AgroEcology_Italy Reducing GHG Emissions and Increasing Carbon Sequestration in Italian Agriculture

Validation and Verification Report

The purpose of the proposed project activity is to empower Italian farmers through adoption of regenerative agricultural practices, including tree planting and agroforestry practices. The ICR Grouped Project is currently underway across various Italian regions, spanning from north to south including the islands. Initial project instances are established in Puglia, Italy. Notably, during first monitoring period the project has successfully improved soil organic matter content and fostered the efficient recycling of organic materials within the designated project area.

The scope of this joint validation and verification is to have an independent third-party assessment of the ICR Project Design Description, alongside the monitoring plans outlined in the ICR PDD and implementation of the project activities in accordance with ICR PDD, applied methodology and ICR Requirement, v4.0, as outlined in the ICR MR.

Based on the desk-review of the project documentation (refer to Appendix I) and on-site inspection, VVB confirms that the project activities are in accordance with the descriptions outlined in the ICR PDD and MR. Through adoption of sustainable farming practices and reducing dependence on chemical farm inputs, the project anticipates yielding a total of 45,773,018 tCO_2e during crediting period of 45 years, spanning from 01/01/2022 to 31/12/2066, with an average annual emission mitigation of 1,017,178 tCO_2e/year.

Validation/Verification team's assessment, including scrutiny of the ex-post carbon calculation spreadsheet, examination of raw data and parameter measurement records, and on-ground verification of the project implementation, confirms that the project has indeed sequestered 7,159.67 tCO_2e during the initial monitoring period from 01/01/2022 to 31/12/2023, covering 67 farms spread across 1474.89 ha.

Carbon Check (India) Private Limited (CCIPL)

Title of the project	AgroEcology_Italy Reducing GHG Emissions and Increasing Carbon Sequestration in Italian Agriculture
ID of project	ICR- 48
Date of project design description and monitoring report	ICR PDD, v1.0, dated 11/04/2024. ICR MR, v1.0, dated 11/04/2024
Version of the project design description and monitoring report	ICR PDD, version 1.0 ICR MR, version 1.0
Monitoring period	From 01/01/2022 to 31/12/2023
Statement by the Project Proponent	Alberami S.R.L. (Project Proponent) states that it is responsible for the preparation and fair presentation of the project design description and monitoring report and all accompanying documentation provided for under the verification.

Title of report	AgroEcology_Italy Reducing GHG Emissions and Increasing Carbon Sequestration in Italian Agriculture Validation and Verification Report
ID of report	CCIPL 1919; Project Ref. No.: CCIPL1919/ICR/VAL-VER/ARGECSIA/20230613
Client	Alberami S.R.L.
Date of validation	04/07/2023 to 17/04/2024 (Date of contract signing to date of FVR preparation)
Date of verification	04/07/2023 to 17/04/2024 (Date of contract signing to date of FVR preparation)
Version number of this report	1.0
Date of version	17/04/2024
Prepared By	Carbon Check (India) Private Limited (CCIPL)
Contact	Address: Registered Office: 2071/38, 2nd Floor, Naiwala, Karol Bagh, New Delhi - 110005 Corporate off: Unit No. 1701, Logix City Centre Office Tower, Plot No. BW-58, Sector 32 Noida, Uttar Pradesh – 201301, India Telephone: +911204373114 Email: info@carboncheck.co.in URL: www.carboncheck.co.in
Independent review	Amit Anand (Technical Reviewer)
Validation team leader	Isha Kapoor
Verification team leader	Isha Kapoor
Validation and verification Statement	Carbon Check (India) Private Limited (CCIPL) states that Carbon Check (India) Private Limited (CCIPL) is responsible for the opinion based on the validation and verification of the project activities.

	CCIPL has been commissioned by the Alberami SRL, (Project Proponent) to perform joint validation and first periodic verification of Project Activity ICR-48, "AgroEcology_Italy Reducing GHG Emissions and Increasing Carbon Sequestration in Italian Agriculture". Based on the review of the ICR PDD, ICR MR, and supporting documents, VVB confirms that the proposed project, as described in the ICR PDD v1.0, dated 11/04/2024, complies with all the relevant requirements of ICR, ISO 14064-2 and has correctly applied guideline of the EU approved methodology C-FARM/B02/. The monitoring plan in the ICR PDD adequately addresses ex-post monitoring procedures of the project's GHG emission mitigations. The quantification approach has been appropriately demonstrated in the ICR PDD and MR in compliance with the applied methodology. The total estimated GHG mitigations from the grouped project has been projected to reach 45,773,018 tCO_2e, with an annual average of 1,017,178 tCO_2e over the crediting period of 45 years. Initial crediting period lasts for 15 years, commencing on 01/01/2022, and concluding on 31/12/2036, with the possibility of renewal twice, ultimately concluding on 31/12/2066. VVB, based on the review of ICR MR/01/, ex-post carbon calculation spreadsheet/03/ and field data/parameter measurement records (during physical inspection of project site), confirms that the net GHG emission mitigations achieved during the reported monitoring period from 01/01/2022 to 31/12/2023 by the first project instance amounts to 7,159.67 tCO_2e. Therefore, this report is being submitted requesting for registration and issuance, as per ICR Requirements, v4.0 and corresponding procedures, supporting documents and templates.
Signature	

Contents

1. Summary

Description of validation and verification, and the project:

Alberami SRL (hereafter referred as "PP") has appointed Carbon Check (India) Private Ltd. (hereafter referred as "VVB") to perform the joint validation and first periodic verification of "AgroEcology_Italy Reducing GHG Emissions and Increasing Carbon Sequestration in Italian Agriculture" (hereafter referred as Project/Project activity) in compliance with the ICR Requirements v4.0 (dated 14/10/2022), ISO 14064-2: 2019, and applied methodology. The proposed project is an ICR grouped project under the project type Agriculture with inclusion of Afforestation and Reforestation practices. The project led by Alberami S.R.L. (an Agri-tech startup based in Lecce, Italy, demonstrates a commitment to sustainable agriculture and environmental stewardship/01//4.7/.

The start date of the grouped project/01/ is 01/01/2022, and duration of crediting period is 15 years (01/01/2022 - 31/12/2036), which would be renewed twice. By promoting the adoption of regenerative agricultural practices among local farmers, the project not only aims to reduce carbon emissions but also enrich soil health, enhance biodiversity, and empower rural communities.

The geographical boundary of the grouped project spans the country of Italy covering total area of 200,000 ha. The 1st project instance is located in regions of Puglia, Sicily, and Calabria of Italy, with an area of 1474.89 ha of agricultural land, comprising 67 farmers already implementing regenerative practices. /01//4.6/.

