

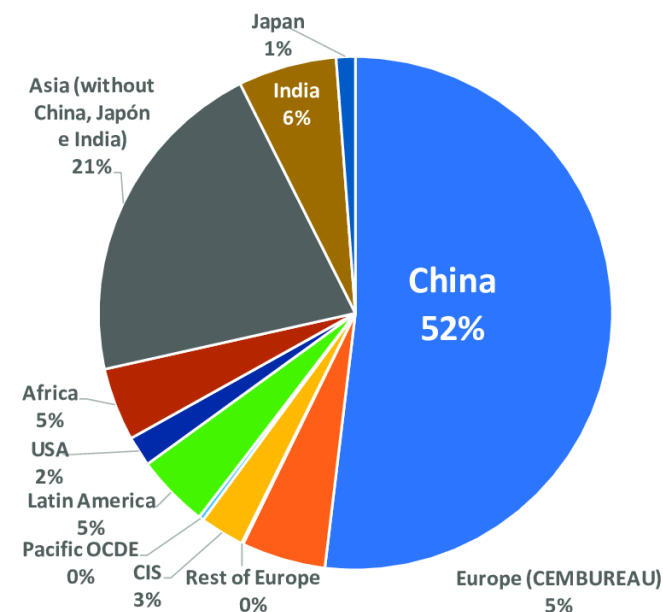
NANCY – 17 JUIN 2022

WORLD MATERIAL FORUM



In 2020	
14.0 billion m3 2020 volume of concrete globally	40% The percentage of total concrete production for residential market
4.2 billion tonnes 2020 cement production globally	\$440 billion The global cement and concrete products market value in 2020
In 2050	
9.8 billion Estimated world's population by 2050	68% Percentage of population living in cities

