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C-SINK

ACTIONS REQUIRED TO SECURE THE LARGE-SCALE DEPLOYMENT OF THE LEADING CDR APPROACHES TO MEET EU CLIMATE TARGETS

D6.4 Clustering Activities I

Grant agreement no. 101080377
HORIZON-CL5-2022-D1-01-two-stage

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1. Information Sheet

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2. Deliverable 6.4. – Clustering Activities

Authors	Evangelos Koulis (CHX)
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Deliverable description (as in the Grant Agreement)

D6.4 Clustering activities I (CHX, M24) is linked to T6.3

T6.3 – Clustering with relevant European projects and initiatives: A clustering plan will be included in the DEC plan (D6.1) . C-SINK partners are participating in the following vibrant clustering activities: a) Identification of the projects linked and relevant to C-SINK, including i.e. sister projects, past key European projects b) First contact with the project directors. Coordinators will be invited to the C-SINK Kick-off meeting, and c) Development of a Joint Clustering Board and Plan (with the sister projects). CHX will suggest/encourage partners to do the following strategic activities: to create a common identity (logo) and mailing list, to organise yearly meetings/ projects specific events, joint review of the legislation, joint publications, joint participation in European events. CHX will encourage project partners to build new consortiums and develop new ideas for future funding opportunities.

Abstract

This deliverable presents the C-SINK project's clustering strategy and progress in fostering collaboration among European and international initiatives focused on CDR. Central to these efforts is the development of the CO_2 Removal Helix on the Crowdhelix Open Innovation Platform, which serves as a virtual community to engage stakeholders, promote knowledge exchange, and support joint activities. The clustering approach is structured around three pillars: establishing a Collaboration Board with sister and related projects, implementing joint events and dissemination actions, and developing a plan for long-term collaboration beyond the project's lifecycle. The C-SINK project has initiated cooperation with various projects and engaged multiple stakeholders through events, workshops, and surveys. These efforts aim to enhance the visibility and impact of the project around Europe and beyond.

Keywords

C-SINK PROJECT, CLUSTERING ACTIVITIES, SISTER PROJECTS, DISSEMINATION AND EXPLOITATION, EU INITIATIVES, CLUSTERING BOARD, CLUSTERING PLAN, COLLABORATION, IMPACT, COMMUNITY BUILDING, JOINT COLLABORATION, CO_2 REMOVAL HELIX.

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Glossary

AF	Afforestation	Page 7

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AR	Afforestation and Reforestation	Page 7
AS	Artificial soils	Page 7
BCO_2	Biological/Microbial CO_2 fixation	Page 7
BC	Biochar	Page 7
BCCCS	Biochar with Carbon Capture and Storage	Page 7
BECCS	Bioenergy with Carbon Capture and Storage	Page 8
CARBIOW	Carbon Negative Biofuels from Organic Waste	Page 17
CCS	Carbon Capture and Storage	Page 17
CCSA	Carbon Capture & Storage Association	Page 9
CCUS	Carbon Capture, Utilisation and Storage	Page 8
CDR	Carbon Dioxide Removal	Page 3
CB	Collaboration Board	Page 8
CSO	Civil Society Organisation	Page 16
D	Deliverable	Page 3
DACCS	Direct Air Carbon Capture and Storage	Page 7
DEC	Dissemination, Exploitation and Communication	Page 9
EU	European Union	Page 3
EUBCE	European Biomass Conference and Exhibition	Page 20
EW	Enhanced Weathering	Page 7
GA	Grant Agreement	Page 8
GEO	Group on Earth Observation	Page 18
GGR	Greenhouse Gas Removal	Page 17
HE	Horizon Europe	Page 27
IPR	Intellectual Property Rights	Page 10
KERs	Key Exploitable Results	Page 16
KPIs	Key Performance Indicators	Page 8
M	Month	Page 2
MCDR	Marine Carbon Dioxide Removal	Page 17
MRV	Monitoring, Reporting, and Verification	Page 26
MS	Milestone	Page 25
NGOs	Non-Governmental Organisations	Page 27
OF	Ocean Fertilisation	Page 7
SCS	Soil Carbon Sequestration	Page 7

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SMEs	Small and Medium Enterprises	Page 7
S3P-ENERGY	Smart Specialisation Platform on Energy	Page 9
4C	Climate-Carbon Interactions in the Current Century	Page 18

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4. Executive Summary

The C-SINK project, funded under the Horizon Europe Programme, aims to advance Carbon Dioxide Removal (CDR) technologies as part of the European Union's (EU) climate neutrality goals. Given the increasing urgency of climate action, the project focuses on the appropriate and responsible deployment of CDR solutions, facilitating collaboration among key stakeholders, policymakers, industry leaders, and research institutions.

The D6.4 Clustering Activities Report details the strategic approach to clustering and collaboration, ensuring that C-SINK's findings and innovations are integrated within a broader ecosystem of sister projects, EU initiatives, and international research networks. The clustering activities will enhance knowledge exchange, foster joint actions, and contribute to the regulatory and commercial frameworks necessary for deploying CDR at scale.

A key component of this strategy is the CO_2 Removal Helix, an interactive digital platform hosted on Crowdhelix, designed to support networking, knowledge dissemination, and policy alignment. By M48, the Helix will engage over 150 organizations, including universities, technology providers, climate think tanks, and civil society groups, ensuring long-term sustainability and impact. The clustering plan provides key objectives with respect to the focus of the clustering activities.

The document also highlights major events and synergies developed with more than half of the identified projects, including UPTAKE, SEAO2-CDR, CO_2RE, NEGEM, and others. Through these activities, C-SINK is actively engaged in shaping CDR policy, regulation, and market development while also exchanging knowledge and building a vibrant community. By building a vibrant clustering ecosystem, C-SINK strengthens the impact, visibility, and long-term sustainability of its outputs, contributing to the deployment of robust and scalable CDR pathways in Europe and beyond.

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5. Introduction

Ensuring the long-term impact and sustainability of European-funded projects is essential for maximizing their contribution to EU policy objectives. In this context, this deliverable (D6.4) focuses on the clustering activities undertaken within C-SINK to strengthen collaboration, knowledge exchange, and stakeholder engagement in the field of CO_2 removal.

Deliverable (D6.4) 'Clustering activities' outlines the clustering efforts undertaken within the C-SINK consortium, highlighting key initiatives aimed at strengthening the European CO_2 removal community. It provides insights into the activities undertaken within the C-SINK consortium to communicate and foster cross-collaboration opportunities with several sister and related projects.

A central pillar of these efforts to foster clustering activities has been the development and expansion of the CO_2 Removal Helix on the Crowdhelix Open Innovation Platform, which connects researchers, Small and Medium Enterprises (SMEs), industry partners, and policymakers. Through targeted networking, opportunities for collaboration and participation in workshops and events, the Helix has facilitated cross-stakeholder collaboration and ensured that knowledge generated within C-SINK is widely disseminated and utilised.

5.1. Deliverable Overview and Structure

Section 6 provides background information about the C-SINK Clustering and Collaboration Plan which aims to identify, engage and create synergies with projects, relevant actors and associations across Europe.

Section 7, highlights the key metrics relevant to clustering activities and engagement within the CO_2 Removal Helix which has been a central driver to expanding the cluster and build a strong community of experts in the fields of CDR, both those studied within the C-SINK project such as:

- Afforestation (AF),
- Biological/Microbial CO_2 fixation (BCO2),
- Artificial soils (AS),
- Biochar (BC),
- Biochar with Carbon capture and storage (BCCCS),
- Bioenergy with Carbon Capture and Storage (BECCS),
- Enhanced Weathering (EW) of waste rocks,

as well as other technologies of interest for the community, including, Soil Carbon Sequestration (SCS), Direct Air Carbon Capture and Storage (DACCS), Ocean Fertilisation (OF), regulation related to CDR technologies etc.

Finally, section 8 presents the identified sister and related projects, highlights the clustering activities as of M24, as well as the planned events and activities for cross-collaboration in the coming period.

5.2. Versions and Updates of the Deliverable

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The present deliverable ''D6.4 Clustering activities'' is the 1st version submitted on M24 of the C-SINK project. As per the GA, the final deliverable will be submitted in M48, and will provide a more comprehensive analysis on the status of the clustering activities.

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6. C-SINK Clustering and Collaboration Plan

The present section draws upon the objectives that were set out in the C-SINK Grant Agreement (GA) and identifies the tasks aimed at accomplishing the project's aims, directing their execution through the establishment of a framework, namely, the C-SINK Clustering and Collaboration Plan. The C-SINK cross-projects Clustering and Collaboration Plan developed by CHX, in collaboration with all partners, is divided in 3 main sections: 1. Collaboration board, 2. Joint activities and 3. Future collaboration plan.

6.1. Collaboration Board

Clusters and sister project communities can be groups of companies, research institutions, and other organisations that are geographically and sectorally close. As such, in the context of Horizon Europe projects, clustering activities play a significant role in enabling collaboration and innovation between different stakeholders in a particular industry or field with the main purpose being to work together to achieve common goals. They consist of an integral part of the dissemination and communication strategies by promoting outputs and exchanging knowledge.[1]

The Collaboration Board (CB) (see figure 1 below) aims to identify, engage in and create synergies with projects, relevant actors and associations across Europe and internationally, whose goals and objectives are relevant to the work of the C-SINK project. These synergies aim to maximise impact by focusing on shared challenges and objectives. As per the GA, after initiating contact with the relevant projects, key stakeholders and actors/associations, CHX will establish the Collaboration Board.

