

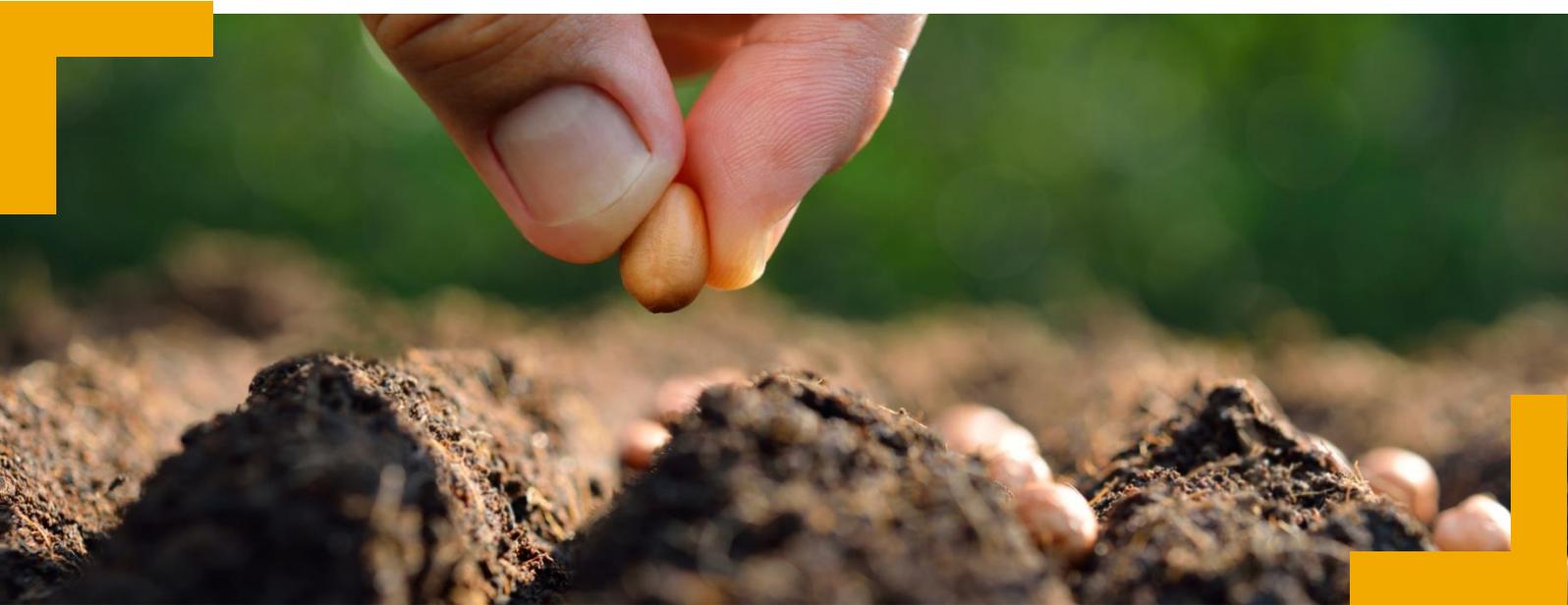


**CARBON 4
SOIL QUALITY**

**Interreg
Euro-MED**



Co-funded by
the European Union



February 2026

POLICY IMPACT REPORT



<https://carbon4soilquality.interreg-euro-med.eu/>



Deliverable ID

Project acronym	Carbon 4 Soil Quality
Project title	Capturing and Storing Atmospheric CO ₂ for Improvement of Soil Quality
Project mission	Natural Heritage
<i>Project priority</i>	Greener MED
<i>Specific objective</i>	RSO2.7
<i>Type of project</i>	Study
<i>Project duration</i>	01/01/24 – 31/03/26 (27 months)

Deliverable title	Policy impact report
Deliverable number	2.5.1
Deliverable type	Study
<i>Work package number</i>	2
<i>Work package title</i>	Building solid foundation for testing carbon farming in Euro-MED area
<i>Activity name</i>	Contribution to EU carbon farming initiative
<i>Activity number</i>	2.5
<i>Partner in charge (author)</i>	Simon OGRAJŠEK (KIS)
<i>Partners involved</i>	ISD, UAL, AUTH, ISD, RI.NOVA, IAS, UNIPD, UCG

Document history

<i>Versions</i>	<i>Date</i>	<i>Document status</i>	<i>Delivered by</i>
Version 1.0	20/02/26	Draft	KIS
Version 2.0	04/03/26	Final	KIS



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EXECUTIVE SUMMARY

This deliverable presents the assessment of policy impact achieved under Activity 2.5 of the Carbon 4 Soil Quality (C4SQ) project, implemented within the Interreg Euro-MED Programme and the Natural Heritage Mission.

C4SQ was developed as a study-type project. Its objective was not to test carbon farming techniques in the Mediterranean environment, establish carbon credit schemes, or introduce regulatory instruments, but to analyse how carbon farming can be realistically developed under the environmental and institutional conditions of the Euro-Mediterranean region.

The Mediterranean context is characterised by climatic vulnerability, soil degradation risks and significant legislative asymmetry between EU Member States and accession countries. In this diverse environment, large-scale implementation of carbon farming requires careful regional calibration and institutional preparedness.

Through analytical work, including the definition of soil organic matter reference values, examination of socio-economic models and review of certification systems, the project identified structural gaps that must be addressed before operational schemes can be deployed. These include limitations in monitoring and verification systems, fragmentation between research and implementation structures, and economic uncertainty for farmers.

Policy impact was achieved primarily through structured positioning and dialogue. Engagement at national and European levels, integration within the Natural Heritage Mission, scientific validation at international events and consolidation through the Final Conference ensured that Mediterranean-specific considerations were visible within evolving carbon farming discussions.

