INNOVATIVE TECHNOLOGIES FOR CLIMATE CHANGE MITIGATION BY MEDITERRANEAN AGRICULTURAL SECTOR

LIFE17 CCM-GR-000087

NEWSLETTER NO. 2

PROJECT UPDATE

During the 2020–2022 reporting period, the LIFE ClimaMED project achieved significant progress in developing and validating its innovative greenhouse gas (GHG) monitoring methodology. Key milestones included the deployment of pilot LiDAR systems, the advancement of the Center of GHG Monitoring and Management (CMM) platform, Life Cycle Assessment (LCA) modelling and extensive pilot activities across Mediterranean agricultural regions. These achievements laid the foundation for the project's demonstration and future large-scale implementation.

PROJECT HIGHLIGHTS

- PILOT LIDAR SYSTEMS
- CMM PLATFORM DEVELOPMENT
- LCA & CARBON FOOTPRINT ASSESSMENT
- PILOT FIELD VALIDATION

PILOT DEPLOYMENT ACROSS THE MEDITERRANEAN

During the 2020–2022 reporting period, pilot activities progressed across the four participating Mediterranean countries. Field installations, technology validation and stakeholder collaboration supported the development and testing of the LIFE ClimaMED monitoring methodology under diverse agricultural conditions.

GREECE

Greece served as the project's main demonstration area, where LiDAR systems were installed and validated under real agricultural conditions. Field measurements, environmental monitoring and data collection supported the development and validation of the LIFE ClimaMED methodology.

SPAIN

IIn Spain, pilot field preparation was combined with multispectral monitoring activities and close collaboration with local farmers. These activities supported site selection, technology validation and the implementation of the LIFE ClimaMED monitoring methodology.

ITALY

In Italy, the LiDAR monitoring system was deployed at the CERSAA demonstration site, supporting greenhouse gas monitoring and validating the LIFE ClimaMED methodology under real agricultural conditions.

CYPRUS

In Cyprus, stakeholder engagement was strengthened through workshops, technical presentations and collaboration with local authorities, environmental organisations and agricultural stakeholders. These activities promoted the LIFE ClimaMED methodology and supported future pilot implementation.

TECHNOLOGY DEVELOPMENT & INNOVATION

The development of innovative monitoring technologies was a key milestone of the LIFE ClimaMED project. Advances in LCA, the CMM platform and LiDAR data management strengthened the project's scientific framework for greenhouse gas monitoring in Mediterranean agriculture.

LCA & Carbon Footprint Assessment

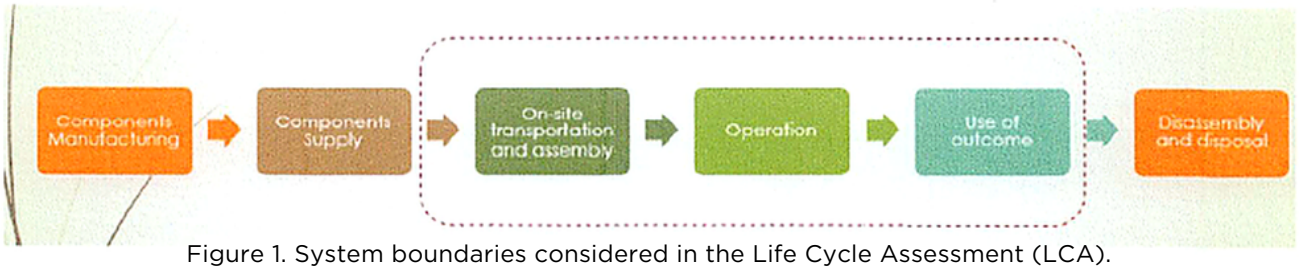

Figure 1. System boundaries considered in the Life Cycle Assessment (LCA).

Life Cycle Assessment (LCA) was carried out following ISO 14040/14044 standards to evaluate the environmental impacts of the LIFE ClimaMED monitoring system. System boundaries were defined across the entire life cycle, supporting greenhouse gas assessment and the development of a roadmap for future low-carbon certification.