The main objectives of the CB are :

1. Define the Key Performance Indicators (KPIs) to track collaboration between the projects.
2. Establish the main channels of efficient and frequent communication between the projects and stakeholders.
3. Facilitate efficient collaboration between the projects.

Additionally, C-SINK partners will suggest the sister projects to develop joint dissemination materials (i.e. a common identity), such as creating a common logo and templates for communication and reporting. This will ensure the memorable and dinstinctive visual representation of the synergies across such projects.

[1] Charalampos, C. et al. (2025). Best Practices for Creating and Maintaining Clusters in EU-Funded Projects: Insights from the H2020 BES Cluster. In: Gkotsis, I., Kavallieros, D., Stoianov, N., Vrochidis, S., Diagourtas, D., Akhgar, B. (eds) Paradigms on Technology Development for Security Practitioners. Security Informatics and Law Enforcement. Springer, Cham. https://doi.org/10.1007/978-3-031-62083-6_33

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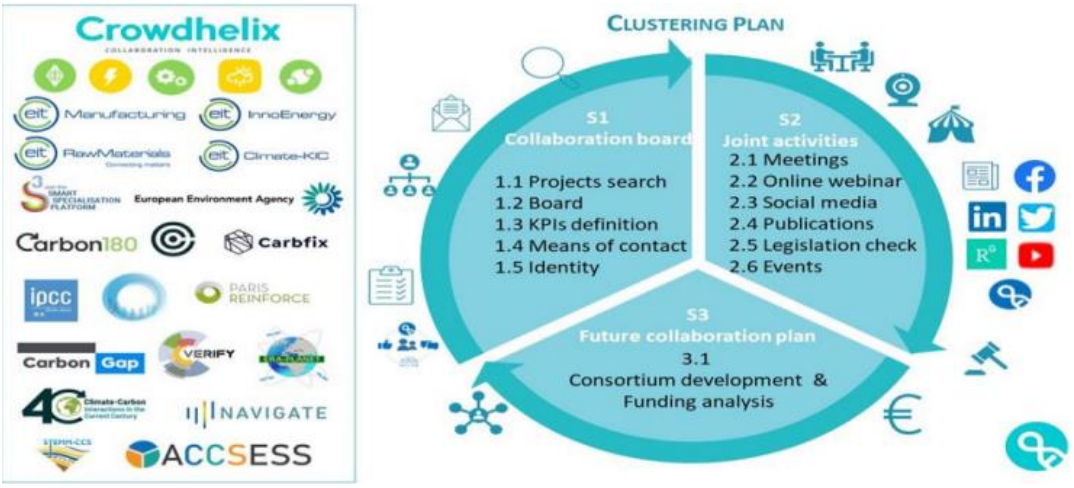


Figure 1. The Crowdhelix Clustering Board

With regards to the projects, the focus of the CB will be directed towards identifying and engaging projects in the following categories:

a) projects funded under the same Horizon Europe call HORIZON-CL5-2022-D1-01-two-stage (sister projects)
b) other European projects with relevant CDR technologies as C-SINK
c) national and regional projects with relevant CDR technologies as C-SINK
d) new CCUS projects funded under Destination 3 and HORIZON-CL5-2021-D2-01-08
e) climate-ecosystem interaction projects funded under Cluster 5 "HORIZON-CL5-2021-D1-01-08, HORIZONCL5-2021-D1-01-09, HORIZON-CL5-2022-D1-02-05
f) projects to be funded under EU research missions: 'A soil deal for Europe', 'Climate neutral and smart cities', 'Adaptation to climate change'
g) projects funded under marine topics (Cluster 6)

C-SINK partners will also identify, establish and maintain contact with the following actors and associations at the European and international levels, developing potential synergies for collaboration since they represent key stakeholders in carbon removal, energy innovation, and circular economy ecosystems, aligning with C-SINK's focus on CDR technologies and climate neutrality:

a) Carbon GAP
b) Carbon 180
c) Carbon Capture & Storage Association (CCSA)
d) European Circular Economy Stakeholder Platform
e) EIT Raw Materials
f) Manufacturing
g) Innoenergy
h) Smart Specialisation Platform on Energy (S3P-ENERGY)

6.2. Joint Activities

The second objective of the C-SINK Clustering and Collaboration plan is to promote and encourage partners to develop joint collaborative activities with the sister projects and the rest of the CB members. These activities include:

- regular meetings (C-SINK may invite sister projects to events and project meeting),

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- joint participation and attendance to webinars and local info days (organised by projects),
- active participation in projects social media sites (Facebook, Twitter, LinkedIn, and similar tools),
- development of joint scientific publications,
- joint review of future legislation around CDR approaches/writing of policy briefs),
- and joint participation in scientific conferences and business trade shows.

6.3. Future Collaboration Plan

The final objective of the C-SINK Clustering and Collaboration plan pertains to ensuring future collaboration between the project partners and the members of the CB, with a special focus towards the sister projects and interesting related project e.g. Mission Soil-funded project. To this end, the organisation of a workshop series is foreseen, to promote the development of new interdisciplinary consortia, identify funding opportunities and calls aligned with the consortium strengths, to promote scientific insights deriving from C-SINK and exchange knowledge on different CDR technologies and diverse stakeholder engagement to maximize the impact of the project while also increasing awareness on CDR solutions. In this sense, a technical workshop (M24) focused on Nature Based Solutions (NbS), in which technical insights were jointed with effective clustering actions, highlighting the Mission Soil- funded project participation, which is also a KPI stablished on the GA, was organized by the SINK project. Finally, the CO_2 Removal Helix will be an engine of clustering activities and for policy and regulation dialogues. As per the GA, CHX has also committed to maintain the Helix for 2 years after the project ends including the project's results and publications.

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7. CO_2 Removal Helix: a Virtual Community for Clustering

On M6 of the project, CHX launched the CO_2 Removal Helix on the Crowdhelix Open Innovation Platform (for more details see D6.2 'CO_2 Removal Helix'). The utilisation of the CO_2 Removal Helix has provided several benefits for enhancing collaboration and clustering activities.

7.1. The Helix Impact Model

As figure 2 highlights, upon joining the CO_2 Removal Helix, C-SINK partners, as well as external stakeholders and sister projects are able to showcase their results for further exploitation, foster future collaborations with a variety of stakeholders, and promote future events, conferences and clustering activities to boost their dissemination efforts. This in turn will create opportunities to nurture innovations arising from the project through effective collaboration.



Figure 2. Promoting Collaboration – The Helix Impact Model

The aforementioned benefits can be categorised in three levels:

1st level - Collaboration tools for the C-SINK project partners and beyond:

- Members of the CHX Open Innovation Platform can exchange messages.
- Members of the CHX Open Innovation Platform can interact and engage with posts for future opportunities for collaboration.
- Cross-collaboration with circa 16,500 experts and organisations in other Helixes such as Mission Soil, Mission Climate etc.

2nd level - Creation of a community for showcasing publications and results for future collaborations. Attract external stakeholders (e.g. corporations, SMEs) to join and express interest in the project's results (e.g. Intellectual Property Rights (IPR) etc):

- The CO_2 Removal helix has been developed within the CHX Open Innovation Platform and is envisioned to host over 150 industry experts on technologies related to innovative CO_2 Removal. The Helix offers several functionalities for its

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users such as opportunities to showcase their publications and results with the aim to attract interest from potential investors or partners.

- Members have access to roundtable discussions and dedicated matchmaking events to further connect and engage with industry stakeholders.
- Helixes attract multinational corporations who seek expertise and solutions on various technological challenges.
- Crowdhelix is currently building a new platform that will intelligently match the project results from across all our members to corporate, and other, members who are seeking to solve their challenges.
- The platform mentioned above will then move on to matching project results to funding opportunities, both public and private.

3rd level: Stakeholders' mapping and value chain visualisation for the projects.

- External stakeholders can join the CO_2 Removal helix community and interact with members
- Leveraging CHX's recommendation system and machine learning approach of the Open Innovation Platform to push / pull results to relevant end-users and facilitate the creation of new partnerships and value chains.
- Stakeholders' mapping and value chain visualisation features are on the CHX product roadmap and will be based on platform data supplemented with various public data sources.

7.2. Clustering Collaborations within the CO_2 Removal Helix as of M24

Since M6 of the project, the CO_2 Removal Helix has been utilised as an enabler and multiplier for clustering activities (Figure 3). ICAMCYL and CHX undertook the following key actions towards engaging several sister and related projects within the CO_2 Removal Helix:

1. Prepared a presentation and sent an invitation to several sister projects with instructions on how to register and navigate through the CO_2 Removal Helix.
2. Added the two key sister projects under the same Horizon call, namely SEAO2-CDR and UPTAKE, on the CO_2 Removal Helix main page.
3. Invited several sister and related projects to participate in the 1st Helix event to promote collaboration. The brokerage event has been structured around Environment and Food and will take place on the 22nd and 23rd of May in London, UK. Three C-SINK project partners will participate in the matchmaking event (CHX, GF and CS) with the main objectives being to engage the stakeholders of the CO2 Removal Helix, present and promote the C-SINK project and bring together leading researchers, business leaders and industry experts so that they can build innovative consortia that respond to Horizon Europe's 2025 pillar II cluster 6 calls.
4. CHX has invited the Mission Soil Helix sister projects and Mission Soil Helix stakeholders to participate in the next clustering workshop) focused on Nature Based Solutions (NbS), in which series around "Soil Carbon Sequestration" were placed. The event took place on the 7th of May in La Coruña, Spain.