By facilitating access to additional income streams through carbon credit sales and requiring farmers to adopt new sustainable agronomic practices, the project ensures its activities are additional and contribute to long-term environmental benefits. The project anticipates enhancing carbon stock of soil as well in vegetation/biomass by implementing improved agricultural land management practices enlisted in the table I below, with following intended actions to achieve:

1. **Carbon Emission Reduction**: By adopting regenerative agricultural practices, instead of conventional land use practices and reducing GHG's emissions.
2. **Enhancing Carbon Sequestration:** Increasing carbon stock in both soil and biomass, through soil management, implementing agroforestry activities, and the planting of trees.
3. **Empowering Farmers and Communities:** In addition to facilitating adoption of sustainable agricultural practices in the region, the ICR project is initiating an opportunity to access additional income sources.
4. **Catalyzing Holistic Change:** By implementation of agroforestry practices, restoring degraded land, development of biodiversity, and improving partnerships with local stakeholders along with sustainable development of the region.

Table I: The proposed grouped project aims to implement the following regenerative agricultural practices:/01//4.6/:

Project Activity No.	Project Activity Name	Project Activity Definition	References

1	Capillary promotion of organic agriculture management (certified and non-certified)	Organic farming is defined by the Reg. UE 2018/8482	1)[1], 2)[2], 3)[3], 4)[4]
2.a	Zero Tillage	Sod-seeding	1)[5], 2)[6], 3)[7], 4)[8], 5)[9]
2.b	Minimum tillage	Non-inversion tillage at maximum 15-10 cm depth	
3.a	Green Cover: spontaneous or sowed vegetation	Establishing and maintaining a continuous herbaceous cover in an area, which can be either naturally occurring (spontaneous) or intentionally planted (sown).	1)[10], 2)[11], 3)[12], 4)[13]
3.b	Use of Cover Crops	Crops cultivated to obtain plant biomass incorporated into soil with tillage operations or mowed/trimmed and left on soil surface as dead mulch	1)[14], 2)[15], 3)[16], 4)[17], 5)[18], 6)[19]
4	Intercropping	The practice of growing two or more crops in a field at the same time	
5	Farm management with hedges, rows and forest integrated into field crops	Establishment of natural or planted hedgerows and windbreakers delimiting cropland or grassland	[20]

[1] 1) Farina, Roberta, et al. "Potential carbon sequestration in a Mediterranean organic vegetable cropping system. A model approach for evaluating the effects of compost and Agro-ecological Service Crops (ASCs)." Agricultural Systems 162 (2018): 239-248.
[2] 2) Gattinger, Andreas, et al. "Enhanced top soil carbon stocks under organic farming." Proceedings of the National Academy of Sciences 109.44 (2012): 18226-18231.
[3] 3) Lazzerini, Giulio, et al. "A simplified method for the assessment of carbon balance in agriculture: an application in organic and conventional micro-agroecosystems in a long-term experiment in Tuscany, Italy." Italian Journal of Agronomy 9.2 (2014): 55-62.
[4] 4) Poeplau, Christopher, and Axel Don. "Carbon sequestration in agricultural soils via cultivation of cover crops–A meta-analysis." Agriculture, Ecosystems & Environment 200 (2015): 33-41.
[5] -Álvaro-Fuentes, Jorge, et al. "Soil carbon dioxide fluxes following tillage in semiarid Mediterranean agroecosystems." Soil and Tillage Research 96.1-2 (2007): 331-341.
[6] Álvaro-Fuentes, Jorge, et al. "Tillage effects on soil organic carbon fractions in Mediterranean dryland agroecosystems." Soil Science Society of America Journal 72.2 (2008): 541-547.
[7] -Álvaro-Fuentes, Jorge, et al. "Soil organic carbon storage in a no-tillage chronosequence under Mediterranean conditions." Plant and Soil 376 (2014): 31-41.
[8] - Cillis, Donato, et al. "Modeling soil organic carbon and carbon dioxide emissions in different tillage systems supported by precision agriculture technologies under current climatic conditions." Soil and Tillage Research 183 (2018): 51-59.
[9] -Fiorini, Andrea, et al. "Soil type and cropping system as drivers of soil quality indicators response to no-till: A 7-year field study." Applied Soil Ecology 155 (2020): 103646.
[10] - Poeplau, Christopher, and Axel Don. "Carbon sequestration in agricultural soils via cultivation of cover crops–A meta-analysis." Agriculture, Ecosystems & Environment 200 (2015): 33-41.
[11] - Lal, Rattan. "Soil carbon sequestration to mitigate climate change." Geoderma 123.1-2 (2004): 1-22.
[12] - Sartori, Fabio, et al. "Potential soil carbon sequestration and CO2 offset by dedicated energy crops in the USA." Critical Reviews in Plant Sciences 25.5 (2006): 441-472.
[13] - Zhang, K., et al. "Change in soil organic carbon following the 'Grain-for-Green'programme in China." Land degradation & development 21.1 (2010): 13-23.
[14] Poeplau, Christopher, and Axel Don. "Carbon sequestration in agricultural soils via cultivation of cover crops–A meta-analysis." Agriculture, Ecosystems & Environment 200 (2015): 33-41.
[15] - Lal, R. "Soil carbon sequestration and aggregation by cover cropping." Journal of Soil and Water Conservation 70.6 (2015): 329-339.
[16] - Jian, Jinshi, et al. "A meta-analysis of global cropland soil carbon changes due to cover cropping." Soil Biology and Biochemistry 143 (2020): 107735.
[17] - Franzluebbers, Alan J. "Soil organic carbon sequestration and agricultural greenhouse gas emissions in the southeastern USA." Soil and Tillage research 83.1 (2005): 120-147.
[18] Jian, Jinshi, et al. "A meta-analysis of global cropland soil carbon changes due to cover cropping." Soil Biology and Biochemistry 143 (2020): 107735.
[19] - Poeplau, Christopher, et al. "Effect of perennial ryegrass cover crop on soil organic carbon stocks in southern Sweden." Geoderma Regional 4 (2015): 126-133.
[20] Francaviglia, Rosa, et al. "Soil organic carbon sequestration and tillage systems in the Mediterranean Basin: a data mining approach." Nutrient Cycling in Agroecosystems 107 (2017): 125-137.

6	Management of woody plantation pruning residue: Soil Conditioner	Pruning residue used as mulch / conditioner	1)[21], 2)[22],
7	Application of inorganic natural substances and natural leaf fertilizers (minerals rocks or powder)	Application of mineral substances such as Kaolin and Zeolites to the soil and leaves	1)[23], 2)[24], 3)[25], 4)[26], 5)[27], 6)[28]
8	Radical reduction of synthetic fertilizers	Reduction of SF by at least 15% in the first year	[29]
9	Radical reduction of pesticides	Reduction of Pesticides by at least 50% in the first year	[30]
10.a	Recycling of farm's organic matter: Agro-industrial waste	Organic waste obtained from crop industrial transformation (e.g., olive mill waste)	1)[31], 2)[32], 3)[33], 4)[34], 5)[35]
10.b	Recycling of farm's organic matter: Biochar	Carbon-rich material obtained by plant biomass pyrolysis	
10.c	Recycling of farm's organic matter: Anaerobic Digestate	Semi-liquid OA with fertilizer characteristics obtained from anaerobic digestion of plant biomass and/or animal manure and slurry as by-product of biogas plants	
10.d	Recycling of farm's organic matter: Compost	Humus-like material with fertilizer characteristics obtained from aerobic digestion of solid waste	
10.e	Recycling of farm's organic matter: Farmyard Manure	Decomposed animal feces mixed with stubble with fertilizer characteristics	
11.a	New Planting: Vine	Conversion from annual crop to vineyard plantation	[36]
11.b	New Planting: Orchard	Conversion from annual crop to orchard plantation	
11.c	New Planting: Olive Trees	Conversion from annual crop to olive plantation	

