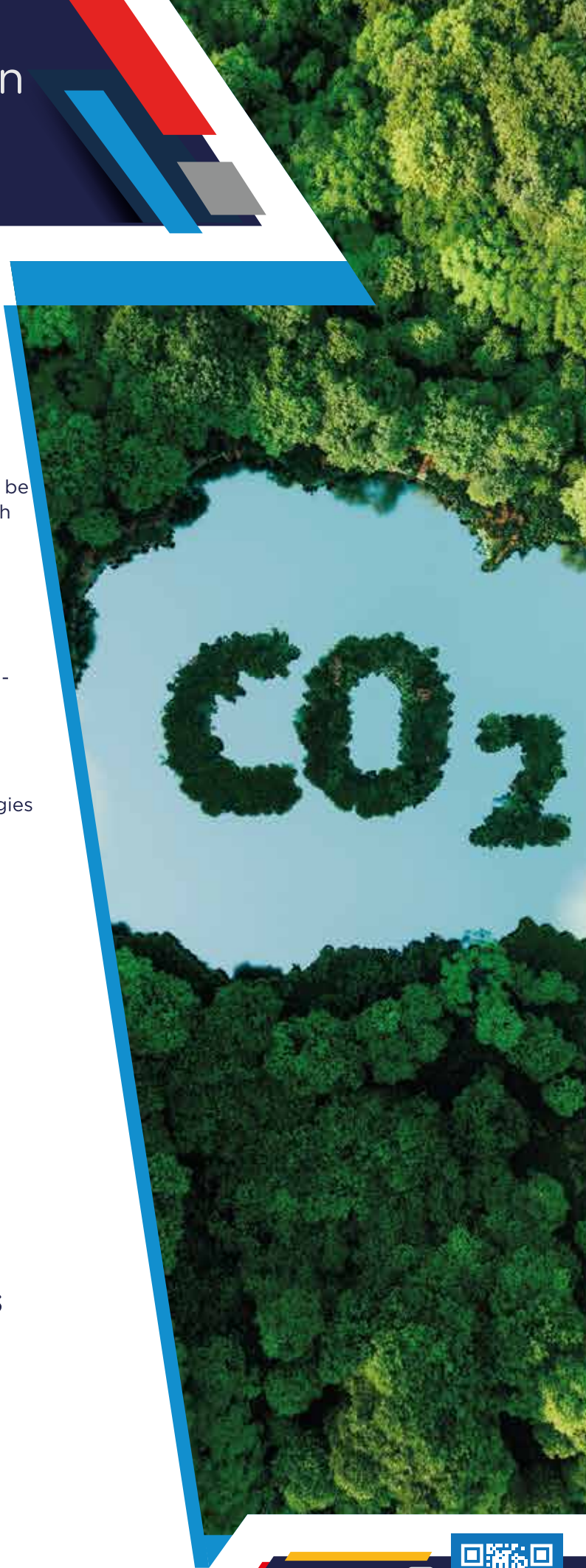
Reducing CO_2 emissions in energy-intensive companies



Optimising advanced CO_2 capture technologies towards greater energy efficiency

Carbon capture, utilisation and storage (CCUS) is a key element in the EU low-carbon policy. The European Union has created an ambitious objective to be climate-neutral by 2050, that is, to be an economy with net-zero greenhouse gas emissions. The European Green Deal codifies this objective, and all economic sectors are participating in its realisation. In April 2021, the EU set a target of cutting carbon emissions by 55% by 2030.

CARMOF, MEMBER and MOF4AIR are three European-funded projects developing new material and process solutions for the next generation of CO_2 capture technologies that are expected to reach the market in the next few years. The three projects will be demonstrating their developed CO_2 capture technologies under relevant market industrial conditions.

Challenges addressed

Developing a cost-effective technology for pure H2 production with integrated CO_2 capture.

Developing and scaling-up manufacturing of a new breed of CO_2 capture materials.

Creating more economic & energy efficient CO_2 capture process.

Delivering a demonstration of the new materials and capture processes in real conditions.

New concepts and frameworks for EU low-carbon initiatives

- Efficient CO_2 Capture
- Post-combustion CO_2 capture using novel processes and materials
- Foster the uptake of CCUS technologies by providing a TRL6-reliable solution matching end-users' needs

The **HRB - Horizon Result Booster** is an initiative funded European Commission, Directorate General for Research and Innovation, Unit J5, Common Service for Horizon 2020 Information and Data.

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Who benefits?

- Policymakers
- Funding Agencies including EU & national agencies
- Large enterprises and SMEs
- Research and Academia
- Innovation platform and clusters
- Society

Join our community and contribute to making advanced CO_2 technologies sustainable, competitive, and energy efficient

CARMOF: *New process for efficient CO_2 capture by innovative adsorbents based on modified carbon nanotubes and MOF materials.*
Offering highly intensified technologies by using optimized structured adsorbents based on high-capacity adsorption materials in combination with highly efficient and rapid joule heating desorption and integrated cooling.
carmof.eu

Grant Agreement No. 760884

MEMBER: *Advanced MEMBranes and membrane assisted procEsses for pre- and post- combustion CO_2 captuRe.*
Scaling-up and manufacturing of advanced materials (membranes and sorbents) and their demonstration at TRL6 in novel membrane based technologies that outperform current technology for pre- and post-combustion CO_2 capture in power plants as well as H2 generation with integrated CO_2 capture.
member-co2.com

Grant Agreement No. 760944

MOF4AIR: *Metal Organic Frameworks for carbon dioxide Adsorption processes in power production and energy Intensive industRies.*
Demonstrating the performances of MOF-based CO_2 capture technologies in power plants and energy intensive industries.
mof4air.eu

Grant Agreement No. 837975

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