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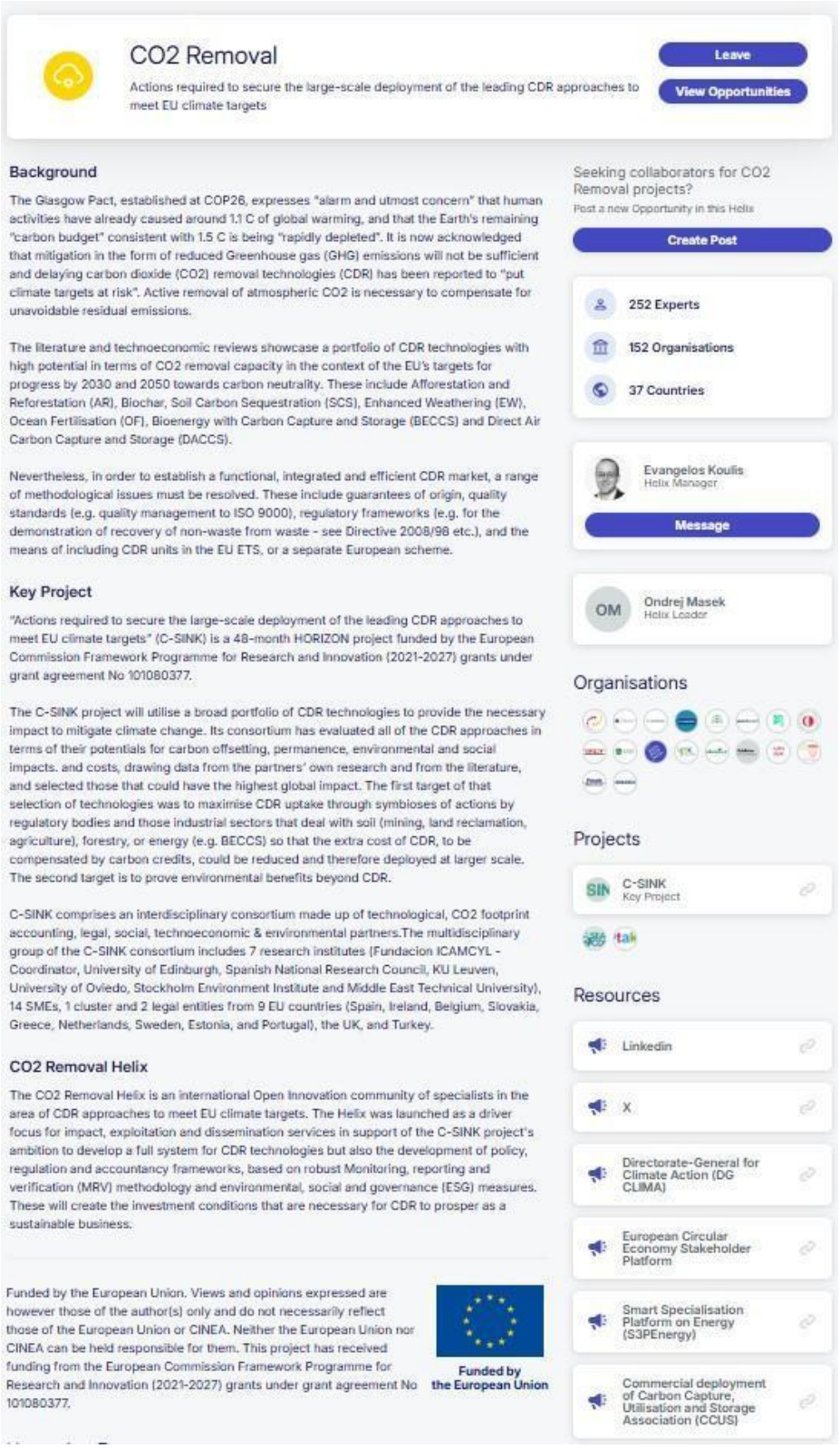


Figure 3. CO_2 Removal Helix Main Page

Additionally, a total of 19 opportunities for collaboration were published on the Helix in the first 24 months of the C-SINK project. Examples of such opportunities are: seeking collaborations for upcoming EU horizon calls, participation in public surveys, participation in upcoming clustering events and workshops etc. Figures 4 and 5 below showcase how

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the Helix promotes collaboration between various stakeholders through participation in these opportunities.

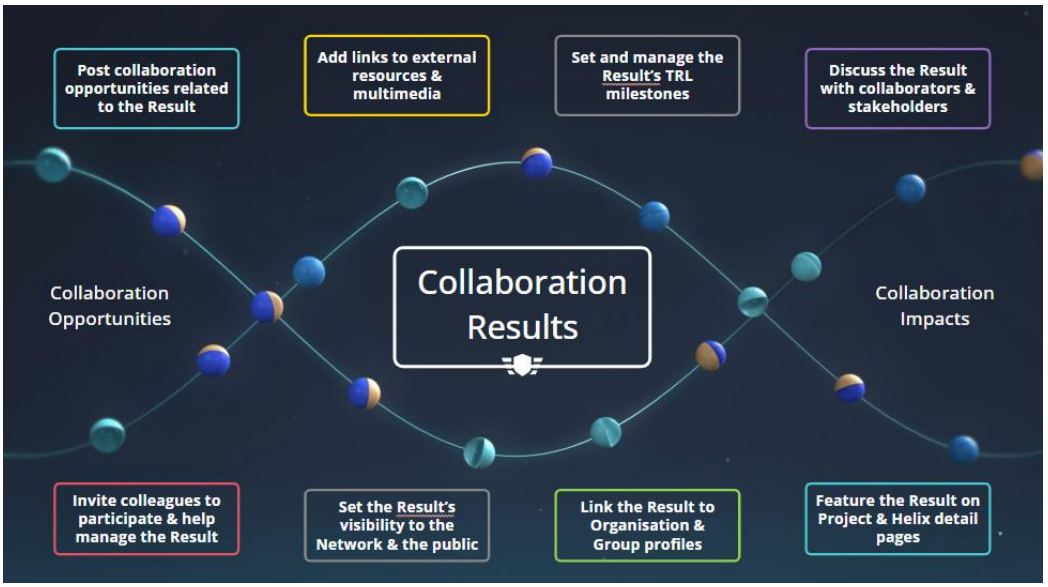
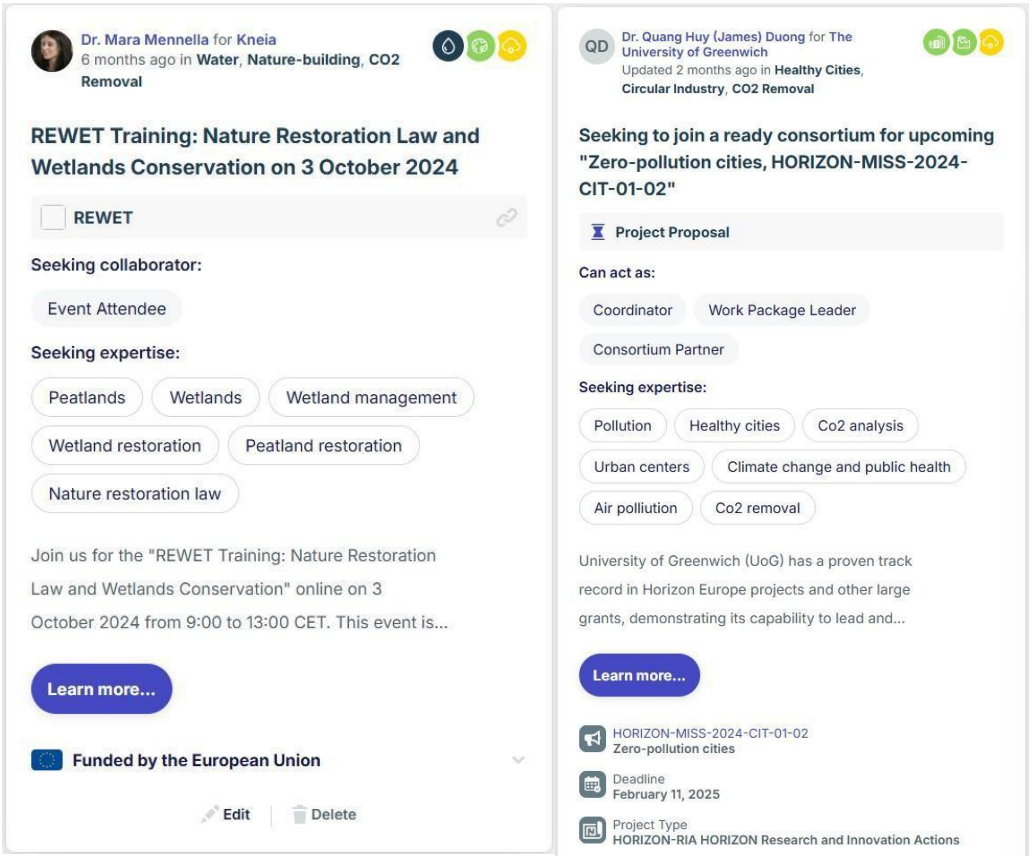