[21] Freibauer, Annette, et al. "Carbon sequestration in the agricultural soils of Europe." Geoderma 122.1 (2004): 1-23.
[22] Musacchi, Stefano, Ignasi Iglesias, and Davide Neri. "Training systems and sustainable orchard management for European pear (Pyrus communis L.) in the Mediterranean area: A review." Agronomy 11.9 (2021): 1765.
[23] Amann, Thorben, et al. "Enhanced Weathering and related element fluxes–a cropland mesocosm approach." Biogeosciences 17.1 (2020): 103-119.
[24] Dietzen, Christiana, Robert Harrison, and Stephani Michelsen-Correa. "Effectiveness of enhanced mineral weathering as a carbon sequestration tool and alternative to agricultural lime: an incubation experiment." International Journal of Greenhouse Gas Control 74 (2018): 251-258.
[25] Haque, Fatima, Rafael M. Santos, and Yi Wai Chiang. "Optimizing inorganic carbon sequestration and crop yield with wollastonite soil amendment in a microplot study." Frontiers in plant science 11 (2020): 1012.
[26] Kelland, Mike E., et al. "Increased yield and CO2 sequestration potential with the C4 cereal Sorghum bicolor cultivated in basaltic rock dust-amended agricultural soil." Global Change Biology 26.6 (2020): 3658-3676.
[27] Swoboda, Philipp, Thomas F. Döring, and Martin Hamer. "Remineralizing soils? The agricultural usage of silicate rock powders: A review." Science of The Total Environment 807 (2022): 150976.
[28] Ten Berge, Hein FM, et al. "Olivine weathering in soil, and its effects on growth and nutrient uptake in ryegrass (Lolium perenne L.): a pot experiment." (2012): e42098.
[29] Francaviglia, Rosa, et al. "Soil organic carbon sequestration and tillage systems in the Mediterranean Basin: a data mining approach." Nutrient Cycling in Agroecosystems 107 (2017): 125-137.
[30] Cooper, Julia, et al. "Shallow non-inversion tillage in organic farming maintains crop yields and increases soil C stocks: a meta-analysis." Agronomy for sustainable development 36 (2016): 1-20.
[31] Bertora, Chiara, et al. "Soil organic matter dynamics and losses in manured maize-based forage systems." European Journal of Agronomy 30.3 (2009): 177-186.
[32] Tomasoni, C., et al. "Effect of integrated forage rotation and manure management systems on soil Nitrogen content." Proceedings of the 16th Nitrogen Workshop: Connecting Different Scales of Nitrogen Use in Agriculture.. Facoltà di Agraria, Università di Torino, 2009.
[33] Forte, Annachiara, Massimo Fagnano, and Angelo Fierro. "Potential role of compost and green manure amendment to mitigate soil GHGs emissions in Mediterranean drip irrigated maize production systems." Journal of environmental management 192 (2017): 68-78.
[34] Maris, Stefania Codruta, et al. "Cover crops, compost, and conversion to grassland to increase soil C and N stock in intensive agrosystems." Nutrient Cycling in Agroecosystems 119 (2021): 83-101.
[35] Morari, F., et al. "Long-term effects of recommended management practices on soil carbon changes and sequestration in north-eastern Italy." Soil Use and Management 22.1 (2006): 71-81.
[36] Tommaso, Chiti, et al. "Soil organic carbon pool's contribution to climate change mitigation on marginal land of a Mediterranean montane area in Italy." Journal of Environmental Management 218 (2018): 593-601.

11.d	New Planting: Other Woody Perennial Species	Conversion from annual crop to other, plantation	
12	Cropland or conversion of cropland with annual crops to grassland/pastureland or permanent crops		[37]
13	Improved Crop Rotations	Practice of growing different kinds of crops in recurrent succession on the same land.	1)[38], 2)[39]

Based on on-site joint validation-verification of the project, VVB confirms that the initial phase has been successfully implemented, covering 1474.89 hectares across 67 farms situated in the Puglia, Calabria, and Sicily regions of Italy. The grouped project expects to reduce or remove a total of 45,773,018 tCO_2e over the entire crediting period, starting from 01/01/2022 to 31/12/2066 with an annual average of 1,017,178 tCO_2e. The monitoring period of the project is from 01/01/2022 to 31/12/2023.

The ICR grouped project has applied the methodology: "CARBON FARMING CERTIFICATION SCHEME STANDARD" (herein after referred to as Life C-Farms) /B02/40 to quantify GHG emission mitigations achieved from project activities. The asserted methodology is a European Union[41] approved scheme to promote sustainable farm strategy/practices known as "Carbon Farming" in the region[42]. "Carbon Farming" is proposed by the EU to improve carbon sequestration in landscapes applying practices able to increase the rate at which CO_2 is extracted from the atmosphere and stored in plant and woody material and/or in soil organic matter[43].

In addition to above-mentioned methodology the project has applied the methodological requirements as follows:

- VERRA's VM0042: "Methodology for Improved Agricultural Land Management" v2.0; For quantifying, monitoring, and verifying soil carbon sequestration activities[44].
- CDM's AMS0007: A/R Small-scale Methodology" Afforestation and reforestation project activities implemented on lands other than wetlands" v3.1; to calculate the net anthropogenic greenhouse gas (GHG) emission mitigations from the project[45].

VVB confirms that the latest revision of section 4.3 in the ICR PDD/01/ outlines the deviation for quantification methodology employed for carbon calculations during project monitoring. It is confirmed by reviewing the ICR PDD/01/, that only the calculation formulae (for quantifying the carbon removals/reductions) of VM0042 v2.0 and AMS0007 v3.1 have been referred. VVB confirms that the methodological approaches applied to the

[37] Post, Wilfred M., and Kyung C. Kwon. "Soil carbon sequestration and land-use change: processes and potential." Global change biology 6.3 (2000): 317-327.
[38] Triberti, Loretta, Anna Nastri, and Guido Baldoni. "Long-term effects of crop rotation, manure and mineral fertilisation on carbon sequestration and soil fertility." European Journal of Agronomy 74 (2016): 47-55.
[39] Sainju, Upendra M., et al. "Carbon sequestration in dryland soils and plant residue as influenced by tillage and crop rotation." Journal of environmental quality 35.4 (2006): 1341-1347.
[40] A methodology, developed by several leading Italian research and commercial entities and co-funded by the 2020 LIFE Programme of the European Commission under code "LIFE20 PRE IT/017
[41] Under EU's "Proposal for a Regulation of the Parliament and the Council" aiming to establish a Union certification framework for carbon removals, highlights the importance of ensuring "the high quality of carbon removals, and to establish a governance certification system to avoid greenwashing by correctly applying and enforcing the EU quality framework criteria in a reliable and harmonised way across the Union".
[42] Objectives - Carbon Farming Certification System (c-farms.eu)
[43] STANDARD-CARBON-FARMING-STORAGE-Public-Consultation-ENG.pdf (c-farms.eu)
[44] VM0042-Improved-ALM-v2.0.pdf (verra.org)
[45] untitled (unfccc.int)

proposed project are recognized and approved for the use in carbon offset projects by respective standards following the ISO-14064 guidelines.