The overall impact of the project is preparatory and enabling. C4SQ strengthened awareness, improved institutional understanding and contributed to more realistic expectations regarding carbon farming in the Euro-Mediterranean region. For a study-type intervention operating in a dynamic policy environment, this represents an appropriate and strategically aligned outcome.



1 INTRODUCTION, POLITICAL CONTEXT AND PROJECT BACKGROUND

1.1 Mediterranean context and policy diversity

The Euro-Mediterranean region is one of the most environmentally and politically diverse areas within the Interreg cooperation zone. It comprises EU Member States with established climate and agricultural policy frameworks, as well as countries at various stages of EU accession and policy harmonisation. While EU Member States operate under the Common Agricultural Policy (CAP), the LULUCF Regulation, and the emerging Carbon Removal Certification Framework (CRCF), partner countries outside the EU are still aligning their national legislation with these standards.

This diversity brings both opportunities and complexities. On one hand, the Mediterranean region faces common environmental challenges: soil degradation, erosion, water scarcity, increasing frequency of droughts, and climate variability. On the other hand, institutional capacities, regulatory frameworks, and implementation readiness vary significantly across the region.

Carbon farming as a policy concept has gained prominence in European climate discussions. However, its implementation remains inconsistent. In some countries, carbon farming is already being considered in relation to CAP eco-schemes and voluntary carbon markets. In others, legal frameworks, monitoring infrastructure, and market mechanisms are still being developed.

In this context, a structured analytical approach is necessary before implementation can be considered. Without an understanding of regional constraints, methodological feasibility, and institutional readiness, carbon farming risks becoming a fragmented or overly standardised concept that is not suited to Mediterranean realities.

1.2 Strategic relevance and positioning of the project

The project addressed two interconnected environmental challenges: reducing atmospheric CO₂ concentrations and improving soil quality in Mediterranean agricultural systems.

It recognised that soil carbon sequestration should not be considered solely as a climate instrument. In the Mediterranean region, increasing soil organic carbon is



directly linked to drought resilience, erosion control, water retention capacity, and long-term agricultural productivity. Therefore, carbon farming must be analysed not only from a carbon accounting perspective, but also from the perspectives of soil health and sustainability.

Meanwhile, the policy environment surrounding carbon farming is evolving rapidly at the EU level. The introduction of the CRCF, strengthened land-based accounting under LULUCF, and the strategic direction of the EU Green Deal create expectations for credible carbon removal systems. However, important questions remain regarding:

- Feasibility of monitoring and verification,
- Additionality under CAP support schemes,
- Permanence risks in drought-prone regions,
- Compatibility between voluntary markets and national accounting,
- Socio-economic viability for farmers.

C4SQ positioned itself within this evolving environment as an analytical and preparatory initiative. The project did not aim to introduce a certification scheme or issue carbon credits. Instead, its role was to examine how Mediterranean agricultural systems interact with emerging policy frameworks and to structure knowledge for future implementation-oriented initiatives.

1.3 Study nature of the project – scope and limitations

C4SQ was approved and implemented as a study-type project under the Interreg Euro-MED Programme. This classification is central to understanding both the ambition and the limitations of the intervention.

The project was not designed as a pilot implementation scheme or a certification initiative. It did not establish carbon credit mechanisms, develop operational registries, conduct large-scale field trials, or create legally binding instruments. The project's timeframe and financial framework were structured to support analytical work, methodological review, and cross-border knowledge exchange rather than regulatory or market deployment.

As a result, several inherent limitations must be acknowledged:

First, the project did not implement long-term soil carbon monitoring systems. While it analysed standards and monitoring procedures, it did not operate



continuous measurement infrastructures capable of generating verified carbon credits.

Second, the project did not negotiate or submit formal legislative proposals at EU or national level. Its recommendations are analytical and conceptual, intended to inform discussion and future initiatives rather than directly influence regulatory processes.

Third, the project did not create financial mechanisms or economic incentives for farmers. Socio-economic models were analysed, but no operational payment schemes were introduced.

Fourth, institutional engagement remained informative and dialogue oriented. While public authorities were informed and involved in discussions, the project did not mandate policy commitments or implementation decisions.

These limitations should not be interpreted as weaknesses, but as structural characteristics of a study-type project. In a policy area that is still evolving – particularly in the Mediterranean region, where climatic variability and institutional diversity are significant – structured analytical groundwork is a necessary precursor to implementation.

By focusing on knowledge consolidation, regional calibration, and methodological clarification, C4SQ aimed to reduce uncertainty and avoid premature or poorly adapted carbon farming schemes. The study nature of the project therefore reflects a deliberate approach: strengthening the foundation before moving towards operational or regulatory stages.

1.4 Strength of the partnership

The project partnership brings together research institutions and specialised organisations from across the Mediterranean region. Six partners are research organisations of national or regional importance. Together, they provide a significant and necessary level of scientific knowledge in soil science, agronomy, carbon analysis, and environmental monitoring in the Euro-MED area.

The scientific excellence of the partnership is complemented by two organisations representing civil society and farmers. The Institute for Sustainable Development (ISD) contributes expertise in sustainability and policy dialogue, while Ri.nova Cooperative Society offers practical, farmer-oriented experience and regional

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agricultural innovation capacity.

This combination of scientific strength and practical orientation enables the project to address carbon farming from both analytical and applied perspectives.

1.5 What the project did

C4SQ structured its work through dedicated work packages aimed at addressing knowledge gaps and establishing foundations for future testing.

Work Package 1 focused on enhancing understanding of the benefits of carbon farming for soil quality and CO₂ reduction. Activities included defining reference values for soil organic matter, adapting carbon analysis standards, researching appropriate carbon farming techniques, analysing socio-economic models, and reviewing carbon credit schemes and certification systems.

