GROUPE VICAT

ROADMAP CO2 VICAT & CCU

LITEN DAYS

2022 1st December - Eric Bourdon

Bâtir
le vivre
ensemble

Cement and Concrete around the world

In 2020

14.0 billion m³
2020 volume of concrete globally

40%
The percentage of total concrete production for residential market

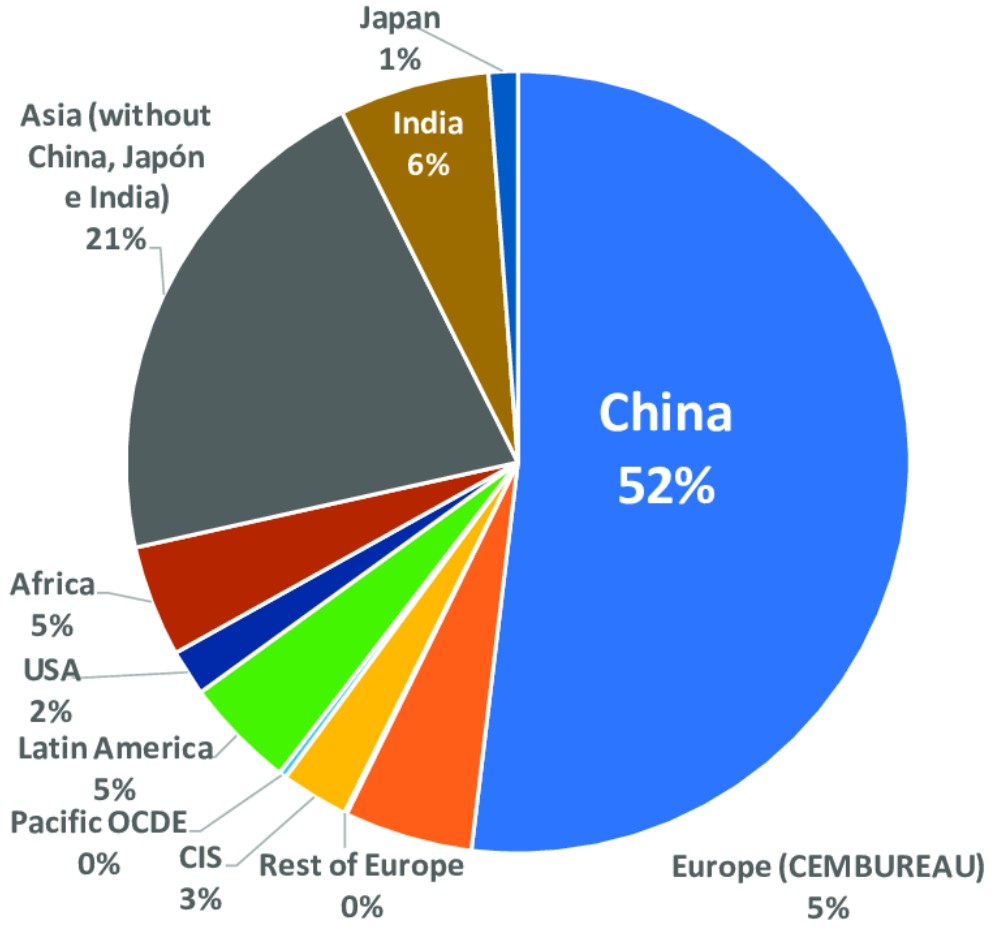
4.2 billion tonnes
2020 cement production globally

