

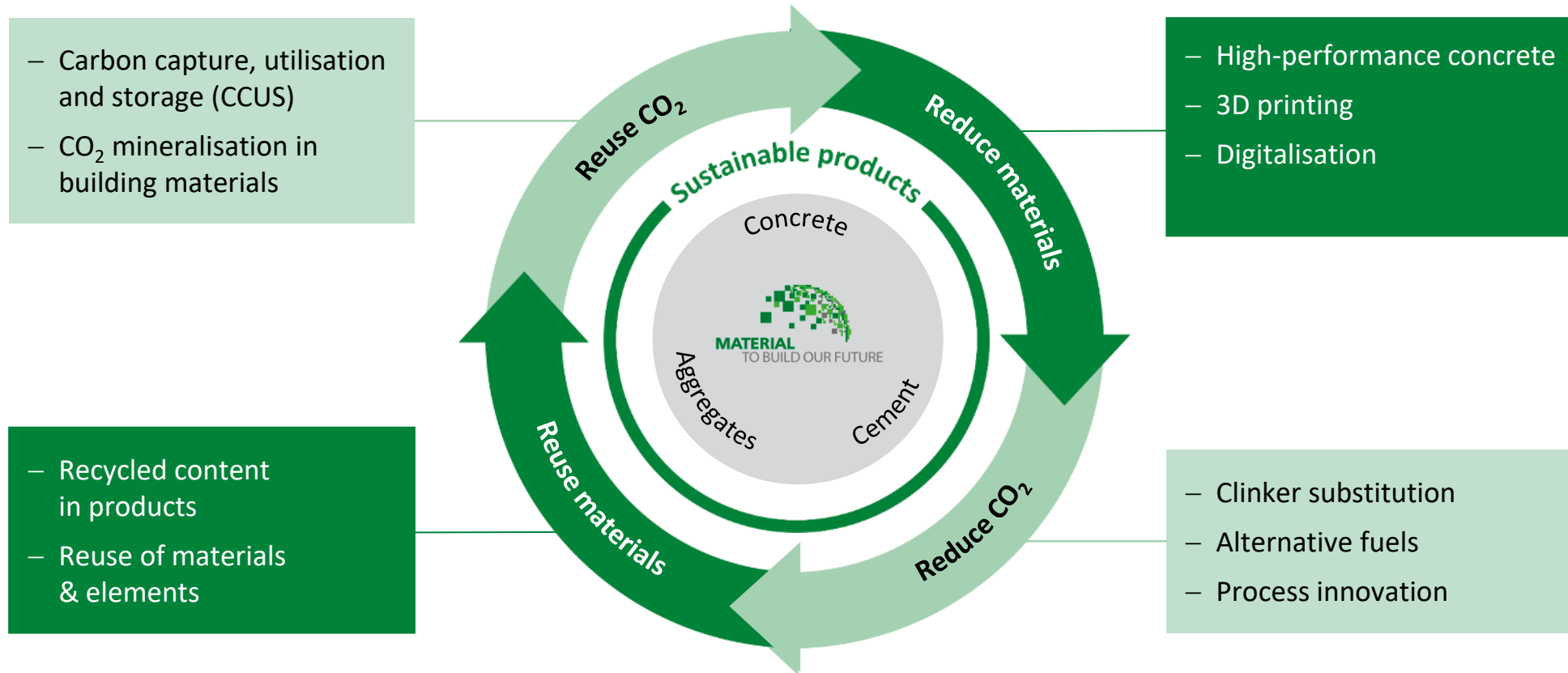


# #EUCircularTalks

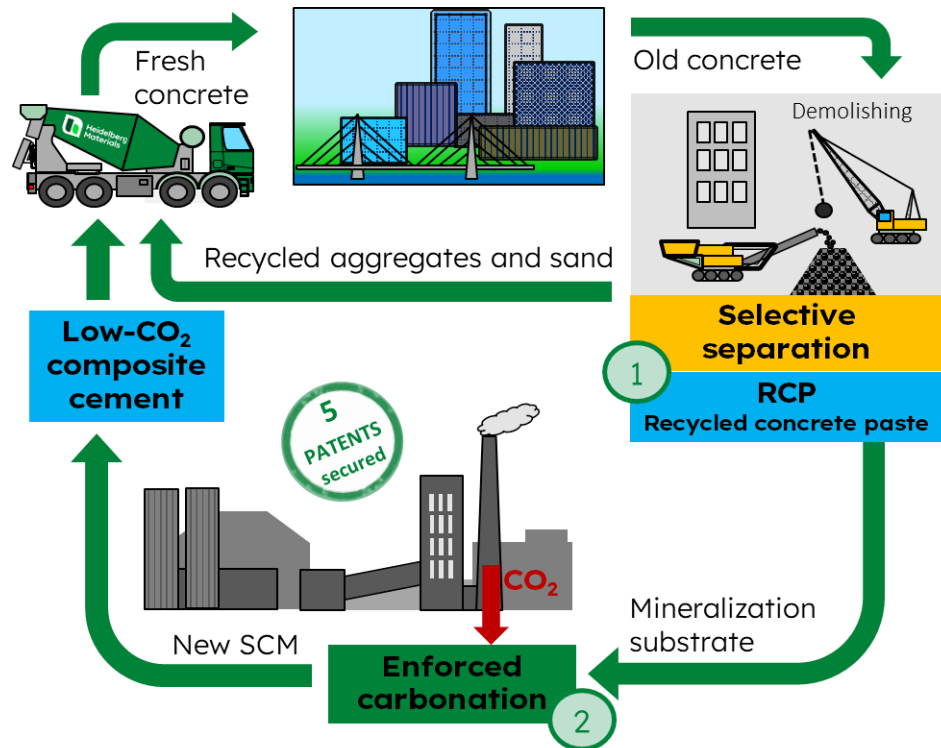
Closing infrastructure material cycles  
through European cooperation