Work Package 2 concentrated on establishing a solid foundation for testing carbon farming in the Euro-MED area, including strategic analysis, stakeholder engagement, and preparation of training materials.

Various horizontal activities ensured communication, coordination, and integration at the mission level.

The project therefore addressed carbon farming from multiple perspectives: scientific, methodological, socio-economic, and governance related.

1.6 Stakeholder landscape

From the outset, C4SQ operated within a complex and extensive stakeholder environment. Agricultural advisers, farmers, ministries, regional authorities, NGOs, research institutions, private carbon market actors, and European-level initiatives are all active in the field of soil carbon and climate mitigation.

This dynamic ecosystem reflects the growing importance of carbon farming but also increases the complexity of coordination and engagement. The project recognised this and positioned itself as a structured analytical contributor within a broader landscape of initiatives.



2 MEDITERRANEAN CONTEXT: ENVIRONMENTAL AND INSTITUTIONAL DIVERSITY

2.1 Environmental specificity of the Euro-Mediterranean region

The Euro-Mediterranean region is characterised by a unique combination of climatic, ecological, and agricultural conditions that set it apart from other European macro-regions. Prolonged summer droughts, an increasing frequency of extreme weather events, irregular precipitation patterns, and a high risk of erosion create a fragile soil environment that is particularly sensitive to climate change.

In many Mediterranean areas, soil organic carbon levels are historically low due to long-term land use pressure, high mineralisation rates, and limited biomass return. At the same time, water scarcity and structural soil degradation directly affect agricultural productivity and ecosystem stability. In these conditions, improving soil organic carbon is not only a climate mitigation measure but also a central strategy for resilience, water management, and long-term sustainability.

This dual function – climate and soil health – makes carbon farming particularly relevant for the Mediterranean basin. However, it also increases complexity. Carbon sequestration dynamics under drought-prone and erosion-sensitive conditions differ significantly from those in temperate regions, where many existing carbon methodologies were developed.

For this reason, C4SQ approached carbon farming not as a universally applicable model, but as a concept requiring regional calibration and careful adaptation.

2.2 Agricultural structure and socio-economic diversity

Beyond environmental factors, the Mediterranean region exhibits structural diversity in agricultural systems. Farm sizes vary considerably, from small family-based holdings to medium-scale commercial operations. Land ownership fragmentation is common, particularly in hilly and peri-urban areas.

Perennial systems such as olive groves, vineyards, and orchards dominate many areas, while arable cropping is more prevalent in certain plains and valleys. Livestock systems, extensive grazing, and mixed farming also form part of the regional mosaic.



This structural heterogeneity affects the feasibility of implementing carbon farming. Monitoring, verification, and administrative procedures that may be viable in large, uniform systems can become complex and costly in fragmented landscapes. Aggregation mechanisms, advisory support, and institutional coordination become more important under these conditions.

C4SQ recognised that methodological feasibility cannot be separated from socio-economic structure. Therefore, the project integrated socio-economic analysis into its study of carbon farming potential.

2.3 Institutional and legislative asymmetry across the region

The Euro-Mediterranean cooperation area is not institutionally uniform. It includes EU Member States operating under harmonised regulatory frameworks and countries at various stages of EU accession or alignment. This creates structural asymmetry in legislative maturity, administrative capacity, and climate governance readiness.

In EU Member States, agricultural and climate policies are embedded within established regulatory systems. Instruments such as the Common Agricultural Policy, national climate strategies, and environmental reporting obligations provide a structured governance environment. While carbon farming is still evolving within these systems, institutional channels for policy discussion and implementation already exist.

In contrast, accession countries and neighbouring partners operate under transitional legal environments. Although alignment with EU legislation is ongoing, institutional frameworks for climate accounting, environmental certification, agricultural incentives, and monitoring infrastructures may still be under development. Administrative capacity and market structures can differ significantly from those in EU Member States.

This asymmetry has direct implications for carbon farming governance. Implementation readiness depends not only on agronomic feasibility but also on legal clarity, monitoring infrastructure, institutional coordination, and policy coherence. A certification or incentive system that may be feasible in one regulatory context may face structural barriers in another.

Moreover, climate and soil governance often involve multiple ministries and agencies, including agriculture, environment, and climate authorities. Coordination



between these actors is not uniform across the region. In some cases, carbon-related responsibilities are clearly defined; in others, institutional roles are still evolving.

C4SQ operated across this diverse landscape. The project therefore adopted a comparative and analytical approach rather than proposing uniform governance solutions. Recognising legislative non-uniformity was essential to avoid unrealistic harmonisation assumptions and to respect different stages of institutional development.

2.4 Carbon farming in a rapidly evolving policy environment

Carbon farming is not developing in an institutional vacuum. Across the Mediterranean region, numerous projects, initiatives, and research programmes are addressing soil carbon, regenerative agriculture, and climate-smart farming. Interreg, Horizon Europe, LIFE, and national projects contribute to a dynamic and expanding ecosystem of carbon-related activities.

This vibrant environment creates opportunities for knowledge exchange and cross-learning. At the same time, it can introduce complexity in coordination and communication. Stakeholders, including advisory services and public institutions, are often involved in multiple parallel initiatives addressing similar topics.

C4SQ positioned itself within this evolving landscape as an analytical contributor rather than a competing implementation initiative. The project aimed to strengthen coherence by clarifying methodological requirements and identifying regional constraints, thereby supporting more informed future action.

Given the environmental vulnerability, agricultural heterogeneity, and institutional diversity of the Euro-Mediterranean region, a structured analytical approach was considered essential before large-scale carbon farming implementation.