Figure 4. How the Helix Promotes Collaborations



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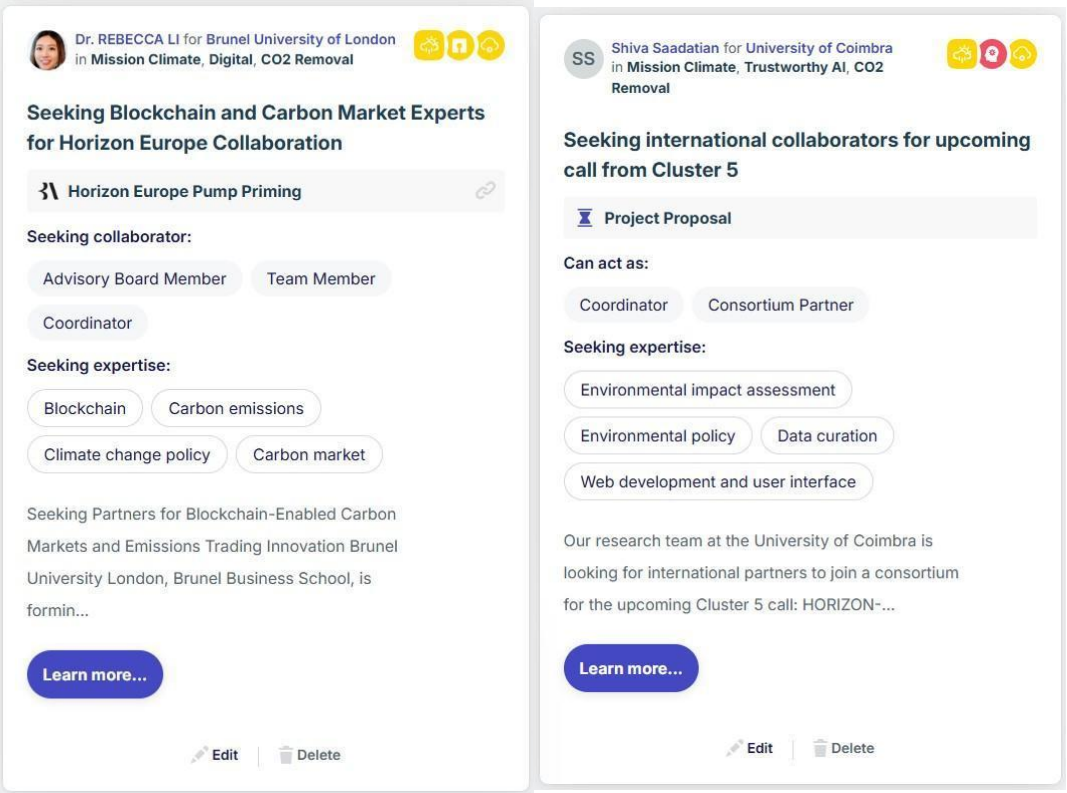


Figure 5. Examples of Opportunities for Collaboration within the CO_2 Removal Helix

As of M24, the CO_2 Removal Helix results section includes three Key Exploitable Results (KERs) coming out of projects related to CO_2 Removal technologies (Figure 6). Over the coming period, the KERs coming out of the C-SINK project will also be published on the platform so as to promote their visibility, attract potential investors and collaborators, increase the uptake of project results and therefore maximize the project's impact. At the same time, sister projects have also been invited to publish their KERs in order to create cross-collaboration opportunities by participating in the virtual community's repository and increasing the chances of technology uptake and/or further research.

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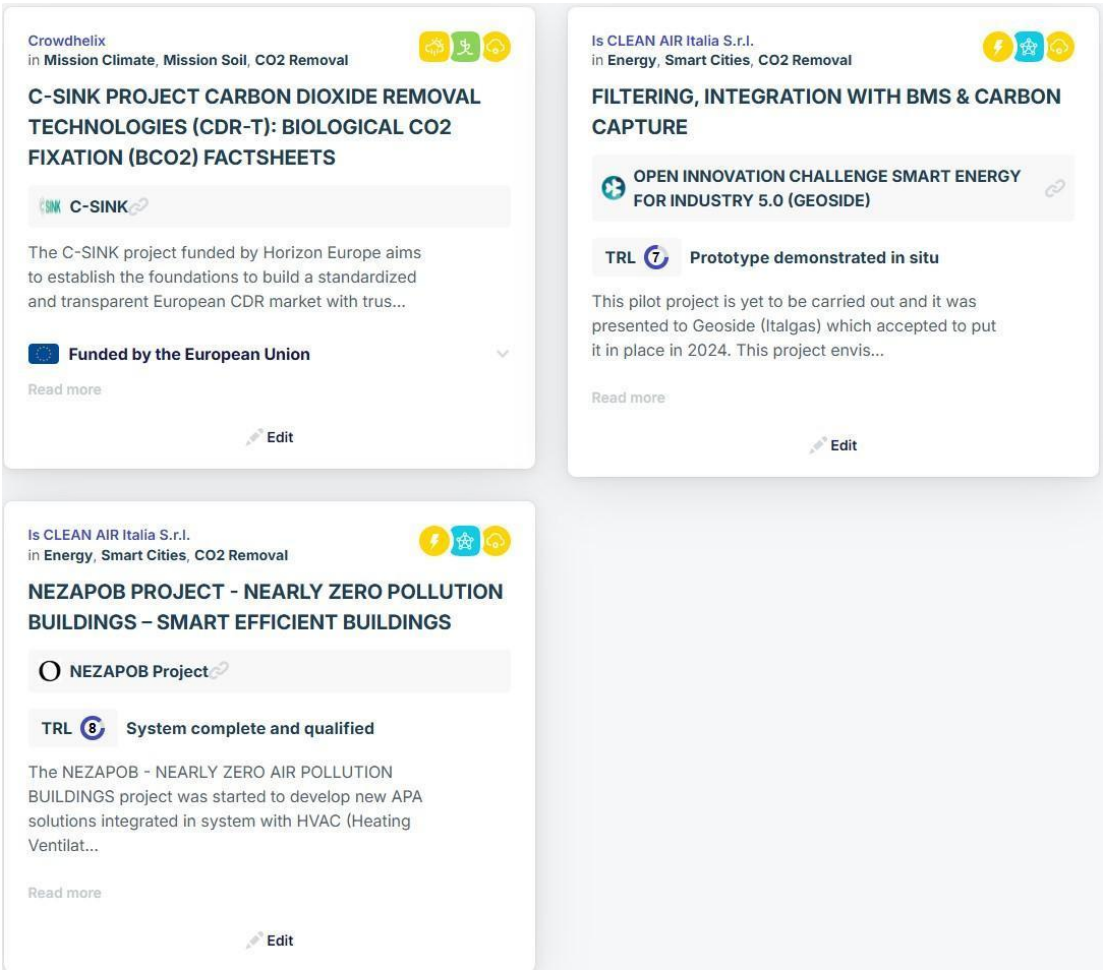


Figure 6. KERs Published on the CO_2 Removal Helix by C-SINK and Related EU Funded Projects

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8. Collaboration with Identified Sister and Related Projects

This section presents the updates on the identification of sister and related projects for collaboration. Additionally, it showcases the participation of C-SINK partners in clustering activities as of M24, while also providing information on the next steps for the coming period.

8.1. Identified Sister and Related Projects by M24

By M4 of the C-SINK project, CHX conducted desk research (also based on information listed in the GA) identifying several sister (ongoing and finalised) and relevant projects for potential synergies and collaboration as per the GA.

Since then, this list has been expanded and as of M24, it includes a total of 34 relevant projects. These projects and their outputs have been taken into consideration for planning clustering activities and synergies, as well as informing the C-SINK partners' activities with improved models for evaluating climate policies and relation between carbon cycles and climate change. To this end, C-SINK partners have already approached, engaged and already collaborated with more than half of these projects and collectively designed activities for promoting information and knowledge exchange through meetings, clustering workshops, webinars, conferences etc. As such, the focus in terms of clustering activities has been heavily put in the following categories:

- Sister projects funded under the same call, namely UPTAKE and SEAO2-CDR
- Climate-ecosystem interaction projects funded under Cluster 5 "HORIZON-CL5-2021-D1-01-08, HORIZONCL5-2021-D1-01-09, HORIZON-CL5-2022-D1-02-05
- National and regional projects
- Various European projects with relevant research activities and outputs
- Synergies for collaboration with actors and associations across Europe and internationally
- Projects to be funded under EU research missions: 'A soil deal for Europe', 'Climate neutral and smart cities', 'Adaptation to climate change'.

C-SINK partners have identified several topics for discussion and knowledge exchange that can serve as the basis for future clustering activities including:

- resource efficiency in raw materials,
- circular economy (using mining waste and waste rock for EW, biomass waste for biochar production and building artificial soils with those wastes),
- actions such as bioremediation, technosol, and biochar for soil amendment,
- climate science and modelling for measuring the impact on the implementation of climate change mitigation solutions,
- potential regulatory, Monitoring, Reporting and Verification (MRV), and policy frameworks that could be established in the EU,
- clustering activities and networking for deploying responsible CDR markets,
- soil organic carbon cycling and long-term evolution, a key topic for many CDR solutions and transversal on many activities like regenerative agriculture, environmental and climate sciences, and
- clustering actions focusing on biogeochemistry as an area of interdisciplinary convergence, covering enhanced carbon drawdown and permanence on land.

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Table 1 below highlights the key sister and related projects that have been identified so far by C-SINK partners. Over the coming period, CHX along with ICA will proceed to establish communication with these projects in order to proceed with the creation of the Clustering Board and initiate the design and planning of future clustering activities.