$440 billion
The global cement and concrete products market value in 2020

By 2050

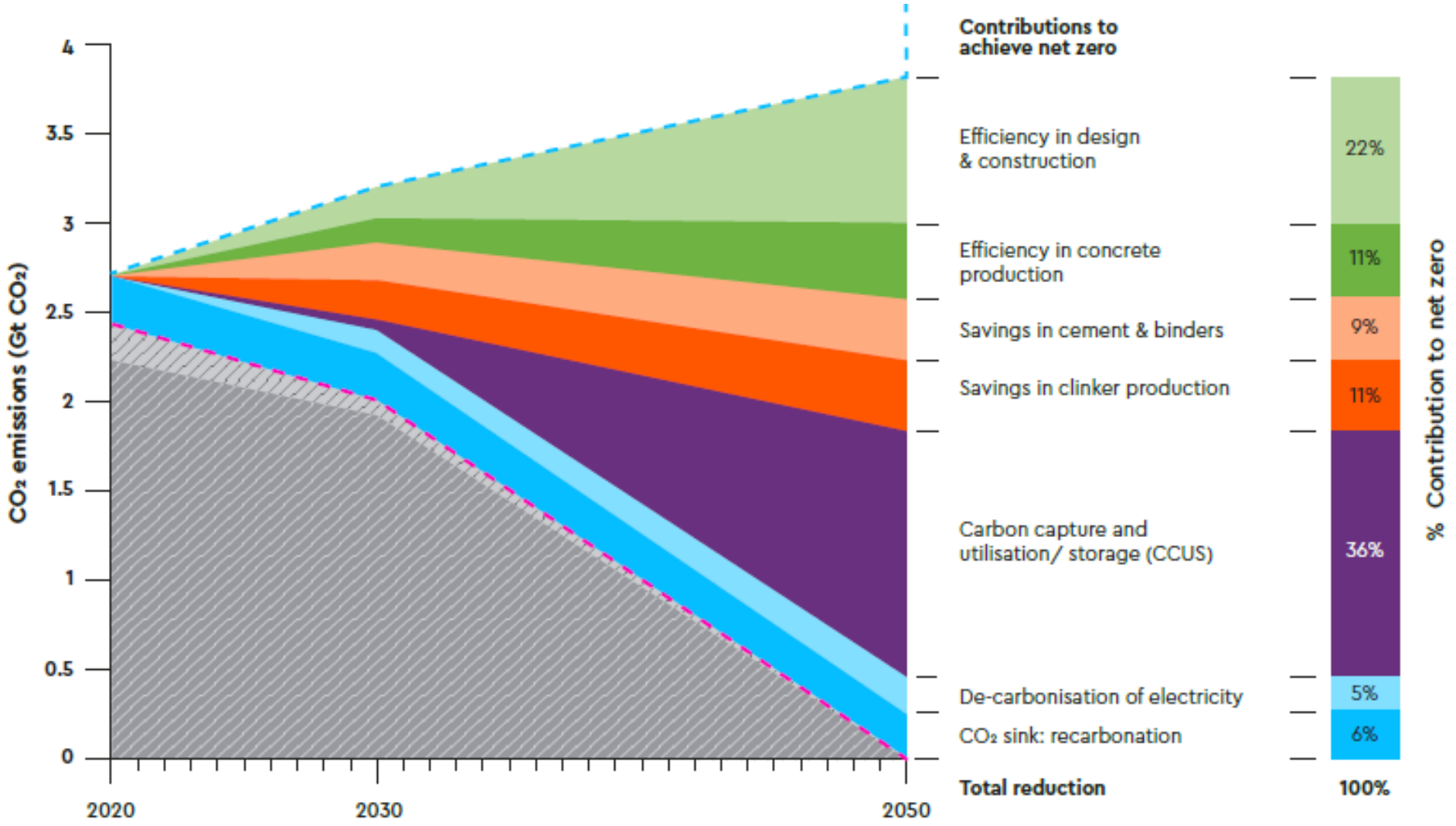
9.8 billion
Estimated world's population by 2050