Premature deployment of certification schemes without sufficient regional calibration could risk:

- Overestimating sequestration potential,
- Underestimating permanence risks,
- Creating unrealistic expectations among farmers,
- Generating administrative burdens without proportional benefits.

C4SQ therefore focused on building a structured analytical foundation through

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comprehensive literature review and data analysis, defining soil organic matter reference values for different soil types, adapting carbon analysis standards and monitoring procedures, examining socio-economic models relevant to Mediterranean agricultural systems, and reviewing existing certification systems and monitoring approaches. This integrated groundwork provides a more realistic and regionally calibrated basis for future implementation initiatives aligned with evolving European policy frameworks.



3 ANALYTICAL FOUNDATIONS AS A BASIS FOR POLICY IMPACT

3.1 Building credible foundations before policy implementation

In emerging governance fields such as carbon farming, analytical preparation is essential for credible implementation. In the Euro-Mediterranean region, characterised by climatic variability, soil heterogeneity and institutional asymmetry, premature regulatory deployment without adequate technical grounding may create unrealistic expectations, financial instability or administrative burdens.

The work undertaken under C4SQ contributes to policy impact by reducing uncertainty. By analysing environmental constraints, socio-economic realities and governance gaps, the project strengthens the evidence base for future policy instruments. This contribution is preparatory rather than legislative, but it is strategically important in a policy field that is still evolving.

Deliverable 2.1.1 – Strategic Analysis for Soil Quality Improvement in Mediterranean Climate provides a comparative overview of the environmental, institutional and socio-economic conditions across partner countries. The findings show that carbon farming in the Mediterranean cannot be treated as a uniform mitigation instrument; instead, it must be regionally calibrated and institutionally adapted.

3.2 Institutional and structural gaps identified across partner countries

The strategic analysis identified several cross-cutting structural gaps directly relevant to assessing policy impact.

First, in all participating countries, there is currently no fully operational national monitoring, reporting, and verification (MRV) system dedicated to soil carbon at the farm level. Soil monitoring exists within research or environmental agencies, but it is not institutionalised as a standardised carbon accounting tool for agricultural policy or carbon markets. This limits the immediate feasibility of performance-based carbon schemes.

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Second, although scientific capacity in the region is strong – particularly within research institutes and universities – fragmentation persists between research knowledge and farm-level implementation. Advisory systems are not systematically equipped with carbon-specific tools, and data interoperability remains limited. This suggests that the challenge lies not in a lack of scientific knowledge, but in institutional translation and coordination.

Third, all EU Member States involved in the project are aligned with European climate and sustainability objectives through their CAP Strategic Plans. Soil-supportive practices are promoted under eco-schemes and agri-environment-climate measures. However, these instruments are practice-based and not directly linked to quantified carbon outcomes. In accession countries, legislative alignment is ongoing and institutional frameworks are still developing. In both contexts, there is no fully defined legal framework specifically addressing carbon farming as a certified removal activity.

These findings are central to policy impact assessment. They show that carbon farming governance in the Euro-Mediterranean region remains in a preparatory phase. C4SQ contributes by clarifying which structural conditions must be strengthened before large-scale implementation becomes realistic.

3.3 Managing expectations and integrating socio-economic reality

One of the most important contributions of the project's analytical work is managing expectations regarding sequestration potential and implementation speed. Mediterranean soils are often shallow, prone to erosion, and exposed to high mineralisation rates due to prolonged drought and temperature stress. While improving soil organic carbon provides significant resilience and soil health benefits, net sequestration rates may be moderate and highly site-specific. This has important implications for policy design. Carbon farming in the Mediterranean should not be presented solely as a high-volume carbon removal mechanism, but as a broader strategy for soil resilience and sustainability.

Farmer participation also depends on socio-economic viability. The project's analysis shows that the small and fragmented farm structures common in the region may face disproportionate administrative burdens under complex certification systems. Uncertainty about carbon price stability, long-term commitments, and monitoring requirements can reduce willingness to participate. Transitional yield variability during adaptation phases also requires consideration.



From a policy perspective, this means that carbon farming instruments must be carefully designed to ensure economic predictability, administrative simplicity, and risk-sharing mechanisms. Aggregation models, advisory support, and alignment with existing agricultural support schemes are critical enabling factors.

The analytical work carried out within C4SQ therefore contributes to policy credibility by integrating environmental constraints with socio-economic realism. It shifts the discussion from abstract carbon potential to implementable frameworks adapted to Mediterranean realities.

3.4 Positioning within a dense carbon farming ecosystem

The project was implemented in a highly dynamic environment of European and regional initiatives addressing soil health, regenerative agriculture, and carbon sequestration. Numerous Interreg, Horizon, LIFE, and national projects are active in this thematic area across the Euro-MED region.

This vibrant ecosystem reflects strong institutional interest and policy momentum. However, it also increases complexity in coordination and engagement. Farmers, advisory services, and public authorities are often invited to participate in parallel initiatives addressing similar themes. Without coordination, this can result in overlapping efforts and limited long-term integration of results.

C4SQ positioned itself within this landscape as a consolidating and analytical initiative. Instead of introducing additional pilot schemes or certification experiments, the project focused on synthesising knowledge, identifying structural limitations, and clarifying regional conditions. This approach contributes to coherence within the broader ecosystem and supports more coordinated future development.

3.5 Contribution to responsible policy pathways

Taken together, the analytical foundations developed within C4SQ strengthen the conditions for responsible policy development in the field of carbon farming. The project does not deliver a ready-to-implement regulatory model; instead, it provides:

- Evidence-based calibration of Mediterranean carbon potential,
- Identification of institutional and monitoring gaps,
- Integration of socio-economic constraints into technical discussion,

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- Comparative insight across EU and accession countries,
- Structured recommendations documented in related deliverables.