Table 1. Expanded List of Sister and Related Projects Identified as of M24

Sister & related projects	Short description	Status	Classification	Geographical reach
1. ACCSESS	ACCSESS will provide safe, cost-efficient, flexible and replicable CCUS addressing a range of sectors – from pulp and paper to biorefining.	Communication not established yet	SOCIETAL CHALLENGES - Secure, clean and efficient energy	European
2. ASMASYS	The ASMASYS project is developing a comprehensive, transdisciplinary assessment framework for marine Carbon Dioxide Removal (mCDR) options. In Phase I of the CDRmare research mission (2021–2024), the framework for evaluating individual mCDR options and concrete implementation scenarios was established.	Communication established, clustering activities ongoing	National and regional projects	Regional
3. CarbFix2	Upscaling and optimizing subsurface, in situ carbon mineralization as an economically viable industrial option.	Communication established, clustering activities took place	Synergies for collaboration with actors and associations across Europe and internationally	European
4. CARBIOW	CARBIOW (Carbon Negative Biofuels from Organic Waste) is a Research and Innovation Action funded by the European Commission under the Horizon Europe Programme, which addresses green transition and circular economy by proposing novel technologies that cover the whole process of conversion of organic waste to maritime and aviation biofuels.	Communication established, clustering activities ongoing	Climate, Energy and Mobility	European
5. CDRSynTra	CDRSynTra bundles the research findings from various research projects - four projects were launched by November 2021 - and develops a potential strategy for the future design of carbon dioxide removal in Germany. Within the framework of CDRSynTra, RIFS is responsible for Sub-Project 5: "Governance, Synthesis, Co-Creation".	Communication established	National and regional projects	Regional

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6. CDRterra	The aim of the funding measure CDRterra on terrestrial CDR methods is to improve the knowledge base for research and climate policy decisions by the German government by researching methods for removing carbon dioxide from the atmosphere.	Communication established, clustering activities ongoing	National and regional projects	Regional
7. CONTROLPASTCO2	The goal of this project is to determine and quantify how weathering responded during past periods of rapid climate change, using an innovative combination of novel stable isotope techniques, laboratory experiments and advanced carbon cycle modelling.	Communication not established yet	EXCELLENT SCIENCE - European Research Council (ERC)	European
8. CO_2RE	Funded by UKRI, CO_2RE conducts research on Greenhouse Gas Removal (GGR), co-ordinates demonstration projects around the UK, connects to other national and international programmes and commissions grants through a flexible fund.	Communication established, clustering activities ongoing	National and regional projects	Regional
9. ERA-PLANET	The overarching goal of ERA-PLANET is to strengthen the European Research Area in the domain of Earth Observation in coherence with the European participation to Group on Earth Observation (GEO) and the Copernicus.	Communication not established yet	SOCIETAL CHALLENGES - Climate action, Environment, Resource Efficiency and Raw Materials	European
10. HoliSoils	HoliSoils tackles gaps in knowledge on forest soil processes and aims to harmonise available soil monitoring information to support decision making towards climate and sustainability goals.	Communication not established yet	SOCIETAL CHALLENGES - Food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bioeconomy	European
11. Hyperion	HYPERION will leverage existing tools and services (e.g., climate/extreme events models, and their impacts, decay models of building materials, Copernicus services, etc.), novel technologies (terrestrial and satellite imaging for wide-area inspection, advanced machine learning, etc.) to deliver an integrated resilience assessment platform, addressing multi-hazard risk understanding, better preparedness, faster,	Communication not established yet	SOCIETAL CHALLENGES - Climate action, Environment, Resource Efficiency and Raw Materials	European

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	adapted and efficient response, and sustainable reconstruction of historic areas.			
12. ICABOOSTER	The main objective of the initiative is to foster and stimulate ICAMCyL's participation in Horizon Europe projects, increasing the return figures measured through approved proposals and improving current success rates. This will be achieved by optimizing the entity's innovation management process and making better use of available resources, resulting in cost savings and enhanced competitiveness for the entity.	Communication established, clustering activities ongoing	Grants to Support the Preparation and Management of European Projects and to Facilitate the Attraction of International Talent.	Regional-Spain
13. InbestSoil	InBestSoil is a Horizon 2020 project that aims to provide a framework for investing in soil health. The project emerged from the need to address the degradation of more than half of Europe's soils, costing an estimated €50 billion annually.	Communication established, clustering activities took place	Funded under Mission Soil	European
14. LANDMARC	LANDMARC (Land Use Based Mitigation for Resilient Climate Pathways) is a 4 year EU funded project that will enhance understanding of the realistic potential of land-based negative emission solutions in agriculture, forestry, and other land use sectors.	Communication established, clustering activities took place	SOCIETAL CHALLENGES - Climate action, Environment, Resource Efficiency and Raw Materials	European
15. LIFEINFUSION	Intensive treatment of waste effluents and conversion into useful sustainable outputs: biogas, nutrients and water.	Communication established, clustering activities ongoing	LIFE Programme of the European Union for the Environment and Climate	European
16. Locomotion	LOCOMOTION is developing a sophisticated model to assess the socioeconomic and environmental impact of different policy options in order to help society make informed decisions about the transition to a sustainable, low-carbon future.	Communication not established yet	SOCIETAL CHALLENGES - Food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bioeconomy	European
17. MARVIC	The EU-funded MARVIC project aims to develop a context-specific MRV framework to encourage farmers to engage in carbon farming activities.	Communication established, clustering activities ongoing	Food, Bioeconomy Natural Resources, Agriculture and Environment	European

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18. MINOTAUR	MINOTAUR aims to provide models, maps and policy-relevant indicators with validated reference values for monitoring soil biodiversity and associated functions. Moreover, it will aim to understand how agricultural practices can contribute to climate change mitigation and adaptation at regional and national levels across the EU.	Communication not established yet	Programme Horizon 2020 – European Joint Programme on Soil	European
19. MRV4SOC	MRV4SOC is a 3-year funded EU project. It is Monitoring Carbon farming through its three-pillar method of Standardization, Reporting, and Verification.	Communication established, clustering activities ongoing	Food, Bioeconomy Natural Resources, Agriculture and Environment	European
20. NAVIGATE	Next generation of advanced integrated assessment modelling to support climate policy making.	Communication not established yet	SOCIETAL CHALLENGES - Climate action, Environment, Resource Efficiency and Raw Materials	European
21. NEGEM	Assessing the realistic potential of Carbon Dioxide Removal and its contribution to achieving climate neutrality.	Communication established, clustering activities took place	SOCIETAL CHALLENGES - Climate action, Environment, Resource Efficiency and Raw Materials	European
22. OceanNETs	OceanNETs aims to determine to what extent, and under what conditions, the large-scale deployment of ocean-based negative emission technologies could contribute to realistic and effective pathways for Europe and the world to achieve climate neutrality and the goals established in the Paris Agreement.	Communication established, clustering activities took place	SOCIETAL CHALLENGES - Climate action, Environment, Resource Efficiency and Raw Materials	European
23. PARIS REINFORCE	PARIS REINFORCE is an EU-funded research and innovation project aimed at effectively supporting the design of climate policies, in light of these requirements; it started in June 2019 and is expected to run until November 2022.	Communication not established yet	SOCIETAL CHALLENGES - Climate action, Environment, Resource Efficiency and Raw Materials	European
24. PilotStrategy	The PilotSTRATEGY project is investigating geological CO_2 storage sites in industrial regions of Southern and Eastern Europe to support development of carbon capture and storage (CCS).	Communication established, clustering activities ongoing	SOCIETAL CHALLENGES - Secure, clean and efficient energy	European

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25. ProbeField	The overall goal of ProbeField is to develop a set of procedures and methodologies presented in a protocol for reliable in field point estimates of fertility related properties in agricultural soils. In addition, the potential of taking data further to two and three-dimensional mapping by aid of co-variates will be illustrated.	Communication not established yet	Programme Horizon 2020 – European Joint Programme on Soil	European
26. SCALE	Managing Sediment Connectivity in Agricultural Landscapes for reducing water Erosion impacts – is a project within the European Joint Programme EJP SOIL.	Communication not established yet	SOCIETAL CHALLENGES - Food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bioeconomy	European
27. SEAO2-CDR	SEAO2-CDR is an EU funded project that unites scientific, economic, legal, political, social and ethical researchers to develop the mechanisms, tools and guidelines required to ensure that ocean-based carbon dioxide removal techniques can be evaluated and implemented in a responsible and transparent manner.	Communication established, clustering activities ongoing	Sister project under the same call	European
28. SERENA	SERENA intends to enhance soil policy effectiveness through the analysis of soil ecosystem services bundles across European agricultural landscapes, i.e. the analysis of a set of soil-based ecosystem services, which are repeatedly appearing together across space and time.	Communication not established yet	Programme Horizon 2020 – European Joint Programme on Soil	European
29. SensRes	SensRes will test the method for agricultural fields in seven European countries, using proximal sensors, drone images and satellite images. The mapped soil properties will include soil organic carbon, soil texture and locally important soil properties.	Communication not established yet	Programme Horizon 2020 – European Joint Programme on Soil	European
30. SesZEP	ZEP is a European Technology and Innovation Platform under the European SET-Plan, acting as the adviser to the European Union on the deployment of CCS and CCU.	Communication not established yet	Synergies for collaboration with actors and associations across	European

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			Europe and internationally	
31. STEMM-CCS	STEMM-CCS has successfully developed and tested a robust methodology for establishing environmental and ecological baselines under 'real life' conditions. It has developed a suite of cost-effective tools to identify, detect and quantify CO2 leakage from a sub-seafloor CCS reservoir, including an assessment of the utility of chemical tracers in the marine environment.	Communication not established yet	SOCIETAL CHALLENGES - Secure, clean and efficient energy	European
32. UPTAKE	UPTAKE aims to facilitate the sustainable upscaling of carbon dioxide removal (CDR) methods by developing a set of robust strategies through technical, theoretical, and practical analysis accompanied by interactive dialogue within a CDR stakeholder forum.	Communication established, clustering activities ongoing	Sister project under the same call	European
33. VERIFY	VERIFY will quantify more accurately carbon stocks and the fluxes of carbon dioxide (CO_2), methane (CH4) and nitrous oxide (N2O) across the EU based on independent observations in support of inventories that rely only on statistical data.	Communication not established yet	SOCIETAL CHALLENGES - Climate action, Environment, Resource Efficiency and Raw Materials	European
34. 4C	Climate-Carbon Interactions in the Current Century (4C) addresses the crucial knowledge gap in the climate sensitivity to carbon dioxide emissions, by reducing the uncertainty in our quantitative understanding of carbon-climate interactions and feedbacks.	Communication not established yet	SOCIETAL CHALLENGES - Climate action, Environment, Resource Efficiency and Raw Materials	European

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8.2. Clustering Activities as of M24

Over the first 24 months of the C-SINK project, project partners have built upon new and established connections and have actively engaged in various clustering activities with sister projects (notably UPTAKE, SEAO2CDR, and CO_2RE), as well as a wider network of EU-funded projects and initiatives. These actions have facilitated knowledge exchange, community building, stakeholder engagement and synergies in CDR strategies, along with collective policy-shaping.