CMM Platform Development

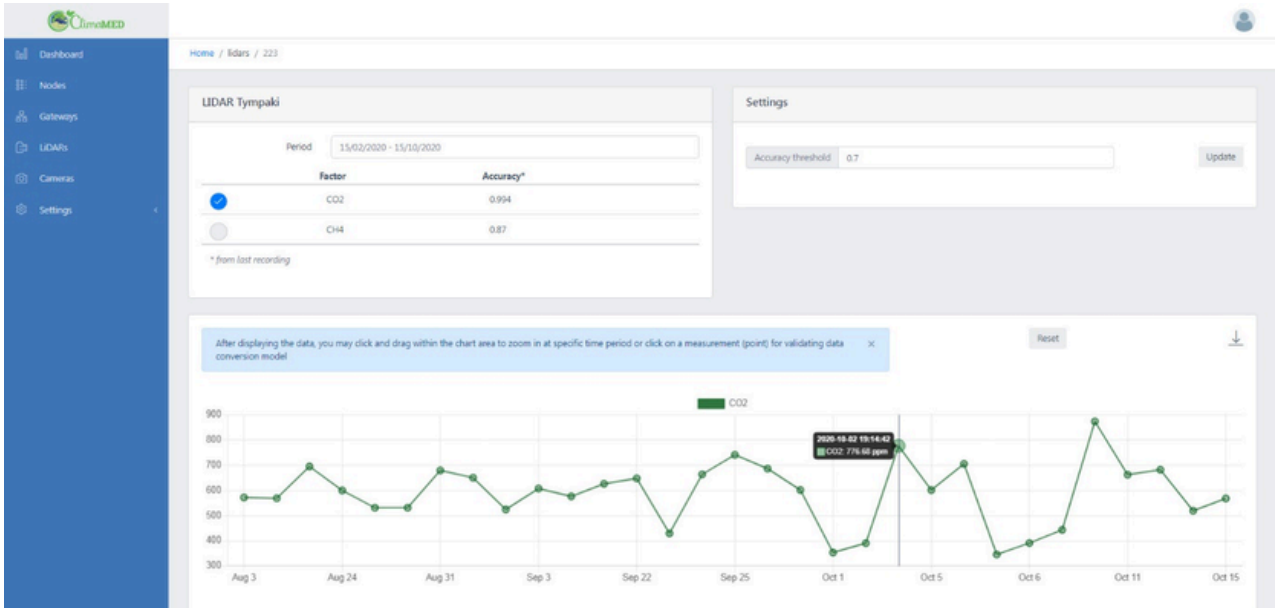

Figure 2. Updated Climate Monitoring Mechanism (CMM) platform interface.

The beta version of the Climate Monitoring Mechanism (CMM) platform was upgraded with improved LiDAR management and data visualisation tools. New services supported the validation of greenhouse gas measurements and the conversion of raw sensor data into CO_2, CH_4

Technical Coordination

Regular technical meetings between project partners supported algorithm development, measurement validation and continuous improvement of the monitoring methodology.

COMMUNICATION, DISSEMINATION & KNOWLEDGE SHARING

Throughout the 2020–2022 reporting period, LIFE ClimaMED actively promoted its objectives and preliminary results through scientific conferences, communication materials and stakeholder engagement. These activities increased the project's visibility and strengthened collaboration with the scientific community and the agricultural sector.

Dissemination Activities

Project partners participated in international conferences and scientific events, presenting the LIFE ClimaMED methodology and exchanging knowledge with researchers, public authorities and agricultural stakeholders.

Communication Material

Informational material, including project leaflets and promotional boards, was developed to communicate the project's objectives, pilot activities and expected environmental benefits to stakeholders and the wider public.

Selected Scientific Publications

Scientific publications and conference papers highlighted the project's innovative methodologies and early research outcomes, supporting knowledge dissemination and future research on greenhouse gas monitoring in Mediterranean agriculture.

BUILDING THE FOUNDATIONS FOR CLIMATE - SMART AGRICULTURE

During the first implementation phase, LIFE ClimaMED established the scientific, technical and collaborative foundations for its innovative greenhouse gas monitoring methodology. The progress achieved during 2020–2022 prepared the project for the next stages of demonstration, validation and wider implementation across the Mediterranean region.

PROJECT MILESTONES

Pilot Demonstrations

Pilot sites were established across the participating countries, enabling the deployment and validation of innovative greenhouse gas monitoring technologies under real agricultural conditions.

Technology Development

Significant progress was achieved in Life Cycle Assessment (LCA), the Climate Monitoring Mechanism (CMM) platform and LiDAR technologies, strengthening the project's scientific foundation.

Collaboration & Knowledge Sharing

Strong cooperation among project partners, stakeholders and researchers supported knowledge exchange and laid the foundation for the next implementation phase.

PROJECT CONSORTIUM

Research institutes, universities and environmental organisations from Greece, Cyprus, Spain and Italy working together towards climate-smart Mediterranean agriculture.

Benaki Phytopathological Institute

Technical University of Crete

Hellenic Republic Ministry of Rural Development & Food

FORTH Foundation for Research and Technology - Hellas

Universitas Miguel Hernández

CeRSAA

Green Projects

FOLLOW THE PROJECT

ClimaMED

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https://life-climamed.eu

Stay connected and follow the progress of LIFE ClimaMED as the project continues to develop innovative solutions for climate-smart Mediterranean agriculture.