In doing so, C4SQ contributes to more realistic and credible policy pathways. By clarifying risks and limitations before implementation, the project reduces the likelihood of ineffective or misaligned carbon farming schemes in the region.

For a study-type intervention, this form of impact – strengthening foundations, aligning expectations, and improving policy literacy – is consistent with the project’s mandate and scope.



4 INSTITUTIONAL ENGAGEMENT, MISSION INTEGRATION AND POLICY MAINSTREAMING

4.1 Forward-looking policy positioning across levels of governance

Institutional engagement within C4SQ did not occur as isolated events, but as a progressively expanding process of policy positioning across multiple governance levels. The project progressed from national awareness-building and sector-level dialogue to European thematic platforms, Mission-level scrutiny, and finally consolidated mainstreaming at the Final Conference.

This progression reflects the study-based nature of the project: first building analytical credibility, then positioning results within professional communities, and ultimately integrating findings into structured governance dialogue under the Interreg Euro-MED Natural Heritage Mission.

At national level, project partners presented findings to ministries, advisory bodies, and regional authorities through workshops and institutional meetings. These interactions introduced Mediterranean-specific soil carbon considerations into agricultural and environmental governance discussions. While not resulting in immediate legislative amendments, they contributed to early-stage policy awareness and strengthened understanding of regional calibration needs.

This initial phase ensured that carbon farming was framed not as an abstract climate instrument, but as a regionally grounded soil resilience strategy.

4.2 Sector-level engagement and implementation dialogue

Beyond institutional meetings, C4SQ presented its analytical findings at agricultural innovation platforms and practitioner-focused events. Participation in events such as the InfoAgro Exhibition in Almería (ES) and the AGRA Exhibition in Gornja Radgona (SI), represented by the University of Almería and the Agricultural Institute of Slovenia, enabled the project to connect directly with farmers, agribusiness actors, and innovation stakeholders. This was strategically relevant: policy impact in carbon farming depends on farmer uptake, and implementation feasibility must be discussed alongside regulatory ambitions.

By presenting soil health research and carbon farming tools in this context, the



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project strengthened the link between scientific evidence and operational agriculture. This supports implementation readiness, which is a necessary precondition for credible policy development.



Figure 2: KIS booth at the AGRA exhibition presenting C4SQ project, Gornja Radgona (SI)



Figure 1: Representatives of UAL at the InfoAgro Exhibition in Aguadulce, Almería.

4.3 Scientific validation as a basis for governance credibility

A crucial aspect of policy positioning is scientific validation. C4SQ enhanced its credibility by engaging with internationally recognised science-policy platforms.

At the European Geosciences Union (EGU) conference 2025 in Vienna, researchers organised a session on carbon farming in Mediterranean climates. Project partners from the University of Padua (UNIPD) and the Aristotle University of Thessaloniki (AUTH) attended the conference.

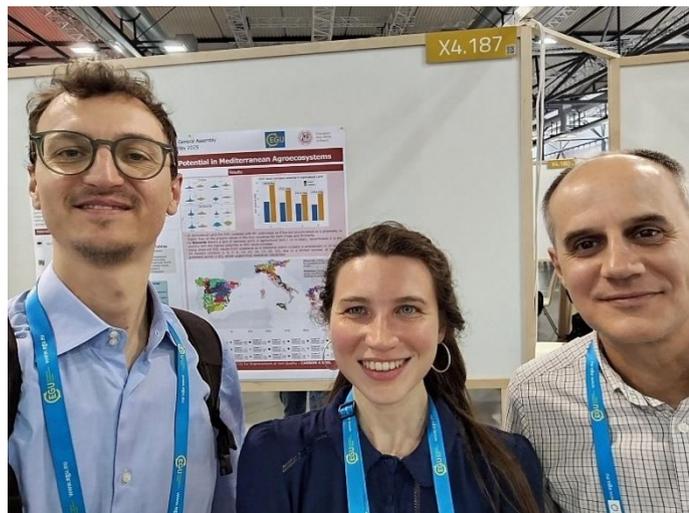


Figure 3: Representatives from UNIPD and AUTH attended the EGU conference in Vienna.





presented Mediterranean-specific verification methods and monitoring approaches. Participation in one of Europe's largest geoscience conferences positioned the project within high-level climate discourse. Scientific recognition increases institutional confidence and reinforces the legitimacy of project findings in policy contexts.

University of Thessaloniki (AUTH) also took part in the ESRI Users' Conference in Athens, where they presented selected results from the Carbon 4 Soil Quality project. Their presentation included a comparative assessment of two soil carbon models applied in a region of north-eastern Greece, analysing changes in soil organic carbon over the past decade. This comparison provided insights into long-term carbon dynamics under Mediterranean conditions and highlighted methodological considerations relevant to spatial analysis and monitoring of soil carbon. By sharing these findings with a geospatial and data-oriented community, the project strengthened the link between soil carbon research and applied spatial tools used in environmental governance.

Scientific-policy interfaces such as these are essential for reinforcing the knowledge-based foundation of governance discussions.

4.4 European Carbon Farming Summit: Integration into emerging governance debates

Representation at the European Carbon Farming Summit in Valencia marked a further step in policy positioning. Through participation by Aristotle University of Thessaloniki, the project engaged directly with actors shaping certification systems, monitoring frameworks, and carbon market discussions at the European level. This engagement allowed C4SQ to introduce Mediterranean constraints and calibration considerations into a debate often shaped by temperate-region assumptions. It also enabled the partnership to observe emerging governance trends and reflect them in its analytical outputs. Such participation contributes to cross-border added value, ensuring that Mediterranean realities are not marginalised within European carbon farming frameworks.



