

# KBC PhD Winter School 2025



Contact person

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## Benchmarking Ocean-Based Carbon Dioxide Removal Strategies: A Comparative Analysis of Direct Ocean Capture and Ocean Alkalinity Enhancement

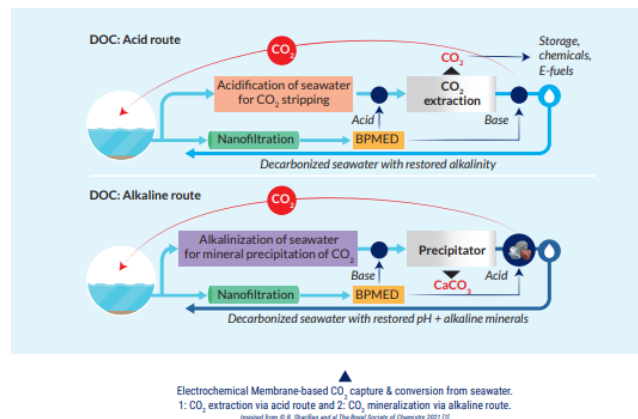
**Objective:** Compare **Direct Ocean Capture (DOC)** and **Ocean Alkalinity Enhancement (OAE)** as **Carbon Dioxide Reduction** approaches

**Methods:** Describe mechanisms, advantages, and challenges of both approaches.

**Critical Analysis:** Evaluate feasibility, environmental impact, and scalability.

**Recommendations:** Propose strategies considering technological, ecological, societal and economic factors.

Illustrate your analysis with a small case-study. Remember to support your analysis with relevant scientific literature. Good luck!



Source : Sustainable Emerging Technologies 2024- by ENGIE

Approach (opening meeting, important dates, guidance, etc):

December: Kick-off meeting -start of literature review- draft a case study- Contact start-up companies developing DOC & OAE technologies for missing techno-economical input data for a case study. Mid December: Progress report followed by feedback session. Early February submit the final report (format to be discussed) to ENGIE (Bart Ghysels)

Expected interests of the participant or group composition:

An ideal group could be composed of people with knowledge or interest in: Marine Scientist/Oceanographer, Environmental Engineer, Chemist, Economist/Policy Analyst, Climate Scientist, Data Scientist/Analyst