68%
Percentage of population living in cities



Source GCCA

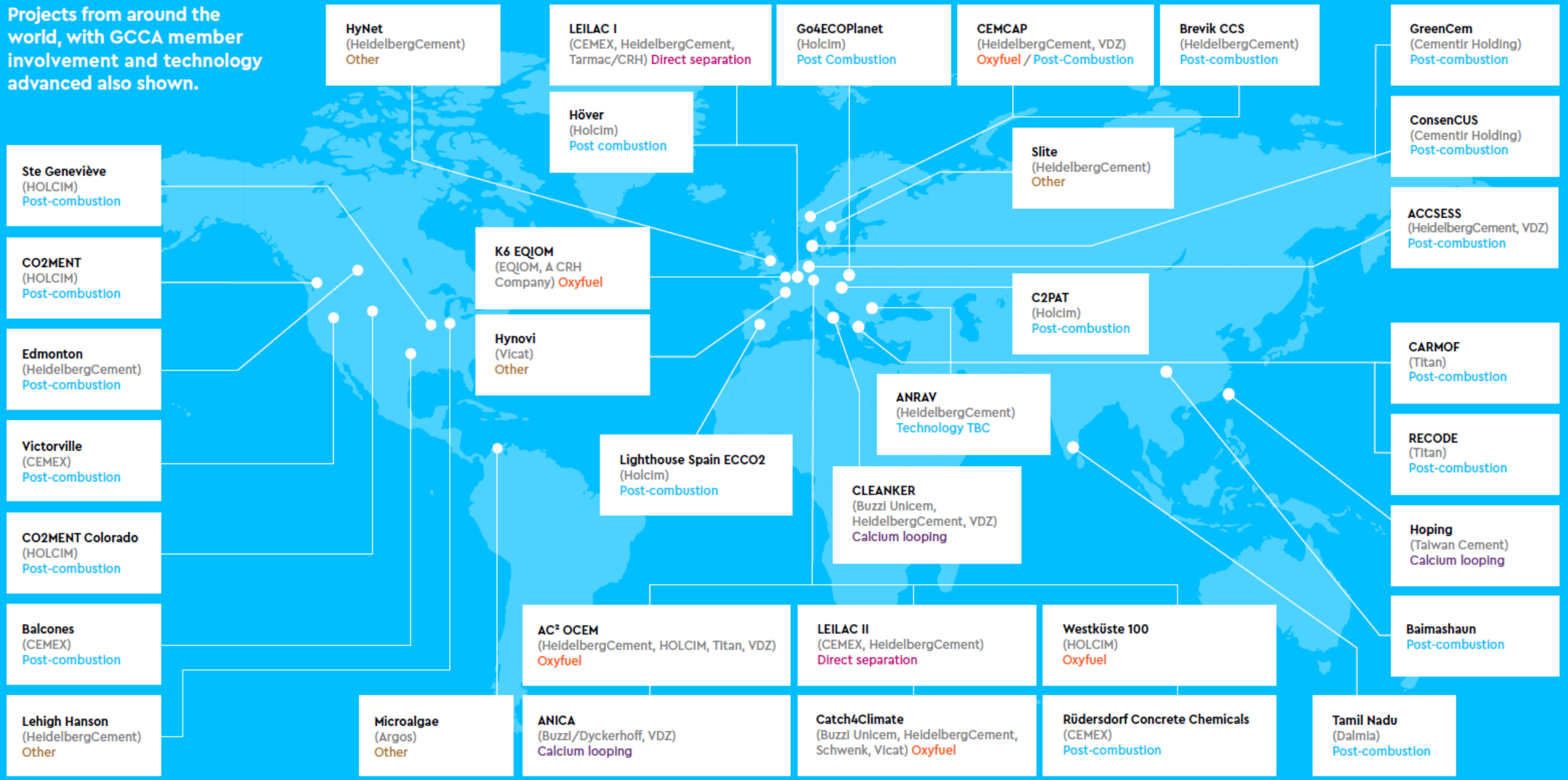
Net Zero pathway for the cement world



Source GCCA

CCUS projects around the world from GCCA

Projects from around the world, with GCCA member involvement and technology advanced also shown.