C-SINK has maintained constant communication and has invited sister projects to participate in dedicated internal workshops, helix events, and thematic seminars. Notably, the project's characterisation survey of CDR technologies (under T2.1) was distributed across UPTAKE and SEAO2CDR, creating a baseline for technical alignment and shared learnings. Additionally, C-SINK partners, including Prof. Dr. Ondrej Masek and Dr. Evangelos Mouchos, were featured in UPTAKE's CDR Business webinar series where they presented the C-SINK project and provide valuable insights into CDR technologies such as biochar (BC), EW and potential synergies between other CDR-T.

C-SINK also contributed through joint participation in eight public conferences, eight workshops and webinars, and five stakeholder forums. Events such as the NEGEM final event in Brussels, Carbon Market Watch's EU climate framework workshop, and the LIFEINFUSION project's open day facilitated cross project knowledge exchange. These engagements also provided opportunities for dissemination of C-SINK outputs, particularly in platforms like the 3rd International Conference on Negative CO_2 Emissions and the 12th Framework Programme Conference in Spain.

C-SINK partners have also been active in scientific and policy-oriented dissemination. C-SINK delivered presentations at events such as the "Legal Regulation of Marine CDR" conference in London and "Carbon Management Day" in Oxford. Engagements with the UK's Department for Energy Security and Net Zero and the Scottish Parliament further underline C-SINK's influence in legislative consultations concerning Greenhouse Gas Removal (GGR) and carbon markets. Additionally, project partners participated in joint research and advisory networks, such as the Academic Steering Committee for Carbon Balance, while also leveraging national and EU-level platforms to identify synergies with Horizon-funded clusters.

As per the GA, C-SINK organised a "Soil Carbon Sequestration" clustering workshop series on the 7th of May 2025 in La Coruña, Spain, titled ''Workshop focused on Nature Based Solutions (NBS) as CDR''. As such, C-SINK successfully completed Milestone 9 (MS9) on the GA. Three Mission Soil projects participated with presentations, posters and panel discussions in the workshop, (LIFE GREEN ADAPT, CO_2RE
, MRV4SOC). The workshop featured 19 expert speakers and four panel discussions, and brought together stakeholders from policy, research, industry, and finance. Topics included afforestation, microbial carbon fixation, artificial soils, and EU regulatory frameworks, with a focus on MRV (Monitoring, Reporting, and Verification) practices (see agenda in Appendix).

Finally, partners promoted the visibility of the C-SINK project through two abstract submissions and joint participation in eight conferences, including the European Biomass

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Conference and Exhibition (EUBCE) Congress and thematic science workshops on biochar, artificial soils, and carbon farming MRV protocols. C-SINK's WP6 partners keep track and monitor such engagements of the Consortium with relevant projects through the Dissemination and Communication Register, as described in the DEC Plan (D6.1). Table 2 below provides information on the clustering activities as of M24.

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Table 2. The C-SINK Project's Clustering Activities as of M24

Activity	Type	C-SINK partner	Date/Location	Sister/ related Projects/ organisations involved
Invitation and participation of C-SINK to UPTAKE internal Stakeholder Forum workshops	Presentation, workshop	MEM, CS	Online, ongoing	UPTAKE
Invitation of sister projects to join the CO_2 Removal Helix platform	Community development	ICA, CHX	Ongoing	UPTAKE, SEAO2CDR, CO_2RE
Invitation of sister projects to the 1st CO_2 Removal Helix matchmaking event & workshop	CO_2 Removal Helix Matchmaking event, workshop	CHX	22-23 May, London, UK	UPTAKE, SEAO2CDR, CO_2RE, CitrosBiochar, CDRterra, GENIE, PilotStrategy,
C-SINK tech characterization survey shared with sister projects (T2.1)	Survey cross collaboration	ICA, CS	Online	UPTAKE, SEAO2CDR
Invitation to and participation of C-SINK partners as speakers to UPTAKE Business Opportunities and Challenges for Carbon Dioxide Removal webinar series	Presentation, webinar	ICA, MEM, UED, CS	7 June 2024, Online	UPTAKE
Participation in Legal Regulation of mCDR at Oceans of Knowledge	Presentation, knowledge exchange	UED	18 October 2023, London, UK	SEAO2-CDR, CO_2RE, UPTAKE, OCEANNET
Participation in Carbon Management Day 2025, T&S-Contractual Issues, Oxford Institute for Energy Studies	Presentation, knowledge exchange	UED	27 March 2025, Oxford, UK	CO_2RE
C-SINK participation in NEGEM project final event 'Visions and Pathways for CDR in the EU' involving partners from their sister projects.	Presentation	MEM, CS	18 April 2024, Brussels, Belgium	NEGEM, LANDMARC, OCEANNETs

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Participation in the Future Leaders Network / Aldersgate workshop / CDR working groups	Presentation, workshop	MEM	Ongoing	CO_2RE, WSP, Isometric
Participation in the 12ª Conferencia del Programa Marco de Investigación e Innovación de la UE en España – Horizonte Europa (CDTI-Oviedo). Updated Project Stakeholder Database with contacts that can be relevant to future C-SINK activities. Exposición de pósteres	Poster presentation	ICA	28, November, 2024, Oviedo, Spain	CARBIOW and Spanish biochar producers, 70+ HEU projects
Participation in the 3rd International Conference on Negative CO_2 Emissions by CO_2RE project.	Attendance	FCO	June 2024, Oxford, UK	CO_2RE
Participation in the LIFEINFUSION Open Day, (https://lifeinfusion.eu/about/)	Presentation	UNIO	1 April 2025, Spain	LIFEINFUSION
Participation in the DESNZ/Carbon ''Pricing Seminar Series Regulating Removals: Fungibility of GGR Removal Units'', UK Department for Energy Security and Net ZeroDESNZ Carbon Pricing Seminar	Attendance, seminar	UED	28 February 2025, Online	CO_2RE
Participation in the Academic Steering Committee, Carbon Balance https://www.carbon-balance.earth/publications/report-markets-and-mandates	Joint research activities, Knowledge exchange	UED	21 January 2025, Online	CO_2RE
Participation in introduction meeting with sister projects	Presentation, Community development	ICA	27 February, 2024, Online	UPTAKE, SEAO2CDR,
ICAMCYL has shared invitations to the C-SINK workshops with the sister projects and vice versa.	Knowledge exchange, Community development	ICA	Ongoing	UPTAKE, SEAO2CDR

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CS has invited stakeholders from sister and other projects to the C-SINK online research seminars, an initiative led by UED and CS.	Mutual learning, knowledge exchange, dissemination of project research	CS, UED	Ongoing, from January 2025	UPTAKE, SEAO2CDR, CO_2RE, NEGEM, LANDMARC, OCEANNETs, and others.
Presentation of CO_2RE stakeholder, Steve Smith, for the C-SINK Research Seminar "Seeing the wood from the trees: is CDR from Afforestation Overestimated?".	Knowledge exchange, mutual learning and discussions on synergies.	CS, UED	February 2025	CO_2RE
Presentation of NEGEM project's stakeholder from Carbon Market Watch for C-SINK's Research Seminar in January 2025.	Knowledge exchange, mutual learning and discussions on synergies.	CS, UED	January 2025	NEGEM
Presentations of stakeholders from the NEGEM project as speakers, and participation of attendees from various projects, including CO_2RE, during the UED-led workshop on the CDR regulatory landscape of the EU.	Knowledge exchange, mutual learning and discussions on synergies, workshop	UED, CS	June 2024	NEGEM, CO_2RE
Invitation and participation of various actors in the stakeholders' interviews organised by WP4.	Knowledge exchange and mutual learning.	CS, METU	Q1 2025	CO_2RE, NEGEM, UPTAKE, SEAO2CDR, and others.
Participation in several meetings, representing the C-SINK project within the Energy platform Horizon Europe Cluster 5: Climate, Energy & Mobility Brokerage Event - Home	Attendance, presentation	ICA	Ongoing	Various HE projects
Abstract accepted for the 33rd European Biomass Conference & Exhibition (EUBCE Congress), in which ICAMCYL (as a speaker) and CSIC will	Synergies for collaboration with actors and associations across Europe and internationally	ICA, CSIC	9-12 June 2025, Online	Participation by experts