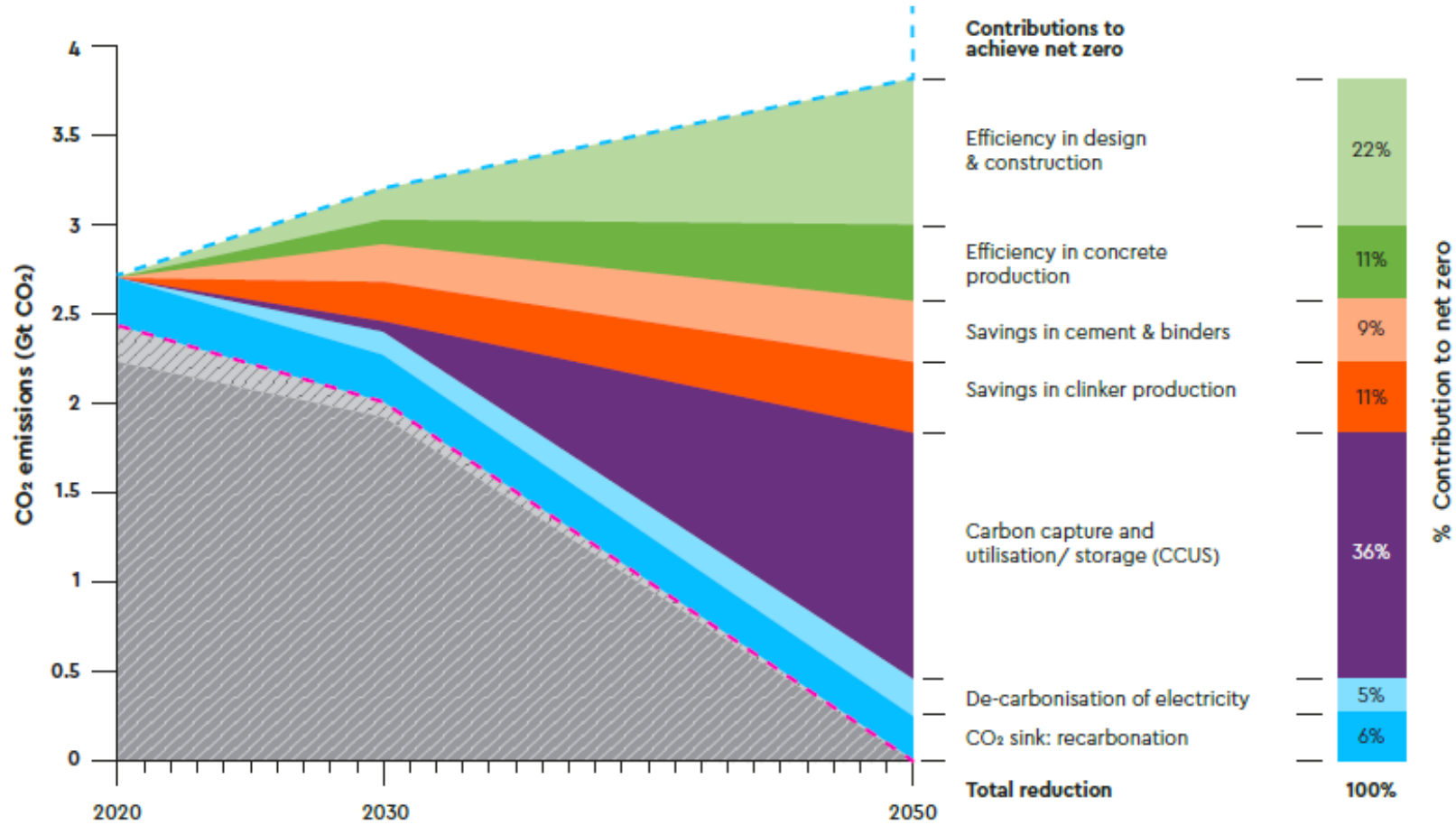
Source GCCA



Average CO2 emissions (2019)

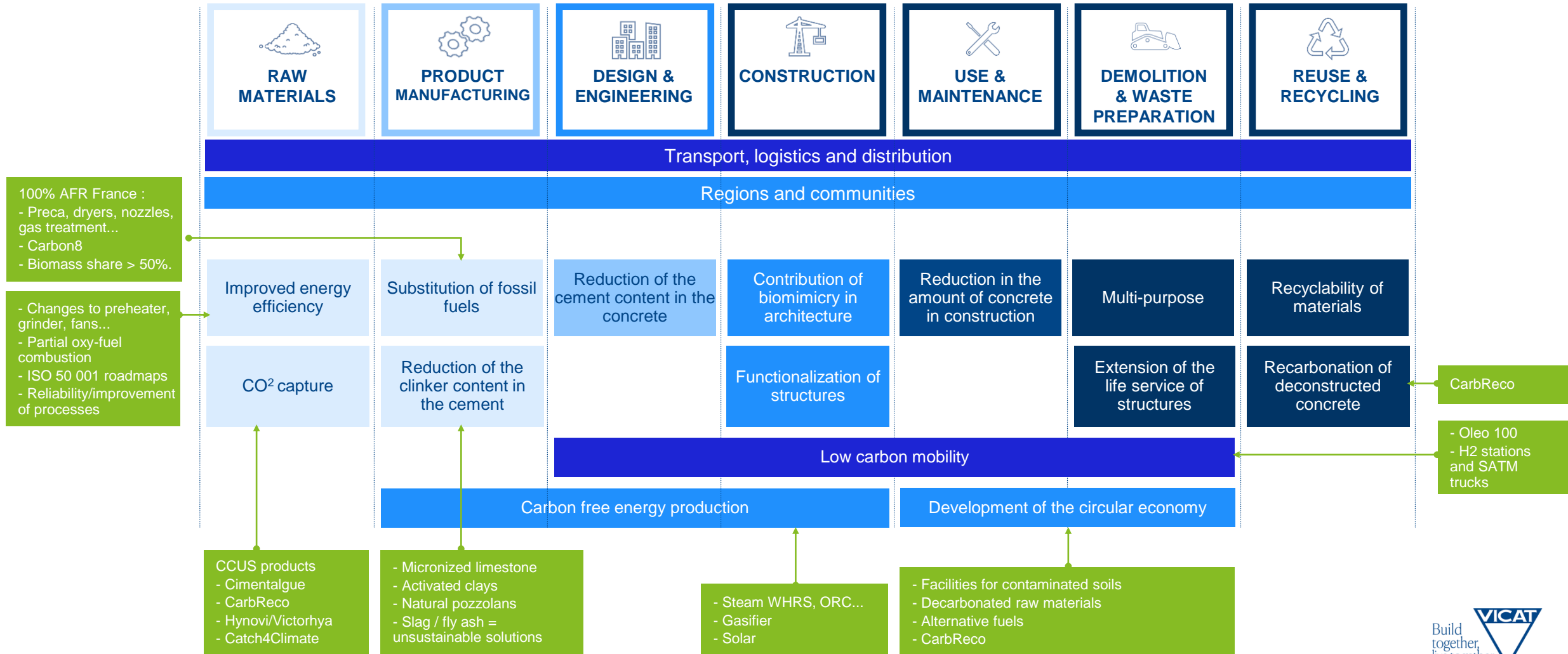
- World 604 kgCO₂ net / ton of cement
- North America 706 kgCO₂ net / ton of cement
- Brazil 534 kgCO₂ net / ton of cement