4.5 Natural Heritage Mission integration and peer review as governance quality mechanism

Integration within the Interreg Euro-MED Natural Heritage Mission added an extra layer of policy impact. The peer review session held during the project meeting in Thessaloniki in November 2025 marked a particularly significant milestone. In this structured one-hour session, external experts assessed key deliverables and engaged in focused debate on transference, replication, and societal impact.

The session covered capacity-building materials, synergies with nature restoration strategies, and the trade-offs and risks associated with carbon farming practices. This external assessment mechanism strengthened governance transparency and transferability. It ensured that project results were critically evaluated for both scientific robustness and their transferability and policy relevance.

Peer review within the Mission's Amplification Room activities strengthens alignment with Interreg impact logic, particularly regarding replication potential and societal embedding.

Participation in the Natural Heritage Mission Institutional Dialogue in Barcelona further strengthened this governance position. The event was explicitly presented as a strategic milestone for policy uptake and cross-project visibility. By presenting deliverables in pitch sessions and bilateral exchanges, C4SQ increased the visibility of Mediterranean soil carbon considerations within broader restoration discussions. This Mission-level integration enhances horizontal coherence across thematic projects and reduces fragmentation in the carbon farming ecosystem.



Figure 5: Reviewer from the Mission Prof. Javier Retana from the Autonomous University of Barcelona and a researcher at CREAM.





4.6 Final Conference as mainstreaming and cross-project consolidation platform

The Final Conference, held in Thessaloniki on 10 December 2025, was the most comprehensive mainstreaming event of the project. The structured programme, with dedicated sessions on scientific results, climate action practices and policy, and carbon markets, demonstrated the deliberate integration of research, implementation, and governance perspectives. Contributions from regional authorities, including the Emilia-Romagna Region, and presentations from related initiatives such as the CARBONICA Excellence Hub, illustrated cross-project alignment. The presence of policy-relevant speakers in the “Policy and Carbon Markets” session, along with online contributions from European-level experts, elevated the dialogue beyond academic exchange. The conference served as:

- A dissemination platform for analytical outputs,
- A coordination mechanism among related initiatives,
- A forum for connecting regional governance actors with research institutions,
- A structured opportunity for mainstreaming Mediterranean calibration perspectives.



Figure 7: Presentation from Prof. Miguel L. Cabrera from the University of Georgia (USA).



Figure 6: Conference Opening and Keynote Speaker Prof. Thomas Kätterer from the Swedish University of Agricultural Sciences.



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Unlike earlier engagement phases, the Final Conference consolidated the project's analytical findings within a visible, multi-actor policy environment. Although no binding policy commitments were adopted, the event strengthened transfer pathways and reinforced cross-border cooperation.



Figure 8: Group photograph of Final conference participants.



5 COMMUNICATION, VISIBILITY AND POSITIONING WITHIN THE EURO-MED CARBON FARMING ECOSYSTEM

5.1 Communication as a strategic positioning instrument

Communication activities within C4SQ were not limited to disseminating results. They served as a strategic positioning tool within a rapidly evolving carbon farming landscape. The project maintained an active presence across multiple communication channels, including social media platforms, institutional websites, newsletters, and conference-related outreach. Content included project meetings, training activities, participation in European summits, mission-level engagement, and analytical outputs. Rather than focusing solely on promotional visibility, communication efforts aimed to consistently emphasise three key messages:

- Carbon farming in the Mediterranean requires regional calibration.
- Scientific credibility must precede certification and market expansion.
- Bridging the gap between research, policy and practice is essential.

5.2 Social media and digital outreach

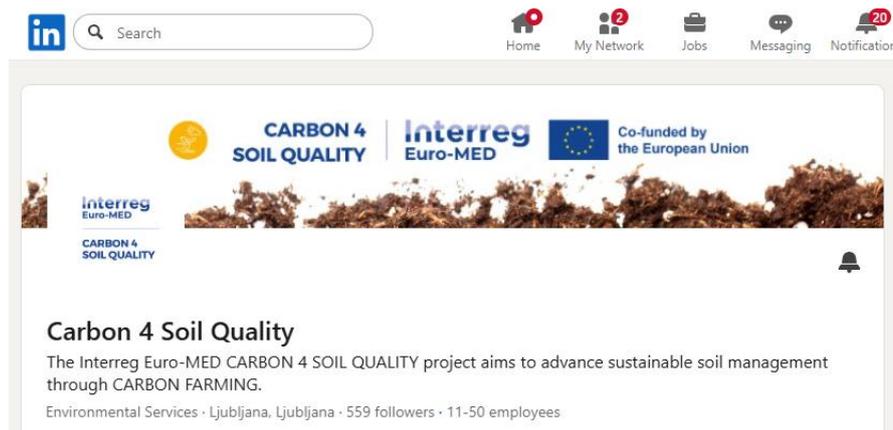


Figure 9: C4SQ LinkedIn page.

The project maintained an active LinkedIn presence under the Carbon 4 Soil Quality profile, supported by institutional reposts from partner organisations. Posts included participation in events such as the European Carbon Farming Summit, EGU 2025, the InfoAgro Exhibition, Mission activities, and the Final Conference.





Much of the communication remained professional and informative, highlighting analytical findings and event participation rather than making promotional claims. Engagement levels were consistent with those of thematic research projects operating in specialised policy domains.

The communication record indicates that outreach extended across multiple Mediterranean countries and audiences. Content was multilingual where appropriate and aligned with mission-level campaigns such as #SolveTheChallenge2025 under the Natural Heritage Mission.

Digital outreach strengthened visibility among:

- Research networks,
- Agricultural professionals,
- Policy-interested audiences,
- Interreg programme stakeholders.