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engage potential stakeholders focused on BECCS technologies.				
Participation in the CDR event ''The State of Carbon Dioxide Removal Report'' - Launch of 2nd Edition	Synergies for collaboration with actors and associations across Europe and internationally	ICA	4 June 2024, (Online)	Quadrature Climate Foundation, GENIE, CO_2RE, CDRSynTra, ASMASYS
Participation in the 5th EU Carbon Removals Expert Group	Synergies for collaboration with actors and associations across Europe and internationally	ICA, CS	21 Oct 2024, (Online)	Participation by experts
Submitted abstract for poster presentation of C-SINK at national conference in Spain: XVI Reunión del Grupo Español del Carbón	Synergies for collaboration with actors and associations across Europe and internationally	ICA, FCO	TBC	Participation by experts
Invitation of sister projects to the C-SINK workshop focused on nature-based solutions, in which Mission Soil program-funded projects.	Workshop	ICA, CHX, ISMC	7 May 2025 La Coruña, Spain	InbestSoil, MRV4SOC, and MARVIC
Invitation of sister projects to the C-SINK Workshop with a focus on Biochar	Workshop	ICA	12 June 2024, Porto, Portugal	UPTAKE, SEAO2CDR
Invitation of sister projects to the C-SINK Enhanced Weathering Workshop and General Assembly	Workshop	ICA	12-14 November 2024, Brugge, Belgium	UPTAKE, SEAO2CDR
Participation in the event ''Towards 2040 and beyond: The role of carbon removals in the EU climate framework'', Carbon Market Watch	Attendance	UED	2 December 2024, Online	CARBFIX; CO_2RE; UPTAKE

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Isometric and WSP mining CDR working group	Members	MEM	Ongoing	Various experts from EU funded projects
CO_2RE project (CDR site visits)	Knowledge exchange	MEM	19 November 2024 and 26 February 2025	CO_2RE
Future Leaders Network (CDR site visits)	Knowledge exchange	MEM	4-5 September 2024 and 18-19 March 2025	Future Leaders Network
ICAMCYL has engaged European projects in the C-SINK project and filled in the stakeholder database	Knowledge exchange, stakeholder engagement	ICA	Ongoing, Online	Sister and related projects
Participation in Horizon Europe Summit: Navigating Opportunities and Shaping the Path to the New Framework Programme, where the Representative of the EC and the Croatian government were invited. Horizon Europe Summit 2024	Attendance	ICA	May 2024, Online	Various experts from EU funded projects
Participation in different initiatives in Spain to promote the C-SINK project and engage potential stakeholders.	Presentation, stakeholder engagement	ICA	Ongoing, Online	Citrusbiochar
Participation in the session “Ciencia Avanzada y Materias Primas para el Futuro” as a speaker. Updated Project Stakeholder Database with contacts that can be relevant to future C-SINK activities.	Presentation, stakeholder engagement	ICA	4 Nov 2024, Madrid, Spain	ICABOOSTER and other national projects

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Submitted response to Climate Change Targets Bill for the Scottish Parliament	Joint legislation checks	UED	9 January 2025, Online	CO_2RE

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8.3. Next Steps

Table 3 below presents the next steps in terms of activities regarding the CO_2 Removal Helix, as well as the plans in terms of the clustering and collaboration activities. In particular, the focus over the next period is mainly directed towards the successful development of the $C0_2$ Removal Helix events and the clustering workshop. At the same time, CHX will engage with several sister projects in order to work on the creation of a common identity based on the Clustering Board.

Table 3. Planned Clustering Activities and Events

Event	Grant Agreement date	Actual date
1st Helix event to promote collaboration (details of the meeting to be discussed among C-SINK partners and CB members)	M30	May 2025 (M24), in London, UK
Clustering event	Onsite, ICAMCYL & CHX & CS, M30	Nov 2025 (M30), in Brussels, Belgium
2nd Helix event to promote collaboration (details of the meeting to be discussed among C-SINK partners and CB members)	M48	TBC

As per the GA, CHX and ICA have already designed and scheduled the 'Workshop on Nature-Based Solutions for Carbon Dioxide Removal' which took take place on the 7th of May in La Coruña, Spain and online (Figure 7). The workshop focused on nature-based solutions sessions around afforestation, artificial soils, biological/microbial carbon fixation, and more. Attendees will explore the benefits, risks, and synergies of these CDR approaches, the latest EU policies and regulations, and strategies for MRV. To this end, CHX has invited the Mission Soil Helix sister projects and stakeholders from the Mission Soil Helix to participate in the workshop series around.



Figure 7. C-SINK Workshop on Nature-Based Solutions for Carbon Dioxide Removal

In addition to the Nature-Based Solutions for Carbon Dioxide Removal workshop, CHX will implement the first of the two Helix events in May 2025 (Figure 7). The Helix event will be in the form of a Brokerage event around Environment and Food, hosted by the Brunel University of London, with the main focus on building collaboration partnerships for the upcoming Horizon Europe (HE) calls (see agenda in Appendix B). The event will focus on Destinations of the EU work programme in the cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment" which aims to reduce environmental degradation, halt and reverse the decline in biodiversity on land, inland waters and in the sea and accelerate the transition towards a low-carbon, resource-efficient, recycling-based economy and sustainable bioeconomy, including forestry. This aligns with the C-SINK project focus on EU research missions: 'A soil deal for Europe', 'Climate neutral and smart cities'.

The brokerage event will showcase several projects related to the CO_2 Removal Helix and will provide networking opportunities between various research and technology organisations. The event has been structured around the following sessions:

- Expert Presentations including presentation for the C-SINK project
- Pitch Sessions
- Proposal Building Workshops
- Poster Sessions
- Networking Dinner
- Venue Technology Showcase

The main objectives of the Helix event are to engage the stakeholders of the CO_2 Removal Helix, present and promote the C-SINK project and bring together leading researchers, business leaders and industry experts so that they can build innovative consortia that respond to Horizon Europe's 2025 pillar II cluster 6 calls. As such, the event is designed around matchmaking and networking opportunities intended to bring researchers, innovators, and business leaders together, pitch sessions where coordinators will present ideas for future proposal submission and roundtables for discussion. Several coordinators expressed interest to participate in the pitch sessions to attract interest and engage with potential stakeholders for the following calls:

- HORIZON-CL6-2025-02-FARM2FORK-17: Research and innovation for food waste prevention and reduction at household level through harmonised measurement and monitoring
- HORIZON-CL6-2025-02-FARM2FORK-16: Making food systems more resilient to food safety risks through the deployment of technological solutions
- HORIZON-CL6-2025-02-FARM2FORK-04: Enhancing the EU plant protein production to bolster the resilience of agricultural systems and EU self-sufficiency in plant protein feed.
- HORIZON-CL6-2025-01-ZEROPOLLUTION-08: Reducing pollution from the food and drink industries
- HORIZON-CL6-2025-01-CIRCBIO-07: Micro-indicators for the transition to sustainable and circular economy
- HORIZON-CL6-2025-01-CIRCBIO-08: Demonstration, deployment and upscaling of circular systemic solutions in cities and regions (Circular Cities and Regions Initiative)
- HORIZON-CL6-2025-02-COMMUNITIES-04: Creating urban co-creation spaces for driving sustainable food system transformation

- HORIZON-CL6-2025-01-CIRCBIO-01: Novel circular business models to enable the just transition to a sustainable and circular economy
- HORIZON-CL6-2025-01-CIRCBIO-12: Demonstration of reduced energy use and optimised flexible energy supply for industrial bio-based systems

Besides the above listed calls, participants will be encouraged to identify more calls for collaboration around Cluster 6.

Finally, both the clustering workshop and brokerage event will promote the CO_2 Removal Helix and attract even more stakeholders to subscribe to the Open Innovation Platform.



Figure 8. Environment And Food Brokerage Event | 22-23 May, London, UK

Besides the aforementioned events, over the coming period, C-SINK partners will continue to strengthen the existing relationships with sister and related projects while also establishing new connections with more projects for cross-collaboration opportunities. This will be an opportunity to bring together members from different helixes, facilitating future collaboration opportunities and increasing the visibility of C-SINK to approach more potential community members and especially the identified target groups: Primarily project partners and sister projects and thereafter relevant stakeholders who focus on CDR technologies, such as, end users of CDR, technology providers, investors, policymakers, standardization orgs, networks/platforms, relevant EU projects, scientific/technical community, Non-Governmental Organisations (NGOs), Civil Society Organisation (CSOs).

Additionally, C-SINK partners will invite experts from the sister projects to participate as speakers in the C-SINK Research Seminars with the aim of discussing their project progress and results. Finally, more emphasis will be put towards engaging in clustering activities with new CCUS projects funded under Destination 3 and HORIZON-CL5-2021-D2-01-08 and projects funded under marine topics (Cluster 6).

9. Conclusions

The clustering activities carried out within the 24 months of the project and reported in Deliverable 6.4 have significantly advanced the C-SINK project's objective of fostering a strong, collaborative ecosystem for CDR across Europe and beyond. Through the creation and expansion of the CO_2 Removal Helix on the Crowdhelix Open Innovation Platform, C-SINK has established an effective space for ongoing engagement among research institutions, industry actors, policymakers, and civil society. By M24, over 260 stakeholders from more than 150 organisations have joined the Helix, actively participating in sharing opportunities for collaboration, workshops, matchmaking events, surveys, and policy discussions.

Furthermore, the C-SINK project has achieved significant success in proactively establishing contact and collaborative relationships with a substantial portion – over half – of the identified sister projects and other relevant projects operating in climate mitigation spaces. This proactive engagement has laid a strong foundation for enduring joint activities, facilitating the crucial exchange of knowledge, best practices, and research findings. Moreover, these collaborations are strategically designed to foster the alignment of regulatory approaches and the exploration of compatible commercial strategies, thereby maximizing the collective impact and accelerating the deployment of CDR solutions. The synergistic relationships forged with these related projects are expected to enhance the overall efficiency and effectiveness of the CDR innovation ecosystem.