Net Zero pathway



Source GCCA

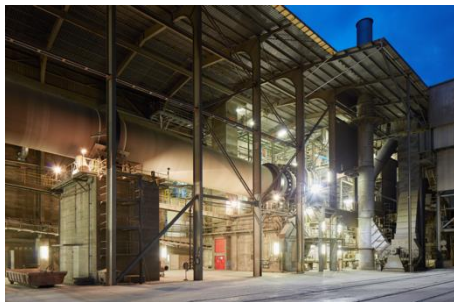
ACTIONS ACROSS THE WHOLE VALUE CHAIN IN ORDER TO ACHIEVE CARBON NEUTRALITY



Action levers in highly regulated markets



Replacing fossil fuels by alternative fuels and develop waste treatment as a new business



Example: Reuchenette



Example: Altola



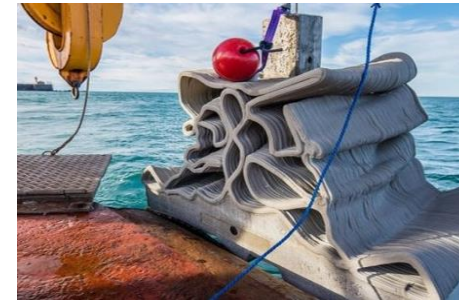
Reducing the clinker factor by using locally available materials such as clay, limestone or pozzolans



Example: Xeulley



Developing new low-carbon concrete solutions and making bolt-on acquisitions in Concrete.



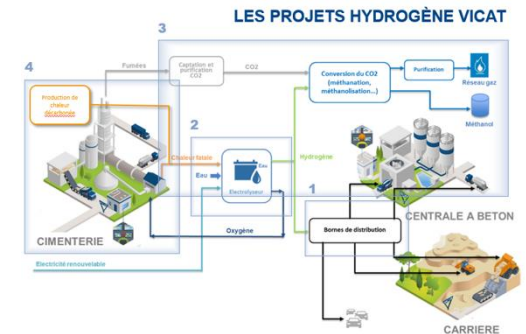
Example: 3D Printing



Example: Geneva



Preparing the future and benefitting from concentrated production of CO₂ as an economic opportunity for new products








Example: Montalieu

CIMENTERIE & ÉNERGIES DE DEMAIN

La valorisation du CO₂ émis lors de la fabrication du ciment permet de produire des énergies de synthèse au service du territoire, réduisant ainsi les émissions globales de la cimenterie, de l'industrie et des transports.

02-2022 - Illustration : Guillaume Gerniet

-  H₂ • Hydrogène
-  E-carburant
-  Chaleur
-  O₂ • Oxygène
-  CO₂ • Dioxyde de carbone



- 1 Énergie électrique décarbonée (nucléaire + renouvelable)
- 2 Four cimentier
- 3 Électrolyseur (production hydrogène + oxygène)
- 4 Production de chaleur décarbonée
- 5 Captage et purification du dioxyde de carbone
- 6 Conversion du dioxyde de carbone en e-carburant
- 7 Stockage et distribution du e-carburant (e-méthane, e-méthanol, e-kérosène)
- 8 Borne de distribution d'hydrogène