Although communication metrics were moderate, the audience was targeted and specialised, which is appropriate for a study-type intervention in a technical governance field.

5.3 Website and publicly accessible deliverables

Project results were made publicly accessible via institutional websites and the Interreg programme portal. Deliverables such as D1.5.1 (carbon credit and certification recommendations), D2.1.1 (strategic analysis), D2.2.1 (training and capacity-building outputs), and D2.4.1 (conference documentation) provide structured documentation for further use.

Public accessibility of analytical outputs enhances transparency and enables future initiatives to build on the project's findings. In a policy area where methodological clarity is essential, open documentation strengthens trust and reproducibility.

Communication activities regularly directed audiences to these publicly available materials, reinforcing the project's knowledge-based positioning.

5.4 Integration within a dense carbon farming ecosystem

An important contextual factor shaping the communication strategy was the presence of a highly active ecosystem of EU-funded and regional projects addressing soil health, regenerative agriculture, and carbon sequestration across



the Euro-MED area. This ecosystem includes Interreg, Horizon Europe, LIFE, and national initiatives operating simultaneously on related themes. While this demonstrates strong institutional interest and policy momentum, it also introduces structural complexity. Stakeholders – particularly farmers, advisory services, and regional authorities – are frequently approached by parallel projects.

C4SQ acknowledged this structural reality. Rather than competing for visibility through volume, the project focused on differentiation through analytical clarity and Mediterranean specificity. Communication emphasised calibration, methodological realism, and governance readiness rather than high-level carbon removal narratives.

This approach reduces overlap and supports complementarity within the ecosystem. It positions the project as a consolidating and evidence-based contributor rather than an additional pilot initiative.

5.5 Media and broader awareness

Where appropriate, project activities were also featured in agricultural and sector-related media outlets. Media articles highlighted the importance of soil health and carbon farming for sustainable agriculture in the Mediterranean region.

Such media exposure supports broader awareness but was not the primary objective of the project. The communication strategy prioritised quality of engagement over mass outreach, reflecting the technical and policy-oriented nature of the intervention.

The contribution of communication activities to policy impact should be understood in qualitative rather than quantitative terms.

Communication:

- Ensured visibility of Mediterranean-specific analytical findings,
- Reinforced coherence within the Natural Heritage Mission,
- Facilitated cross-project exchange,
- Supported transparency and accessibility of deliverables,
- Positioned the project within European carbon farming discussions.

Alongside institutional engagement and conference participation, communication activities strengthened the project's role within the evolving carbon farming governance landscape.



6 ASSESSMENT OF POLICY IMPACT

6.1 Awareness raising and agenda setting

C4SQ contributed to raising awareness and positioning the agenda within the Euro-Mediterranean carbon farming discourse. Through national presentations, participation in European thematic events, integration within the Natural Heritage Mission, and the Final Conference, Mediterranean-specific soil carbon considerations were incorporated into ongoing discussions on climate mitigation and sustainable agriculture.

In a policy field that is still evolving, this influence operates primarily at the level of discourse. Carbon farming is often framed at the European level as a scalable climate solution. However, Mediterranean climatic constraints, soil variability, and socio-economic realities require careful calibration. By consistently emphasising monitoring feasibility, regional differentiation, and realistic expectations, the project contributed to a more nuanced understanding of implementation challenges.

While this awareness does not translate into immediate legislative change, it shapes how carbon farming is discussed and interpreted within institutional environments. For a study-type intervention, influencing discourse represents an important initial layer of policy impact. The project contributed to European-level discussions through participation in thematic events and the structured dissemination of analytical outputs.

6.2 Strengthening institutional readiness

A second level of impact concerns institutional readiness. The strategic analysis conducted under Deliverable 2.1.1 showed that fully operational farm-level monitoring, reporting, and verification systems for soil carbon are not yet in place across partner countries. However, scientific capacity in the region is strong. The main bottleneck is the translation of research knowledge into administratively operational systems.

Through workshops, training activities and dialogue with institutional stakeholders, C4SQ contributed to improving understanding of monitoring constraints, socio-economic feasibility and governance coordination requirements. The project clarified that effective carbon farming schemes require credible monitoring



approaches, administrative simplicity and mechanisms to address economic risk for farmers.

This impact is enabling rather than regulatory. By clarifying technical and economic constraints, the project supports better-informed future design of carbon farming instruments without prematurely promoting certification models that may not yet be institutionally feasible.



Figure 10: Participants of the national workshop on training material in North Macedonia.

6.3 Governance integration within the natural heritage mission

Integration within the Interreg Euro-MED Natural Heritage Mission added an extra dimension to policy impact. The peer review session at the final project meeting introduced a structured external evaluation of project outputs, focusing on transferability and societal relevance. This strengthened the alignment between analytical findings and Mission-level objectives, particularly regarding replication potential and cross-project coherence.

Participation in the Mission Institutional Dialogue further embedded soil carbon considerations within broader Mediterranean restoration and sustainability discussions. By engaging with programme stakeholders and related initiatives, C4SQ helped reduce fragmentation and strengthen horizontal governance integration across thematic projects.

This integration enhances the visibility and potential transfer of project outputs beyond the direct partnership.

6.4 Cross-project mainstreaming and policy interface

The Final Conference represented the highest level of mainstreaming achieved during the project lifecycle. By combining scientific presentations, policy discussions, and contributions from related initiatives, the event created a structured interface between research and governance.





The presence of regional authority representatives and contributions addressing carbon markets and rural development illustrated the growing connection between carbon farming, agricultural policy, and regional development strategies. Although no formal policy commitments were adopted, the conference enhanced visibility, cross-project coherence, and potential pathways for further uptake.