## We are closing the carbon and materials loop



and have developed technologies to fully recycle concrete, including process CO<sub>2</sub>



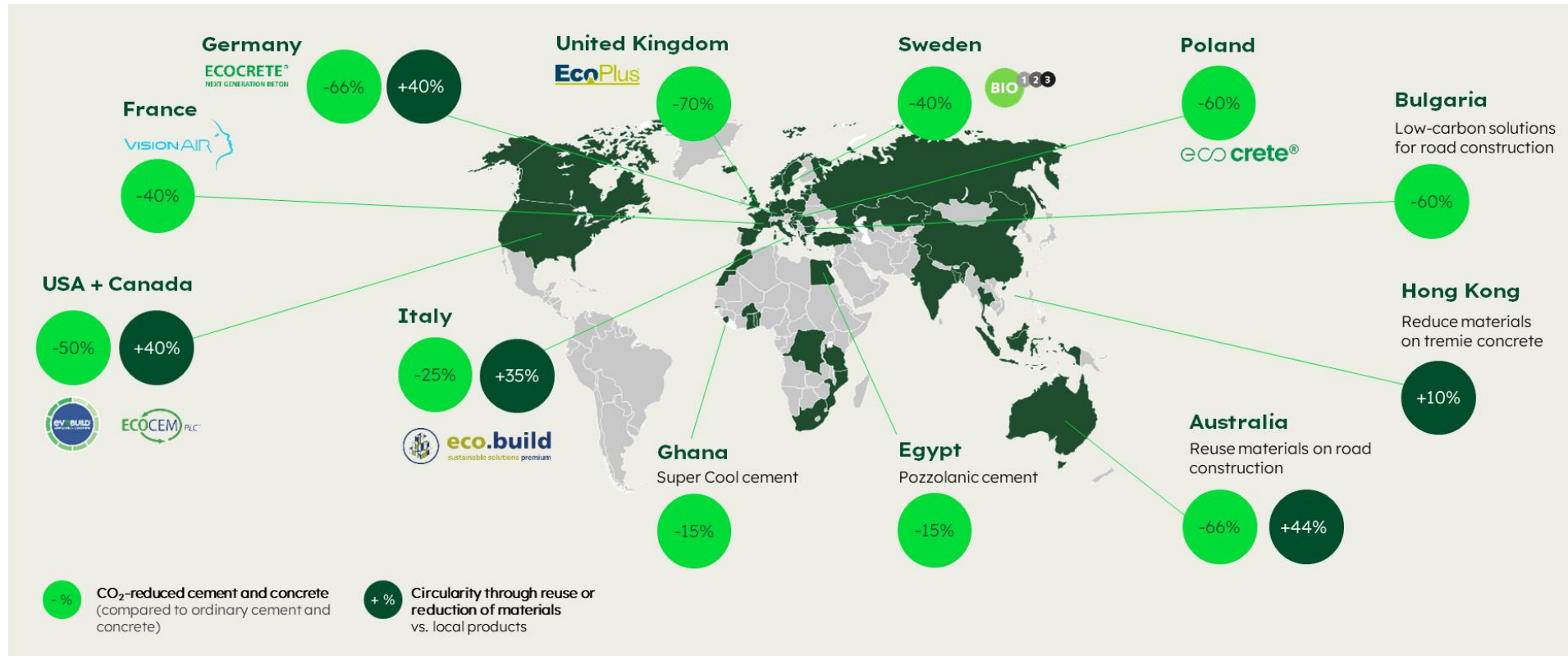
- 1 Selective separation**
  - ✓ Disintegration of old concrete into constituents: aggregates, sand and cement paste (RCP)
  - ✓ 100 % mechanical process: low energy / costs

Industrial piloting ongoing – mobile 100 tph plant running since summer 2021, stationary plant enters operation in 2023
- 2 Enforced carbonation**
  - ✓ CO<sub>2</sub> mineralization from raw flue gas using RCP = Carbon Capture and Storage technology
  - ✓ Thermodynamically favorable: fast, low energy demand
  - ✓ Reactive SCM formed from RCP upon carbonation

Industrial pilots entering operation in 2024 - Commercial pilots from 2025

# #EUCircularTalks - Closing infrastructure material cycles through European cooperation

enabling us to support the transition with a broad range of sustainable products



# #EUCircularTalks - Closing infrastructure material cycles through European cooperation



The Concrete Sustainability Council CSC has developed a dedicated certification module for recycled concrete creating transparency and credibility


**R-Module**

**Plant Requirements**

- R1 CSC certification Silver+
- R2 Traced R-material supply
- R3 R-material Consumption
- R4 Quality management
  - QMS, Use of certified R-material

**Product Requirements**

- R5 Concrete mix with minimum R-material content  $\geq 10\%$

The logo for the CSC Gold R-Module is a gold-colored badge. It features the CSC logo (a bird on a grid) at the top, the word 'GOLD' in a white box in the middle, and a smaller 'R' logo with four stars at the bottom.

Level	Min. volume-% R-material
1 Star	10
2 Stars	20
3 Stars	40
4 Stars	80

The R-Module is a **voluntary product add-on** to the traditional CSC-certificate

The R-Module

- aims at creating transparency and credibility
- can be used as a marketing tool for concrete to lead the recycled concrete dialogue