Vicat in numbers

3.123
billion euros sales
2/3 of which was generated outside France

12
countries

NEARLY **9,500**
employees

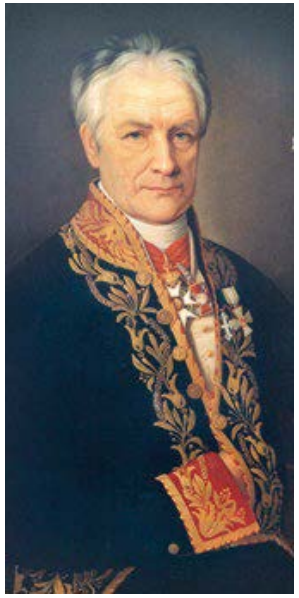
3 main businesses

CEMENT
16 cement plants
5 milling plants
28 million tons sold

CONCRETE
267 batching plants
10 million cubic meters sold

AGGREGATE
72 aggregate quarries
24 million tons sold

Vicat is a French company founded in 1853 in the footsteps of Louis Vicat, and is still family-run.
The Group lays out a top-class offering of mineral and bio-based construction materials, along with services that meet the needs of the construction trades.
For some years now, under its commitment to ecological transition, the Group has been reducing the carbon impact of all its businesses and putting the virtues of circular economy into practice.



By 2050, Earth's population will be 10 billion, and 75% of its inhabitants will live in urban environments.
Its sustainability, abundance, low cost, and ease of use make cement the unrivaled material for the construction of the smart cities of tomorrow.

Today
Net CO_2 emissions per ton produced in France (historical scope) **reduction of 15% between 1990 and 2019**

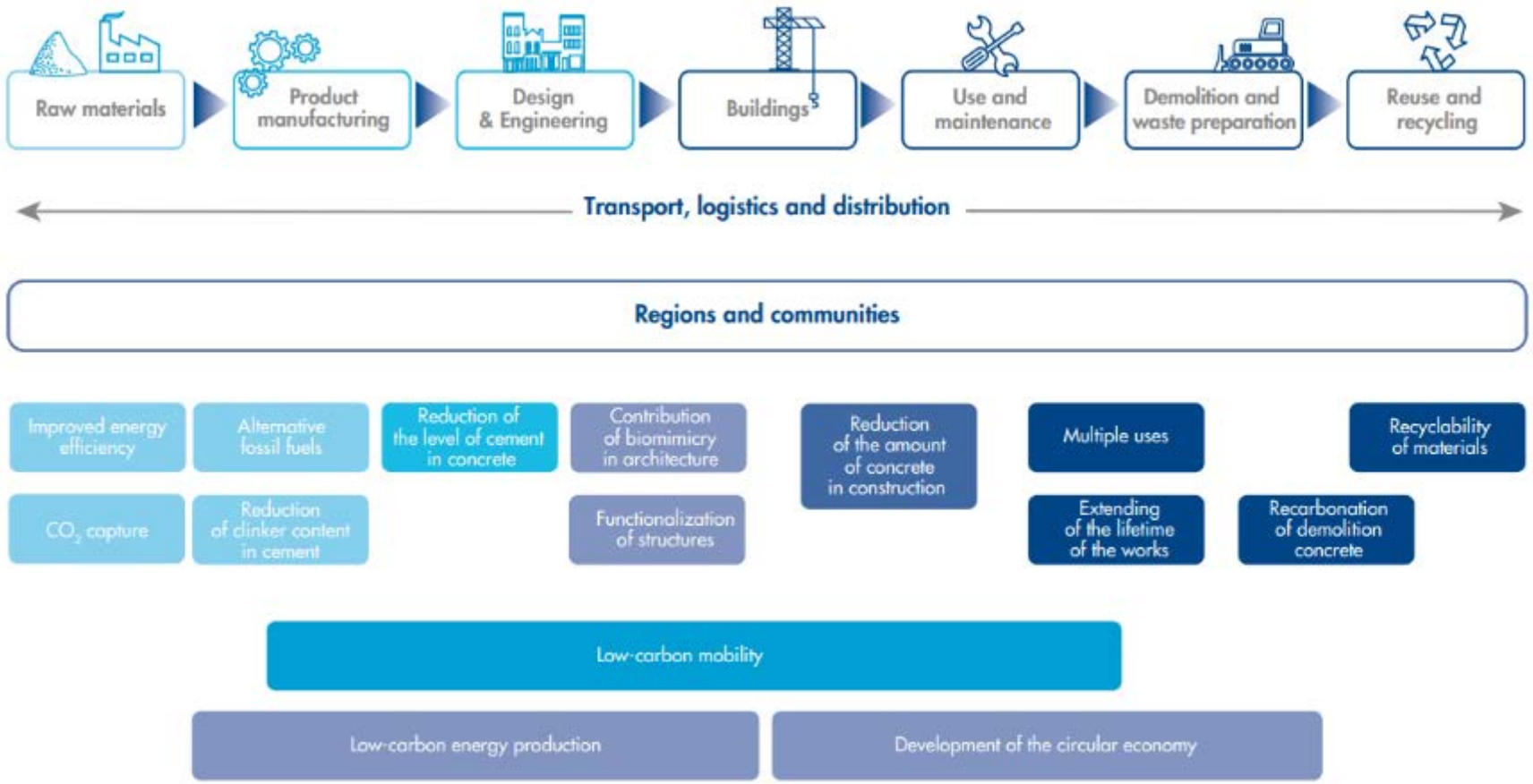
Targets 2030
Group commitment (2019 perimeter-12 countries) based on available technologies: limitation of emissions to 540 kg net CO_2 per ton of cement, **reduction of 13% between 2019 and 2030**