Table II: Dates and timelines of the project:

Start Date	01/01/2022
Listing of project on ICR registry	30/09/2022
Public comment period	22/09/2023 to 22/10/2023
First crediting period	01/01/2022 to 31/12/2036 (15 years)
Total crediting period	01/01/2022 to 31/12/2066 (45 years)
Monitoring period	01/01/2022 to 31/12/2023

Purpose and scope of validation and verification:

The purpose of this joint validation and verification is the independent evaluation of the project's compliance with the ICR requirements, in particular the project's baseline, monitoring plan, project implementation, GHG removed and/or GHG emissions mitigated by the project, methodology requirements/B02/ and compliance with the relevant ICR requirements , ISO 14064-2, ISO 14064-3, ISO 14065/B01/, and host party criteria. These are validated and verified to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria and the project has been implemented in compliance with the monitoring plan stated in the ICR PDD/01/. Carbon Check's objective is to perform a thorough, independent assessment of the validation and verification of the project activity.

Validation and Verification Scope is defined as an independent and objective review of the ICR Project Design Description (PDD)/01/ as well as Monitoring Report (MR)/02/ against the relevant criteria and guidance documents provided by ICR including the following/B01/:

- ICR Requirements (v4.0 Dated 14/10/2022)
- ICR Process Requirements (v4.0 Dated 14/10/2022)
- ICR Definitions (v1.0 Dated 14/10/2022)
- ISO 14064-2 (Dated April 2019)
- ISO 14064-3 (Dated April 2019)
- ISO 14065 (Dated December 2020) (v4.3, Dated 22/04/2022)
- VERRA- AFOLU Non-Permanence Risk Tool (v4.0 Dated 19/09/2016)
- Methodology LIFE C-Farms: "CARBON FARMING CERTIFICATION SCHEME STANDARD"

VVB confirms that the project aligns with the requirements outlined in the provided guidance documents, specifically meeting all criteria of the selected baseline and monitoring methodology (LIFE C- Farms/B02/). VVB has thoroughly reviewed the statements and assumptions presented in the ICR PDD/01/ regarding the accounting of ex-ante ERRs generated by the project and affirm their validity. Additionally, the evaluation of the ICR MR/02/ and monitoring methodology against the monitoring plan outlined in ICR PDD/01/ confirms the consistency of the provided information with the project description.

Method and criteria used for validation and verification:

To perform the validation and verification audit, VVB has conducted an assessment including a desk review of the ICR Project Design Description (PDD)/01/, Monitoring Report (MR)/02/ and supporting documents/03-18/ in compliance with the requirements stated in the ICR requirements document v4.0, ISO 14064-2, 14064-3 and in ISO 14065/B01/. Thereafter, verification of the details and information from the ICR PDD/01/ and ICR MR/02/, has been accomplished during onsite inspection conducted from 13/12/2023 to 15/12/2023, including interviews

with the representatives of project proponent and MRV personnel involved in project monitoring along with physical verification of the project site to evaluate on-ground execution of project activities. This has been followed by resolution of desk-review and onsite inspection findings issued by Validation/Verification team and issuance of the final joint validation-verification report and opinion.

Number of findings raised during validation and verification:

During validation and first periodic verification, a total of 23 findings have been raised, which includes 12 Corrective Action Requests (CARs), 11 Clarification Requests (CLs) and 00 Forward Action requests (FARs). Upon receipt of the requested evidential documentation and clarifications/information all findings have been resolved satisfactorily.

Uncertainties associated with the validation and verification:

In section 10 of the ICR PDD/01/, the PP has demonstrated a rigorous methodology for soil carbon stock estimation, incorporating advanced modeling techniques, thorough data collection, and comprehensive uncertainty assessment methods. The core analytical tools used by the project to simulate soil carbon turnover and assess the efficacy of regenerative agricultural practices across 67 farms covering 1474.89 hectares are the RothC model and the SoilR application/02//13/. This rigorous scientific approach facilitates precise forecasting of soil carbon stock fluctuations, establishing a robust basis for validating the environmental benefits of regenerative agriculture in Italy.

The procedure planned to be followed to address uncertainty in soil carbon stock estimation is as follows/01//4.6/:

1. Model Development:
   - Gradient Boosting Machine (GBM) model methodology, to apply regression or classification models.
   - Hyperparameter tuning and grid searches to optimize the model's performance, indicating a commitment to refining the model for better accuracy.
   - Use of Conditioned Latin Hypercube Sampling (CLHS) for partitioning soil samples into calibration and validation datasets will help ensure the robustness of the model.
   - Evaluation metrics such as determination coefficient (R2), root mean squared error (RMSE), and mean error (ME) will be employed for comprehensive model evaluation.
   - Model Calibration: The RothC model was calibrated using the SOC values measured from soil samples obtained at 10 sampling sites. The correspondent environmental covariates (clay content, temperature, and moisture) for each site, obtained as described above, were included in the calibration procedure, as well as the site-specific carbon inputs based on each agricultural practice conducted at each farm/02/.
2. Uncertainty Assessment:
   - Bootstrapping to generate multiple GBM models, enabling the client to quantify prediction uncertainty through prediction intervals.
   - Prediction Interval Coverage Probability (PICP) will be calculated to validate the prediction intervals, ensuring that uncertainty is adequately captured.
   - The application of Empirical Mode Decomposition (EMD) for signal decomposition to analyse attribute variations at different spatial scales demonstrates a sophisticated approach to understanding and addressing uncertainty.
3. Data Collection and Analysis:
   - Data will be captured and stored electronically, promoting data integrity and accessibility.
   - Use of GIS layers for digitization allows for spatial analysis, enhancing the depth of understanding.
   - Collection of soil composites 3 sub-samples at different soil depth: 0–10, 10–20, and 20–30 cm (nine sub-samples in total).
   - Field data collection includes a comprehensive set of parameters, including photographic records, above-ground biomass, and soil samples for laboratory analysis, ensuring a thorough understanding of the environmental factors influencing soil carbon stocks.

- Soil sampling every five years and analysis for properties such as texture, bulk density, and organic carbon stocks ensures that data collection is robust and consistent over time.
- Use of Eijkelkamp soil sample ring cylinder with a diameter and height of 53 and 50 mm or similar, respectively, and 2 mm sieve to estimate oven dry weight and bulk density of soil.

In line with section 9 of the ICR requirement document v4.0 requirement[/B01/], PP has demonstrated field data collection procedures and SOP employed to ensure optimum possible data quality resulting in 98 % precision rate in SOC stock estimation for the first project instance[/01//02/].

Based on the review of the ICR PDD[/01/], supporting document[/02//13//18/], and further standard operating procedure outlined in the PDD, VVB confirms that the uncertainty associated with the estimation of SOC stock present in the sample points within the designated project boundary (for first project instance) has been appropriately addressed.