In the coming period, C-SINK will continue to build on this momentum through further Helix events, the refinement of its collaboration tools, and the further engagement and participation in clustering activities with more projects. The clustering network established through this deliverable represents a vital step in ensuring the project's outputs are widely disseminated and exploited. Finally, more emphasis will be put towards engaging in clustering activities with new CCUS projects funded under Destination 3 and HORIZON-CL5-2021-D2-01-08, projects funded under marine topics (Cluster 6) and more activities between sister project organized by the C-SINK project.

10. ANNEX 1: Clustering Activities Photo Material

Annex 1 provides photos and dissemination material from the clustering activities held until M24.



Figure 9. C-SINK Participation in LIFEINFUSION Project's Open Day



Figure 10. ICAMCYL Participated in the 12ª Conferencia del Programa Marco de Investigación e Innovación de la UE en España – Horizonte Europa (CDTI-Oviedo) (1)



Figure 11. ICAMCYL Participated in the 12ª Conferencia del Programa Marco de Investigación e Innovación de la UE en España – Horizonte Europa (CDTI-Oviedo) (2)

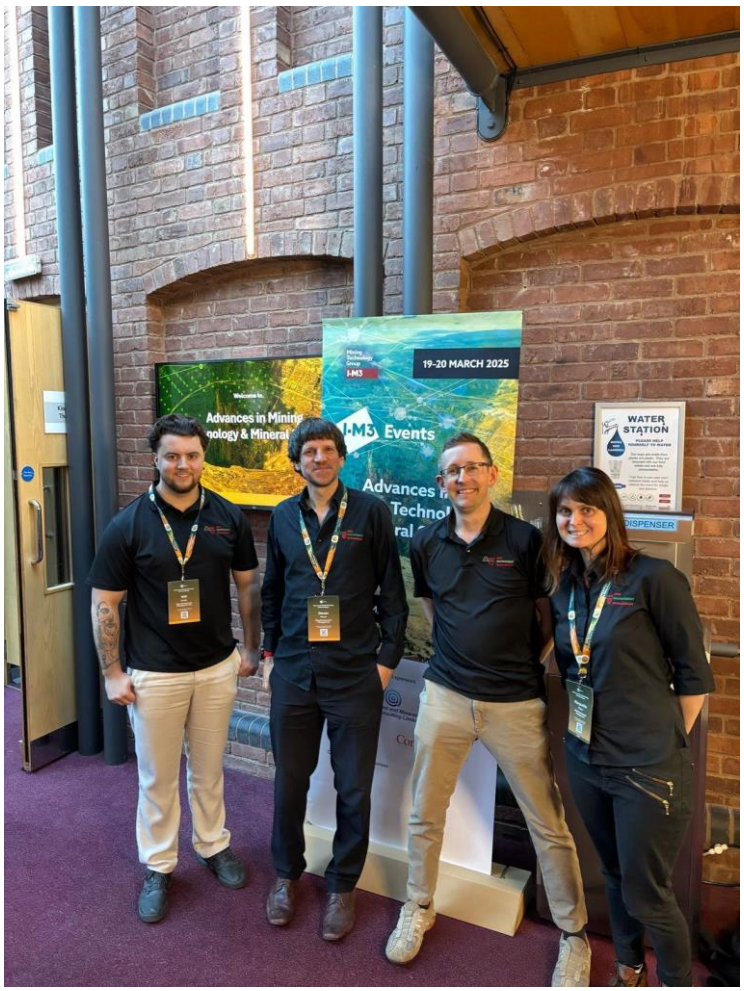


Figure 12. MEM Team Presenting at the Advances in Mining Technology & Mineral Supply in the UK



Figure 13. MEM Visit of the Enhanced Rock Weathering Field Trials of the Greenhouse Gas Removal Demonstrators Programme



Figure 14. Workshop with a Focus on Nature-Based Solutions (NBS) as CDR-T - Panel discussion

11.Appendix B

HORIZON EUROPE Grant Agreement nº 101080377 – C-Sink
Actions required to secure the large-scale deployment of the leading CDR approaches to meet EU climate targets

Workshop with a Focus on Nature-Based Solutions (NBS) as CDR-T

7th May, 2025 — Eurostars Atlántico Hotel - Av. Jardines de Méndez Núñez, s/n, 15006 A Coruña (Spain)

Time	Item	Presenter
08:30 - 09:00	Registration	
09:00 - 09:10	Welcome	ISMC (onsite)
09:10 - 09:30	C-SINK project presentation & nature-based solutions studied within the project (AF, AS, BCO_2)	ICAMCYL Vanessa Nava (onsite)
1st Thematic session: Nature-Based Solutions for CDR		
09:30 - 10:00	JRC European Soil Observatory and the Land degradation assessment (30 min)	JRC Ispra Dr. Calogero Schillaci (online)
10:00 - 10:10	AF and pilot developed in C-SINK (10 min)	CES Raul Savimaa (online)
10:10 - 10:30	Introduction related to AS and pilot developed in C-SINK (20 min)	EDAFOTEC/ UNIOVI Rubén Leboreiro Amaro/ José Luis Gallego (onsite)
10:30 - 10:50	Introduction related to BCO_2, and pilot developed in C-SINK (20 min)	EKO Darina Styriakova (onsite)
10:50 - 11:10	**1st Panel Discussion: Nature-Based Solutions for CDR**	ALL
11:10 – 11:30	**Coffee break and poster exhibition**	Academia/companies
2nd Thematic session: Nature-based solution Benefits, potential risks, and synergies		
11:30 - 12:00	Nature-Based Solution to foster adaptation to Climate change (LIFE Green Adapt project) (30 min)	AIMEN Álvaro Silva Teira (onsite)
12:00 - 12:20	Total Economic Value Analysis Methodology for Nature-Based Solution CDR in C-SINK (AF, AS, BCO_2) (10 min)	MNLT Vasiliki Alexiou (onsite)
	Potential of biological applications to provide carbon sink possibilities: LCA methodology (10 min)	METU Zohre Kurt (onsite)
12:20 - 12:40	Towards a Carbon-Neutral Future: Harnessing Plant-Bacterial Consortia for Enhanced Heavy Metal Hyper-Accumulation in the EU (20 min)	RemePhy Franklin Keck (onsite)
12:40 - 13:00	Offsetting through reforestation and afforestation projects: A real opportunity for rural areas (20 min)	Grupo Sylvestris Francisco M. Martinez Sanz (onsite)
13:00 - 13:20	**2nd Panel Discussion: Nature-Based Solution Benefits, potential risks, and synergies**	ALL
13:20 - 14:20	**Lunch and networking**	ISMC

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HORIZON EUROPE Grant Agreement nº 101080377.

Time	Item	Presenter
3rd Thematic session: Nature-Based Solution Carbon Market and Regulation		
14:20 - 14:50	EU Carbon Removal Carbon Farming Framework (30 min)	EC Dr. Christian Holzleitner (online)
14:50 - 15:10	The EU CRCF Regulation in practice – Dutch farmers' willingness to accept contracts for certifiable carbon removals (20 min)	Wageningen University - WUR Dries, Liesbeth (online)
15:10 - 15:30	Nature-based solution Regulation review studied in the C-SINK project (AF, AS, BCO_2) (20 min)	UED Marsaili van Looy (onsite)
15:30 - 15:50	**3rd Panel Discussion: Nature-Based Solution Carbon Market and Regulation**	ALL
15:50 - 16:10	**Coffee break and poster exhibition**	Academia/companies
4th Thematic session: Monitoring Carbon Farming		
16:10 - 16:40	EU MRV Carbon Farming (30 min)	EC Dr. Valeria Forlin (online)
16:40 - 17:00	MRV4SOC and its contribution to carbon removals (20 min)	UVigo Paula Pérez Rodríguez (onsite)
17:00 - 17:20	Co-benefits: considering definitions, benchmarks for measuring, and misaligned policy instruments - lessons and opportunities (10 min) Nature-Based Solution MRV Review studied in the C-SINK project (AF, AS, BCO_2) (10 min)	University of Bristol (CO_2RE) Natasha Martirosian (onsite) MEM Evangelos Mouchos (onsite)
17:20 - 17:40	**4th Panel Discussion: Monitoring Carbon Farming**	ALL
17:40 - 18:00	CO_2 Removal Helix	CHX Evangelos Koulis (onsite)
18:00	**Closing of the event**	ISMC

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Figure 15. Workshop with a Focus on Nature-Based Solutions (NBS) as CDR-T - Agenda

Day 1

13:00 - 14:00	**Registration and refreshments**
14:00 - 14:10	**Welcome Address** Speaker Professor Hua Zhao - Pro Vice Chancellor Research, Brunel University of London
14:10 - 14:40	**Horizon Europe - Cluster 6 and Proposal Development** Speaker Kerry Young - National Contact Point, Innovate UK
14:40 - 15:10	**Park Royal Net Zero** Speaker Professor Geoff Rodgers - Pro Vice Chancellor Enterprise and Employment, Brunel University of London
15:10 - 15:40	**Elevator Pitch Session**
15:40 - 16:10	**Coffee Break**
16:10 - 16:30	**The Crowdhelix Helix Impact Model** Speaker Michael Browne - CEO, Crowdhelix
16:30 - 16:50	**The future of EU nature-based carbon removals: opportunities and challenges** Speaker Lander Crespo, Senior Researcher at Global Factor,PhD in Climate Sciences by the University of Bergen



Figure 16. Environment And Food Matchmaking Event - Agenda

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