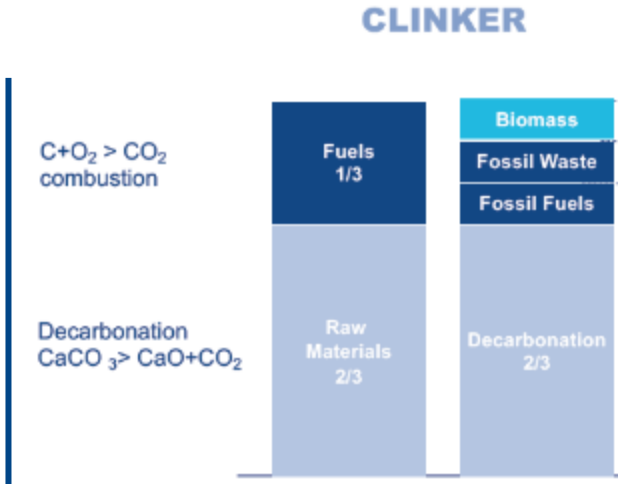
Ambition 2050
Carbon neutrality objective in 2050 on the value chain requiring disruptive carbon capture and use/storage (CCUS) technologies not yet validated

VICAT
Build together, live together.

VICAT - 2050 Roadmap

Vicat committed to carbon neutrality throughout its value chain in 2050 :