Summary of the validation and verification opinion:

Based on review of the ICR PDD [/01/], ICR MR [/02/], on-site inspection[/4.7/], and supporting documents[/03-18/], the CCIPL team has assessed the appropriateness of the project, assumptions, and values in compliance with the requirements of ICR v4.0, ISO 14064-2, ISO 14064-3, and ISO 14065 [/B01/] and the methodology applied[/B02/]. VV team, based on the review of ICR MR[/02/], confirms that the project has been implemented in line with the ICR requirements[/B01/], methodology requirements[/B02/] and monitoring plan stated in the ICR PD[/01/].

Following the guidelines stipulated in the ICR requirement v4.0, ISO 14064-2, 14064-3, and ISO 14065[/B01/] and the methodology applied, C-Farms; "CARBON FARMING CERTIFICATION SCHEME STANDARD"[/B02/], the validation and verification team have thoroughly reviewed project documents and supporting evidence. Thereby, VVB confirms that all the values and assumptions included in the ICR PDD[/01/] including objectives, scope and criteria, level of assurance, baseline and monitoring plan are valid and applicable.

VVB, based on the assessment during on-site inspection/interviews[/4.6//4.7/] and the review of documents including ICR MR[/02/] and ICR PDD[/01/], further confirm that the project implementation and the calculation for GHG mitigation by the project are in accordance with:

- ✓ Monitoring plan and other assumptions stated in the ICR PDD[/01/]
- ✓ Applied LIFE C-Farms; "CARBON FARMING CERTIFICATION SCHEME STANDARD"[/B02/]
- ✓ Host country regulations.

Table III: GHG emission mitigations from project[/01/-/03/]:

	Total Estimated GHG ERRs (tCO_2O)	Average Annual GHG ERRs (tCO_2O)
Crediting Period 01/01/2022 to 31/12/2066 (45 years)	45,773,018	1,017,178
Monitoring period 01/01/2022 to 31/12/2023	7,159.67	

Through the review of ICR PDD[/01/], ICR MR[/02/], GHG emission mitigations/removals spreadsheet[/03/], supporting documents[/04-18/] and on-site inspection/interviews[/4.6//4.7/], VVB confirms that the project activity has resulted in GHG emission mitigations/removal of 7,159.67 tCO_2 eq during the first monitoring period (01/01/2022 to 31/12/2023)VVB confirms that estimated total GHG emission mitigations and/or removals from the proposed project activity over the crediting period 45 years are valid and appropriate.

VVB has concluded this opinion based on the detailed assessment of the monitoring methodology employed by the PP and the thorough review of the data/parameters, respective value applied, and the peer reviewed literature provided by PP for GHG accounting.

2. General

2.1 Objective

The purpose of this joint validation and verification is to conduct a thorough and independent assessment of the project to determine whether the proposed grouped project complies with the validation and verification criteria set out in the section 2.4 of this report including their material accuracy. This report is to document the compliance of the ICR grouped project "AgroEcology_Italy Reducing GHG Emissions and Increasing Carbon Sequestration in Italian Agriculture" with the applicable requirements of the International Carbon Registry (ICR)/B01/, associated guidelines, and the applied methodology, LIFE C-Farms/B02/.

Table IV: VVB has ascertained the following on the ICR project/01/:

Project Type	Hybrid project with combination of Afforestation/Reforestation and Agricultural practices.
Applied Methodology	EU Approved Methodology LIFE C-Farms; "CARBON FARMING CERTIFICATION SCHEME STANDARD"/B02/
Sectoral Scope Applicable	14: Afforestation and Reforestation 15: Agriculture

The validation and verification objective of the project includes:

- ✓ Assessment of project's compliance with the ICR requirements v4.0/B01/, ISO 14064-2, ISO 14064-3, ISO 14065/B01/ and other relevant ICR requirements/B01/.
- ✓ Assessment of compliance with the applied methodology LIFE C- Farms/B02/
- ✓ Assessment of project compliance with the relevant rules including host country legislation.
- ✓ Evaluation of monitoring plan and develop conclusions regarding the monitoring methodology and the collection archiving of data relevant to GHG emissions estimation and baseline emissions.
- ✓ Evaluation of the calculation of GHG emissions, including appropriateness of source, sink, and reservoirs, the correctness and transparency of formula and factor used, assumptions related to estimating GHG emission removals, and uncertainties.
- ✓ To confirm if the emissions mitigations claimed by PP in the ICR monitoring report/02/, for the reported monitoring period are appropriate and valid.
- ✓ To develop conclusions based on validation & verification criteria, submission of corrective action requests, clarification requests and forward action requests, as applicable.

2.2 Level of assurance

In line with section 6 of the ICR requirement for validation (ICR requirement Document v4.0)/B01/, VVB intends to evaluate the reasonableness of the assumption, limitations, and methods that support the outcome of project implementation. An evidence-gathering plan has been developed to identify and mitigate any risk associated with description and justification for the project particulars. Additionally, VVB has scrutinized and cross-verified the uncertainty analysis conducted by project participants to rectify sample errors, measurement inaccuracies in model inputs, model prediction errors, and to refine estimations pertaining to the project area.

Following the guideline outlined in section 7.1 of the ICR Requirement Document v4.0/B01/, the project verification has been performed to ensure a reasonable level of assurance regarding project's conformity with the specified

audit criteria and materiality thresholds within the audit scope. Based on the issuance and resolution of audit findings, a positive evaluation statement reasonably assures that the project GHG assertion is materially correct and is a fair representation of the GHG data and information.

VVB confirms that the estimated and actual GHG mitigations from the project have been accounted correctly and are complying with the baseline & monitoring methodology/B02/. The documents reviewed are listed under Appendix I of this report.

2.3 Criteria

In line with ISO 14064-3 section 5.1.5/B02/, during validation and verification of the ICR project, VVB has included the following for the assessment:

- ✓ Method used for the determination of scope and boundaries of the project activity.
- ✓ GHG sources, sinks and reservoirs (SSRs) subject to monitoring during the project activity.
- ✓ Quantification method
- ✓ Requirements for disclosure of public information

The validation and verification assessment has been performed through a combination of document review and interviews with the relevant personnel as discussed in section 4.6 and 4.7 of this report. At all times, the project has been assessed for conformance against the criteria described in section 2.4 of this report. As discussed in the APPENDIX:2 FINDING LOG, findings have been issued to ensure that the project's conformance to all requirements/B01-B03/.

The validation of the project includes the following assessment activities:

- ✓ Contract review & signing.
- ✓ Appointment of team members based on competencies.
- ✓ Assessment Planning
- ✓ Desk review of ICR PDD/01/ & ICR MR/02/, carbon sequestration calculations (ex-ante & ex- post) and other documents
- ✓ Interviews with the stakeholders and local stakeholder meeting(s) during the on-site inspection
- ✓ Reporting and recording of assessment.
- ✓ Findings and their closureAPPENDIX2: FINDING LOG
- ✓ Additional validation/verification activities
- ✓ Submission of final report

A project specific joint validation and verification plan has been developed to guide the auditing process to ensure efficiency and effectiveness. The purpose of the joint validation and verification plan is to present risk assessment for determining the nature and extent of validation and verification procedures necessary, thus reducing the risk of auditing errors to a reasonable level. The validation of the ICR PDD/01/ and verification of the MR/02/ has been conducted in compliance with the requirement documents as stated in Appendix I /B01-B03/.

