eMetCO2 aim

Development of advanced electrocatalysts and reactors for electrochemical CO_2 reduction (eCO2R), targeting the production of methanol (MeOH) from captured CO_2.

Consortium

net4CO2

U.PORTO

Universidad de Alicante

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RIA STONE

This research was funded by CETPartnership, the Clean Energy Transition Partnership under the 2023 joint call for research proposals, co-funded by the European Commission (GA 101069750) and with the funding organizations detailed on https://cetpartnership.eu/funding-agencies-and-call-modules.The sole responsibility for the content of this publication lies with the authors. It does not necessary reflect the opinion of the European Commission, CETPartnership or any individual member and funding agencies. Which are not responsible for any use that may be made of the information contained therein.

- eNETmix-based CO_2 electrolyser
- "Green" Methanol production
- Electrochemical CO_2 reduction (eCO2R)
- Low carbon circular economy

6	3	36
PARTNERS	COUNTRIES	MONTHS

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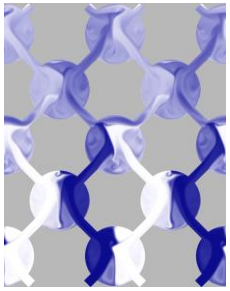
eNETmix technology for electrocatalytic production of Methanol from captured CO_2

eMetCO2

DOI: 10.54499/CETP/0003/2023

Strategy

New electrocatalysts (Cu-based) and electrodes for eCO2R into MeOH



Development and optimisation of eNETmix technology* (simulation and experimental)

Evaluation of circularity, environmental and socioeconomic impacts of CO_2 conversion through eNETmix technology

Initial TRL = 2 (Technology concept formulated)
End TRL = 5 (Technology validated in a relevant environment)

eNETmix-based CO_2 electrolyser prototype at lab scale for MeOH production

Expected outcomes

❶ Development of an advanced and energy-efficient technology for **eCO2R** to MeOH, by incorporating a novel electrochemical **eNETmix**-based reactor and **innovative electrocatalysts** at lab-scale under relevant conditions (TRL from **2** to **5**).

❷ Elaboration of an **Exploitation Plan,** aiming to prepare subsequent industrial application and generating commercial interest, thus bringing the technology into higher TRL in the nearby future (TRL 9).

❸ Further improvement global awareness of the impact that this innovative technology can have as an alternative way to accelerate the development and implementation of **carbon capture, utilization, and storage (CCUS) approach** in a clean, sustainable, and secure energy transition for all.

*** Patent requested ⇨ Application number: PCT/IB2024/056167 (25 June 2024)**