NIT EUROPEA DE LA RECERCA

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research group GREiA

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CATALUÑA

Use of bibliometric analysis to evaluate the influence of cement and concrete on carbon capture, utilization, and storage over the years

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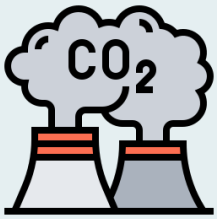
Introducció i objectius

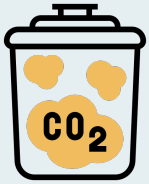


Cement industry produced high quantities of CO_2 increasing the concept of concrete as a non-sustainable material.

This work aim to analyse all the relevant research focused on CO_2 capture, utilization and storage (CCUS) in cement-concrete sector.

CAPTURE

UTILIZATION



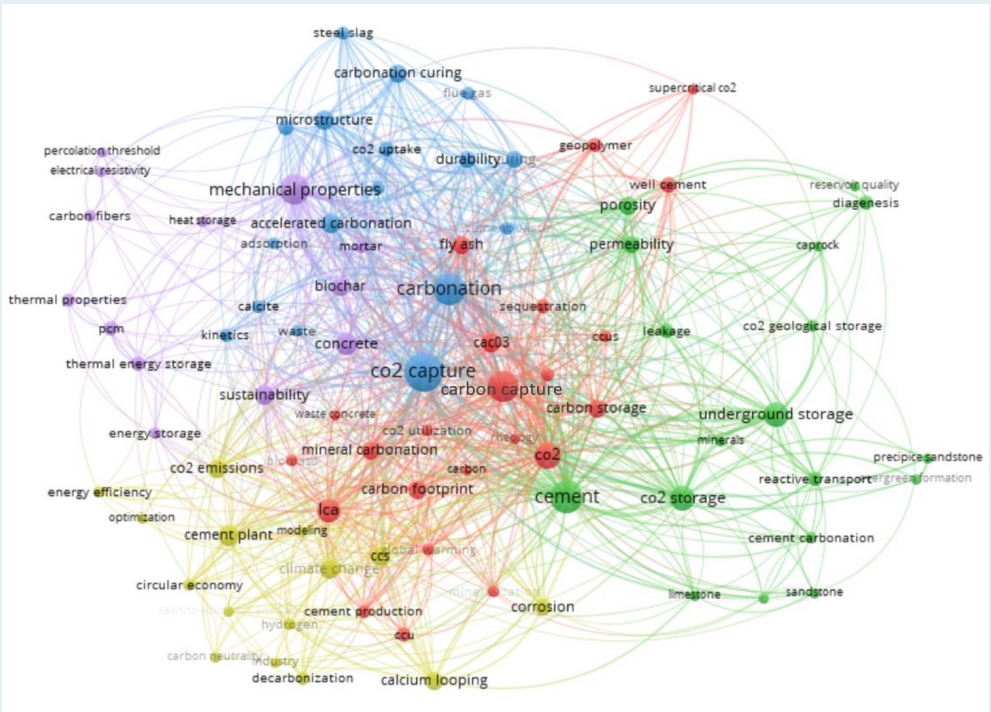
STORAGE

Metodologia

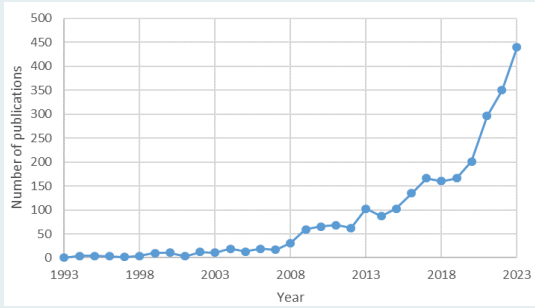
1. Search on Scopus referred to articles in english
2. Bibliometric analysis with the open-source software VOSviewer to obtain a network visualization of the main author keywords cited in the articles
3. Scopus analysis to visualize the trend of publications during the years about this topic.

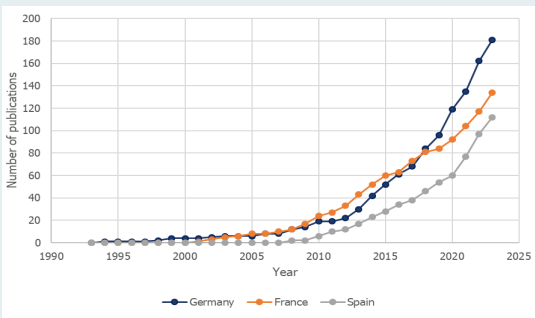
Resultats

Four clusters (groups) were identified.



Number of publications increased during the years especially since 2013. Among EU-27 Germany, France, and Spain focused on the topic.





Results CCUS in cement-concrete sector can be achieved by:
1. Intervening on the cement carbonation process by capturing CO2 emissions during cement production.
2. Using waste residues with carbon capture properties that can also allow cementitious materials to storage carbon in a permanent and safe way.

AGRAÏMENTS

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