2.4 Scope

Scope of Validation: In accordance with the ISO 14064-3 section 5.1.6, the scope of validation is to assess the conformance of the ICR PDD/01/ and other relevant supporting documents against the requirements of ICR, ISO 14064-2, 14064-3, ISO 14065/B01/, and applied methodology C-Farms/B02/ and tools/B03/, including the assessment of:

- ✓ Methodology applied for the ICR project and project's eligibility against the same.
- ✓ ICR project's implementation and baseline scenarios
- ✓ Project area
- ✓ Physical infrastructure, activities, technologies, and processes of the ICR project

- ✓ Project's physical boundaries
- ✓ GHG sources, sinks and/or reservoirs.
- ✓ Growth and yield models
- ✓ Stakeholder involvement including socio-economic impacts (on local stakeholders) subjected to project implementation.
- ✓ Environmental impacts
- ✓ Baseline and additionality justification and Baseline type applicable to the ICR project in line with applied methodology/B02/
- ✓ Monitoring plan and
- ✓ Estimated GHG emission mitigations and removals calculation.

Scope of Verification includes:

- ✓ ICR project's implementation and baseline scenarios
- ✓ Application of methodology and tools
- ✓ Time period covered/ duration of monitoring period.
- ✓ Achieved/actual GHG emission mitigation and removals calculation.
- ✓ Adherence to the ICR PDD/01/

2.5 Materiality thresholds

Qualitative materiality threshold: Qualitative and quantitative materiality refers to "errors", "omission" and "misrepresentation" that either individually or in the aggregate form affect the GHG assertion.

As per section 5.1.7 of ISO 14064-3:2019

"Qualitative materiality refers to intangible issues that affect the GHG statement. Examples include:

a) control issues that erode the verifier's confidence in the reported data;
b) poorly managed documented information;
c) difficulty in locating requested information;
d) noncompliance with regulations indirectly related to GHG emissions, removals, or storage".

VVB has conducted assessment of management system of documentation presented by PP, project compliance against the applied methodology requirements and applicable ICR criteria, and correctness of the information given in the ICR PDD/01/ in line with ICR and ISO 14064-2 requirements. Furthermore, VVB has assessed the project monitoring process to evaluate data collection/reporting procedure, consistency of the data records, risk analysis of the project particulars along with mitigation through:

- ✓ cross-checking data/documents sets,
- ✓ by evaluating competency of MRV personnel,
- ✓ cross-checking the monitoring SOPs in place,
- ✓ SOP for data quality management.
- ✓ and QA/QC procedure employed by PP.

Therefore, VVB confirms that the project description complies with the applicable ICR and ISO 14064-3 requirements.

Quantitative materiality threshold:

As per section 5.1.7 of ISO 14064-3,

"*Quantitative materiality refers to error in value in the GHG statement. Examples include misstatements, incomplete inventories, misclassified GHG emissions or misapplication of calculations*".

"The project is a large-scale CDM project activity achieving total emission reductions of >500,000 tons of CO_2e per year; as such, a 0.5 per cent materiality thresholds is applied[46]".

[46] iss_guid08.pdf (unfccc.int)

Table V: Materiality threshold applicable to project:

Applicable Threshold Level	Category
☒ 0.5 %	The project is a large-scale CDM project activity achieving total emission reductions of >500,000 tons of CO_2e per year; as such, a 0.5 per cent materiality threshold is applied.
☐ 1%	The project is a large-scale CDM project activity achieving total emission reductions of 400,000 tons of CO_2e per year; as such, a 1 per cent materiality threshold is applied.
☐ 2%	The project is a large-scale CDM project activity achieving total emission reductions of <300,000 tons of CO_2e per year; as such, 2 percent materiality thresholds is applied.
☐ 5%	The project is a small-scale CDM project activity achieving total emission reductions of <300,000 tons of CO_2e per year; as such, a 5 per cent materiality threshold is applied.

The validation and verification team identified the materiality threshold applicable to the project, based on the estimated average annual GHG emission mitigations[/02/] from the grouped project i.e., 1,017,178 tCO_2e/year (which is >500,000 tCO_2e/year). Hence, VVB has determined that 0.5% i.e., 5,086 tCO_2e/year, materiality threshold is applicable to the project activity.

2.6 Level of Assurance

The approach used by VVB for validation and verification of the grouped project is built on a thorough understanding of the risk associated with reported data on GHG emissions mitigations/removals. VVB conducted the validation by on-site inspection of project site, reviewing all the evidence and other relevant information, from sources/reference links to provide reasonableness of the assumption, limitations, and methods, that estimated GHG emission mitigations and/or removals are fairly reported in the project description and appropriately substantiated with supporting documents. The validation team checked the criteria of ICR Program[/B01/], criteria of applied methodology[/B02/] and project's compliances with relevant applicable laws and regulations present in the host country.

VVB, during verification of the ICR project, has checked the information flow from data generation and aggregation, to recording, calculation and final transposition into the monitoring report. This assessment reveals that there are various raw data sources (both external and internal) for the preparation of monitoring report, namely default values from methodology/tools/IPCC/ standardized SOC Models data from literature reviews, field data for the permanent sampling plots, KML/Shape files[/11/]. This raw data is then recorded and transferred in the carbon calculation spread sheet and then finally to the monitoring report. VVB, based on the desk review, confirms that the quality of supporting documents, as provided by the PP, is adequate Field data sheets have been provided by the PP, which tallies with the data provided in the carbon calculation spreadsheet.

Further, VVB assessed the relevant data and parameters in section 10.2 of the ICR PDD[/01/]. The Validation & Verification team has conducted an on-site inspection for the respective project activity. All documentary evidence has been checked, and a physical site visit has been conducted in the presence of PP representatives, MRV personnel and consultants to arrive at a validation conclusion by the assessment team. The joint validation & verification has been carried out in conformity of all above-mentioned criteria[/2.4/], and it is confirmed that information provided by project participant is accurate and estimated GHG emission mitigations/removals have been calculated appropriately following the identified baseline and monitoring methodology LIFE C-Farms[/B02/] and ICR requirements[/B01/].

VVB confirms that all the assumptions and statements made by PP are valid and appropriate. Furthermore, VVB confirms that the first project instance has achieved the anticipated GHG mitigations during reported monitoring period and therefore VVB provide reasonable assurance that the GHG emission mitigations generated from the project "AgroEcology_Italy Italy Reducing GHG Emissions and Increasing Carbon Sequestration in Italian Agriculture", materially accurate conform with the ICR requirements and ISO 14064-2, procedures, and guidelines.

