development of a strong local circular economy. The lime produced by Lhoist is used (outside the project) by the stainless steel industry in their production process (for purification purposes).

The slag that is a by-product of stainless steel production is used by Orbix Solutions, which ensures the recovery of the carbonated mineral material. This will then become the raw material used for the manufacture of the carbonated masonry blocks by Prefer. The CO2 needed for the carbonated block is produced during the lime production by Lhoist and transported to the production plant by pipeline, which will be built and operate by Fluxys Belgium. CO2nCrEAT will enable the four project partners to ensure the sustainability of their local businesses by offering a unique and innovative solution, in line with European climate objectives. Once implemented, the consortium will focus on the development of other types of precast products for the construction sector. This pioneering project can be easily replicated in Europe.

| Beneficiaries |
|---------------|--------------|
| PREFER CONSTRUCT | Belgium |
| ORBIX SOLUTIONS | Belgium |
| FLUXYS BELGIUM SA | Belgium |
| CARRIERES ET FOURS A CHAUX DUMONT-WAUTIER | Belgium |