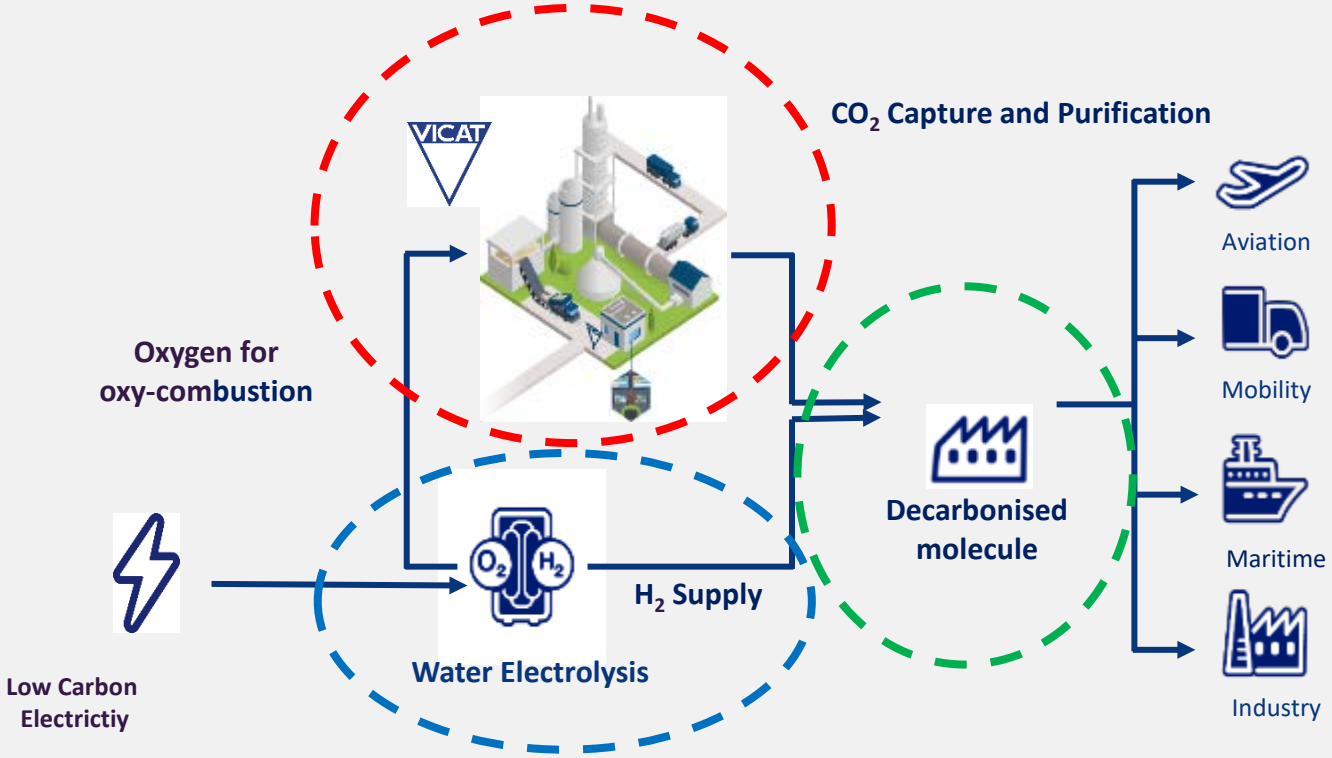




Cembureau Roadmap:

Build together, live together.

CCU/S



- Hynovi project : Production of low carbon H_2 (330MW), CO2 capture (40% of plant emissions), e-methanol synthesys to decarbonize then other sectors.
- Genvia : development and industrialization of SOEC

CCU/S Catch4Climate

Under construction

- 2nd generation Oxyfuel technology
- First semi-industrial pilot in Germany
- JV with Heidelberg Materials, Schwenk and Dyckerhoff (Buzzi)

CO2 valorization into a new energy carrier

HYNOVI project: Power-to-Methanol for massiv, cross-sectoral decarbonization

Partnership

hynamics VICAT

CCU is a doubly relevant solution for cement sites, which are generally far from industrial hubs:
Decarbonization by capturing CO2 from cement plants which are intrinsically producers of fatal process carbon, co-produced with the cement.
Use of the captured CO2 to synthesise a decarbonized methanol to replace grey methanol and provide new markets.

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CO2 valorization : pave the way toward carbon circular economy

- AN EU AMBITION: H2 IPCEI, RePowerEU (10Mt H2 produced in Europe in 2030 requires 120GW of renewable electricity), … together with beeing a leader of energy and CO2 regulation

  - BUT regulatory points of attention, under discussion:

    - EU ETS and CBAM : recognition of decarbonization efforts.
    - RED II & III, RFNBO qualification (renewable liquid and gaseous fuels for the transport sector, of non-biological origin), % of energy use in transport to come from renewables by 2030, delegated act under discussion (recognition of non avoidable process emissions, especially from mineral ?)
    - RepowerEU, FuelEU Martime & Aviation targets

Thanks for your attention

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