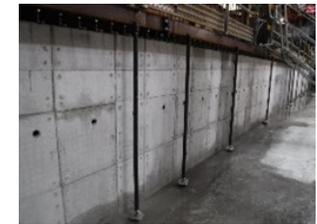
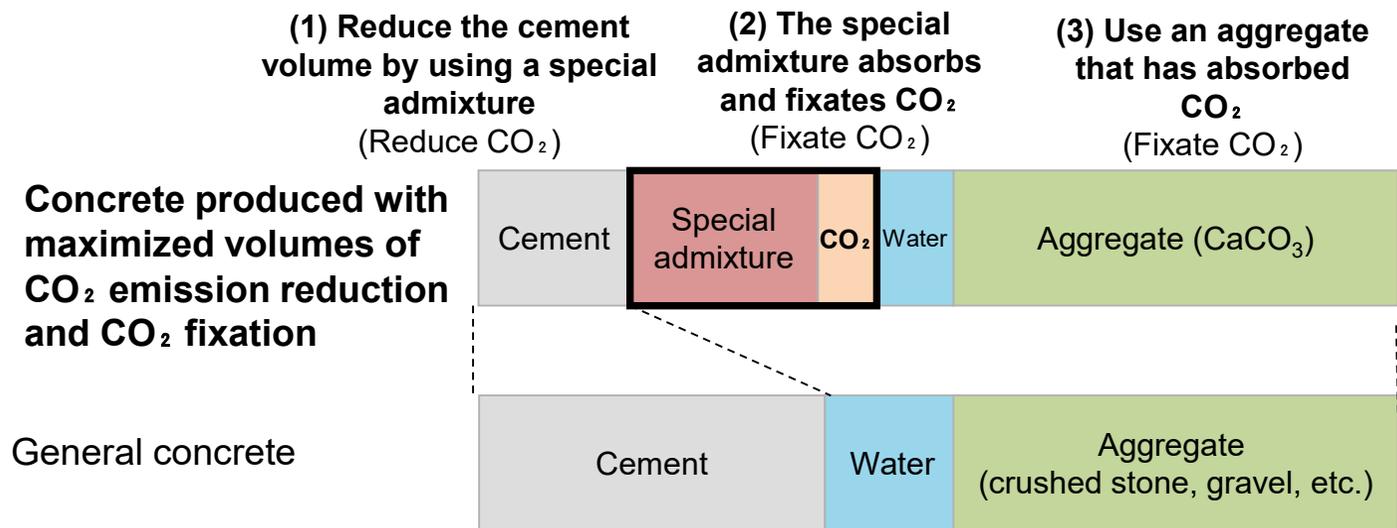


Development of Technology for Producing Concrete and Cement Using CO₂ (Concrete Field)

(Amount covered by the government: Up to 35.94 billion yen)

- There are high expectations that using CO₂ in concrete by means of Carbon Recycling technology will be implemented in society, as it will make it possible to fixate CO₂ by means of large-scale and long-term use.
- With a view toward social implementation, it will be important to solve challenges such as maximizing volumes of CO₂ emission reduction and CO₂ fixation (*), expanding applications and reducing costs (material development, manufacturability and workability), and reducing CO₂ emissions in the manufacturing process, all while ensuring safety.
 [Target] CO₂ reduction of 310-350 kg/m³ (of which the CO₂ fixation volume is 120-200 kg/m³)
 Costs that are less than or equal to those of existing products (Reference figures: Precast concrete = around 30 yen/kg; ready mixed concrete = around 8 yen/kg)
- For this purpose, efforts are to be made toward establishing and standardizing the following: development and combined use of materials for fixating CO₂ (special admixtures, aggregates, etc.), manufacturing and construction techniques to minimize costs, and quality control methods, including evaluation of CO₂ fixation volumes.



[Mold frame]



[Road blocks]

Development of Technology for Producing Concrete and Cement Using CO₂ (Cement Field)

(Amount covered by the government: Up to 20.84 billion yen)

- Cement is made from limestone, clay, and other raw materials. The main raw material, CaCO₃, inevitably produces CO₂ through a decarbonation reaction.
- Develop a CO₂-recovering cement production process (*) that will recover nearly all the CO₂ from limestone, and also develop technology for using the recovered CO₂ as carbonate. [* The goal is to recover more than 80% of the CO₂ generated in the preheater]

<CO₂-recovering cement production process>