2.7 Validation and verification team

Full name	Role or Responsibility	Type of activity performed	Validation/verification
Isha Kapoor	Team Leader	Desk review, Protocol filling, DVR/findings preparation, FVR	Both
Vikash Kumar Singh	Technical Expert	Desk review, Onsite inspection & Interviews, Protocol filling, DVR/findings preparation, FVR	Both
Shweta Semwal	Trainee Assessor	Desk review, Protocol filling, DVR/findings preparation, FVR	Both
Amit Anand	Technical Reviewer	Technical Review	Both

2.8 Validation and verification activities and techniques

The evidence gathering plan has been employed based on the result of VVB's risk assessment. It has been designed to lower the validation and verification risk to an acceptable level. The evidence-gathering plan shall specify the type and extent of evidence-gathering activities and should not be communicated to the client or responsible party.

Validation		Verification	
Observation	☒	Observation	☒
Inquiry	☒	Inquiry	☒
Analytical testing	☒	Analytical testing	☒
Confirmation	☒	Confirmation	☒
Recalculation	☒	Recalculation	☒
Examination	☒	Examination	☒
Retracing	☒	Retracing	☒
Tracing	☒	Tracing	☒
Control testing	☒	Control testing	☒
Sampling	☐	Sampling	☒
Estimate testing	☐	Estimate testing	☒
Cross-checking	☒	Cross-checking	☒
Reconciliation	☒	Reconciliation	☒

2.9 Documented information

In compliance to section 5.4.4 of ISO 14064-3, VVB has been maintained following records:

Engagement terms	☒
Verification plan	☒

Evidence-gathering plan	☒
Who performed the evidence-gathering activities and when they were performed	☒
Collected evidence	☒
Requests for clarification, material misstatements and nonconformities arising from the verification and the conclusions reached	☒
Communication with the responsible party on material misstatements	☒
The conclusions reached and opinions by the verifier.	☒
The name of the independent reviewer, the date of review and comments of the reviewer	☒

3. Project and summary from validation and verification findings

3.1 Description of the project

The purpose of the project is to improve Italian agriculture by promoting sustainable farming methods that enhance carbon sequestration and reduce greenhouse gas emissions. The project emphasizes environmental, economic, and social sustainability.
The grouped project aims to facilitate the adoption of regenerative agricultural practices across the European host country of Italy via the generation of carbon credit income as a source of funding to enhance and support these activities and creating opportunity to local farmers/stakeholders to earn additional income.

As per the ICR PDD/01/ and further confirmed by conversing with the participating local stakeholders and/or farmers during on-site inspection/interviews/4.6//4.7/, to join the ICR project, the onboarding farmers had to implement combination of at least 3 below mentioned agricultural practice (table VI) in their farms. VVB has further cross-verified the same by reviewing the agreement/15/ in place between participating farmers and the project proponent (ALberami S.R.L.), to ensure implementation of sustainable agronomic practices during project's lifespan.

Table VI: The grouped project activities include a combination of following practices/01/:

Sr. N.	Practice Name	Criteria set out by PP for farm's onboarding under the respective practice	Anticipated Impacts in project region
1	**Capillary promotion of organic agriculture management (certified and non-certified)**	✓ At least 3 of the following practices are combined: crop rotation, organic fertilizer, maintenance of crop residues and green manure cover crops. ✓ Synthetic fertilizers and herbicides are forbidden.	✓ Increase in SOC stock.
Practice 2: Conservative plowing: Minimum tillage and zero tillage			
2.a	**Zero tillage**	only if use of herbicides is eliminated during pre-sowing and post-harvest stages	✓ decreases the use of agricultural diesel fuel - derived from fossil fuels - and ✓ increases the amount of organic matter stored in the soil. ✓ minimum tillage, supports crop production and growth, improves viability in soils, increases water use efficiency, recovers degraded soils and
2.b	**Minimum tillage**		

			promotes ecosystem health
Practice 3: Grassing / use of cover crops throughout the year			
3.a	**Green Cover / spontaneous vegetation**	✓ if herbicides or tilling (of whatever nature) are not used. ✓ Natural grassing is to be preferred As it reduces emissions due to tillage and seed transport. In case of seeding, the best choices for a stable lawn are grasses (e.g., Lolium *perenne*, *Festuca rubra*, *Festuca ovina*, *Poa pratensis*, *Lolium multiflorum*) and, to a lesser extent, legumes (e.g., *Trifolium repens*, *Lotus corniculatus*).	✓ Increase SOC stock. ✓ Grassing increase soil organic matter thus also soil fertility. ✓ Reduce erosion, soil compaction and facilitates field tillage
3.b	**Use of cover crops**	if herbicides are not used as termination mode.	
4	**Intercropping**	✓ when at least 2 or more crops are cultivated at the same time	✓ Carbon stock increases with biomass production. ✓ protection and conservation of habitats for a wide variety of species, including plants, animals, and microorganisms.
5	**Farm management with hedges, rows and forest integrated into field crops**	✓ only if the removal of woody vegetation with replanting is considered as part of management activities.	✓ increase carbon sequestration. ✓ increased organic matter in the soil, reduced erosion, improved water infiltration capacity. ✓ Increased Biodiversity: through the presence of hedges and rows, habitats are created for wildlife (birds, insects, pollinating insects, small mammals) and also for wild and native flora. ✓ Windbreaks: windbreaks help reduce wind erosion and protect crops from strong winds ✓ Aesthetics: landscape more attractive to visitors or guests (in case of Agri-restaurant, agritourism, etc...)
Practice 6: Management of pruning residues as a source of carbon for SOC			

6.a	**Pruning residues used as soil conditioner (use of residue as mulch)**	✓ Biomass burning not associated with energy production is not allowed. ✓ only when planting biomass is not burned (either in situ or within the boundaries of the overall farm, even in cases where part of the overall farm is not part of the project area) - to account for leakage. ✓ implementation of this practice will most likely require a contract with third-party biomass companies.	✓ Increase SOC. ✓ use pruning residues for energy purposes as a substitute for fossil fuels, resulting in a reduction in CO_2 emissions to the atmosphere
6.b	**Pruning residues used as energy.**		
7	**Application of inorganic natural substances and natural leaf fertilizers (minerals rocks or powder)**		
8	**Radical reduction of synthetic fertilizers**	✓ if synthetic fertilizers are not used or are being phased out ✓ Proper fertilization also considers how the uptake of various nutrients changes during the growing season: - **Nitrogen** is taken up throughout the growing season, with greater intensity from full flowering to stone hardening. - **Phosphorus** is taken up mainly in the early part of the growing season (requirements are generally modest). - **Potassium**, although absorbed from the beginning of the growing season, is also used in high amounts during fruit growth and oil synthesis. - Nitrogen fertilizers are the most used resulting in a greater impact on the environment.	✓ Reduction in use of synthetic fertilizers and shifting to use of organic fertilizers and expected to improve soil health.
9	**Radical reduction of pesticides**	✓ if herbicides are not used or are being phased out ✓ There are several ways in which farmers can reduce pesticide use while maintaining crop productivity, including: - Implementation of **integrated pest management**: use of a variety of techniques, including biological control, implementation of appropriate cultivation techniques (such as rotation, pruning, tillage, resistant cultivars, maintenance of infrastructure, etc.) and use of non-chemical control methods (solarization, use of chromotropic traps, use of mechanical means such as bands on trunks or nets for insect exclusion, etc...), to manage pests in a way that minimizes pesticide use. - Using **natural pesticides**: such as neem oil or pyrethrin, can be effective in controlling pests without releasing greenhouse gases. - Planting **"cover crops"**: such as legumes, can help improve soil health and reduce the need for pesticides. - Implementing **precision agriculture**: enable farmers to apply pesticides more	✓ Reduce greenhouse gas emission, potential of designated project region.