This mainstreaming effect consolidates analytical findings within a visible multi-actor governance environment and increases the likelihood that project outputs will inform future initiatives.

6.5 Communication as an amplification mechanism

Communication activities reinforced the policy positioning established through institutional engagement and events. Through structured digital outreach and alignment with Mission-level campaigns, Mediterranean-specific findings were made accessible to institutional, academic, and professional audiences operating within the carbon farming sector.

In specialised governance fields, the quality and relevance of engagement are more important than scale. By maintaining consistent, knowledge-oriented communication, the project supported transparency, facilitated exchange, and contributed to sustained awareness beyond the formal project duration.

Communication thus served as an amplification mechanism, strengthening the reach of analytical findings and supporting cross-border dialogue.

6.6 Structural constraints and realistic boundaries of impact

An honest assessment of policy impact must recognise the structural constraints within which C4SQ operated.

First, the project was implemented as a study-type intervention. Its mandate and timeframe were designed for analytical work and dialogue rather than regulatory deployment. It did not establish operational carbon credit schemes or long-term monitoring infrastructures. Its contribution is therefore preparatory by design.

Second, the Euro-Mediterranean carbon farming landscape is characterised by a dense ecosystem of parallel initiatives funded by European and national programmes. This reflects strong policy momentum but also increases coordination complexity. Farmers, advisory services, and regional authorities are frequently approached by multiple projects addressing similar themes.



While this dynamic environment creates opportunities for cross-learning, it may also contribute to stakeholder fatigue. Repeated participation in workshops, pilot activities, and consultations – without long-term institutional embedding – can reduce engagement capacity, particularly in fragmented agricultural systems with limited administrative resources. Sustainable policy impact therefore requires consolidation, coordination, and continuity beyond individual project cycles.

Third, legislative frameworks related to carbon farming remain under development at both European and national levels. Certification standards, monitoring methodologies, and market rules are evolving. Within this dynamic environment, direct regulatory impact from a study-type project is inherently limited.

Recognising these factors strengthens the credibility of this assessment. The influence of C4SQ must be understood within realistic boundaries. The project contributed analytical clarity, governance dialogue, and mainstreaming, while long-term uptake depends on broader institutional and political developments.

6.7 Overall level of policy impact achieved

Overall, the policy impact of C4SQ can be described as strengthening Mediterranean-specific discourse, improving institutional literacy and governance readiness, integrating project outputs into Mission-level dialogue, and mainstreaming analytical findings through a structured final event. Although no binding policy instruments were produced, the project provided credible analytical foundations and structured dialogue to support future implementation-oriented initiatives.



7 STRATEGIC OUTLOOK

The Carbon 4 Soil Quality project strengthened the analytical and governance foundations necessary for the responsible development of carbon farming in the Euro-Mediterranean region. Its contribution lies not in immediate regulatory change, but in clarifying the environmental, institutional, and socio-economic conditions required for realistic future implementation.

The findings confirm that carbon farming in Mediterranean environments must be regionally adapted. Climatic variability, soil heterogeneity, and fragmented agricultural structures limit the feasibility of uniform models. Monitoring systems must remain scientifically credible while also being operationally feasible and accessible to smaller farms. Without balanced design, performance-based schemes risk losing both institutional confidence and farmer participation.

Institutional coordination remains a key enabling factor. Responsibilities related to agriculture, soil, and climate policy are often distributed across different authorities. Moving from analytical discussion to operational deployment will require stronger coherence between governance domains, particularly in contexts where legislative frameworks are still evolving.

Socio-economic viability is equally central. Farmer uptake depends on predictability, administrative simplicity, and risk management. Carbon farming should therefore be embedded within broader soil resilience and sustainability strategies, rather than treated solely as a carbon removal instrument. Aggregation models, advisory support, and transitional mechanisms are likely to play an important role in future pathways.

At the same time, the Euro-Mediterranean carbon farming landscape is characterised by a dense ecosystem of initiatives. While this reflects strong political interest, future efforts should prioritise consolidation, coordination, and long-term institutional embedding rather than the proliferation of disconnected pilot actions. Building coherence across programmes and projects will be essential for sustained impact.

The analytical outputs developed within C4SQ, particularly the strategic analysis and certification considerations documented in related deliverables, provide a reference basis for further exploration. Future implementation-oriented initiatives may build upon this foundation to test approaches that are scientifically sound,

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socio-economically viable, and institutionally realistic.

In this sense, the project's strategic contribution lies in strengthening readiness. By clarifying constraints, managing expectations, and embedding Mediterranean perspectives within broader European discussions, C4SQ supports the development of carbon farming pathways that are both ambitious and grounded in regional reality.



8 CONCLUSIONS

Carbon 4 Soil Quality project confirms that carbon farming in the Euro-Mediterranean region requires context-specific development. Environmental vulnerability, structural diversity in agriculture, and varying institutional capacities mean that uniform implementation models are not appropriate.

As a study-type project, C4SQ concentrated on analysing the preconditions necessary for future deployment rather than establishing operational schemes. By identifying key gaps in monitoring, governance coordination, and socio-economic feasibility, the project contributed to more realistic expectations regarding carbon farming implementation.

Through institutional dialogue, participation in European events, Mission integration, and the Final Conference, the project ensured that Mediterranean-specific findings were visible in wider carbon farming discussions. While no formal policy changes resulted directly from the project, awareness and understanding of regional constraints were strengthened.

In a landscape where many projects are working on similar topics, C4SQ contributed analytical clarity and regional calibration. Its main achievement lies in preparing the ground for future implementation-oriented initiatives. By strengthening knowledge, improving policy literacy, and supporting cross-border dialogue, the project provides a solid foundation for the responsible development of carbon farming in the Euro-Mediterranean region.