		precisely and in smaller amounts, reducing the potential for GHG emissions.	
Practice 10: Optimal recycling of organic matter			
10.a	**Using of Agro-industrial waste** (e.g olive mill waste)	✓ This practice is considered only when plant biomass from which organic amendment (OA) derives, was cultivated on the same farm it is applied. Alternatively, purchased OA applied to farmland may still be considered eligible when it is produced within the regional boundaries or within a range of 5-100 kilometers and when the seller/OA producer does not benefit from certified carbon removals. ✓ OA application is considered eligible only for equivalent nitrogen application rate. ✓ Both partial and full substitution of inorganic nitrogen fertilizer are eligible under full compliance with the Regional Action Program for the protection of waters against pollution caused by nitrates from agricultural sources in vulnerable zones under Nitrates Directive 91/676/EEC – 2020-2023.	✓ Optimal recycling of organic matter, such as using on-farm produced biomass, can potentially generate saleable carbon credits from both reduced emissions and improved soil sequestration.
10.b	**Using of Biochar** (obtained by plant biomass pyrolysis)		
10.c	**Using of Anaerobic digestate** (obtained from anaerobic digestion of plant biomass and/or animal manure and slurry as by-product of biogas plants)		
10.d	Using of Compost (Humus-like material with fertilizer characteristics obtained from aerobic digestion of solid waste)		
10.e	Using of Farmyard manure		
Practice 11: New Planting			
11.a	**Penconv Vine**	✓ When permanent ground cover is maintained (planted or spontaneous). ✓ This practice is not mandatory during summer. ✓ moldboard plough is replaced with one technique of reduced soil disturbance.	✓ Establishment of vegetation cover on abandoned, unused, or previously arable or pastureland. ✓ Increase in CO_2sequestration potential
11.b	**Penconv Orchard**		
11.c	**Penconv Olive**		
11.d	**Other Woody Perennial Species**		
12	**Cropland or conversion of cropland with annual crops to grassland/pastureland or permanent crops**	✓ when overgrazing of pastures is avoided and ✓ when grasslands include multi-year herbaceous species	✓ conversion of cropland with annual crops to grassland/pastureland or permanent crops
13	**Improved Crop Rotations**	✓ when crops belonging to different botanical families are used in succession, at least 3 out of a 5-years crop rotation.	✓ growing of different kinds of crops in recurrent succession on the same land

VVB based on the on-site inspection/interviews[/4.6//4.7/] and supporting document (farmer's survey data)[/15/], confirms that prior to project implementation, these farms identified within the project boundary were subjected to conventional farming practices some common practices include:

- intensive use of synthetic/inorganic fertilizers,
- monoculture, limited crop rotations, bare fallow between crop rotations

- mouldboard ploughing
- application of pesticide/herbicides
- Burning of pruning residue

For the first project instance, 67 farmers, with a combined agricultural land of 1474.89 ha, have already implemented carbon farming practices with some elements of agroforestry on existing woody perennial plantations in Puglia, Calabria, and Sicily regions of Italy[/01//4.6//4.7/]. VVB, based on the review of the ICR project documentation[/01//02/] and on-site inspection of the project site[/4.7/], confirms that the activities implemented under first project instance are in line with the with the requirement of section 3 of the applied methodology LIFE C-Farms[/B02/].

VVB has verified the start date for the grouped project which is the start date of first project instance i.e., 01/01/2022[/01//15/] (detailed assessment has been provided in section 5.2.1 of this report), and confirms that project start date identified by PP, is in line with the section 3.4.1 of the ICR requirement document v4.0[/B01/].

In accordance with section 3.4 of the ICR requirement document v4.0[/B01/], the crediting period identified for the proposed grouped project is of 45 years starting from 01/01/2022 to 31/12/2066 with the first crediting period of 15 years starting from 01/01/2022 to 31/12/2036[/01/]. VVB confirms that the project area is protected by a legally binding commitment (evidence to be provided during subsequent verification) to continue management practices that protect carbon stocks over the length of the project crediting period.

During on-site inspection/interviews[/4.6/], representative of project proponent has ensured that the evidential documentation depicting the long-term agreement signed between landowners/farmers and Alberami SRL will be made available at the time of subsequent verification of the project. Therefore, VVB concludes that the Alberami S.R.L., as the Project Proponent will the rightful ownership of the Carbon Credits from the sale of ICCs generated from the GHG mitigations subjected to project implementation in the region. Further the project proponent has presented evidence to demonstrate land titles and or farmer's ownership of land area subjected to implementation of agronomic practices under ICR project. VVB has verified the same by cross-checking the land titles[/03//15/].

The quantification approach for accounting greenhouse gas emissions and removals (GHG ERRs) aligns with the guidelines outlined in section 4 of the applied methodology LIFE C-Farms[/B02/]. Additionally, the project's monitoring plan and reporting adhere to the requirements of the latest version of VERRA's VM0042 v2.0[/01//02//4.6/]. Following the measure and model (quantification approach 1) of VM0042, the project proponent has conducted GHG flux accounting in soil organic carbon (SOC) stock within the designated project region. Soil property modeling was carried out using the Gradient Boosting Machine (GBM) methodology. Furthermore, the project follows the CDM Methodology AR-AMS0007 sev3.1 to account for net anthropogenic GHG mitigations generated from the ICR project[/01//02//4.6/].

The proposed grouped project aims to implement sustainable agricultural practices, expecting to achieve a total GHG mitigations of 45,773,018 metric tons of CO_2 equivalent (tCO_2e) emissions over a 45-year crediting period with an annual average of 1,017,178 tCO2e[/01/-/03/].

During the monitoring period from 01/01/2022, to 31/12/2023, the project's GHG mitigation efforts were rigorously assessed. Verification was conducted by VVB through desk reviews, on-site verification[/4.7/], and cross-checking with the ex-post carbon calculation spreadsheet[/03/]. VVB confirms that the project has achieved a net GHG emission mitigation of 7,159.67 tCO2e.

3.2 Description of the baseline scenario

In accordance with the guideline of section 4.4 of ICR document v4.0[/B01/] and section 3.1 of the applied methodology LIFE C- Farms[/B02/], the baseline scenario for the proposed project has been identified as the

"continuation of unsustainable agricultural practices", indicating conventional tillage practice, use of synthetic fertilizers and pesticides, lack of cover crops and crop rotations, and poor management of pruning residues and other organic matter/01//4.6//4.7/. Additionally following observations has been demonstrated by PP to indicate the baseline conditions in the region:

- In Italy, monoculture crops dominate many regions, making them susceptible to diseases, droughts, and climate change effects. Notably, olive farming in Puglia has suffered extensive damage from the Xylella fastidiosa bacterium, resulting in significant economic and landscape losses. To address these challenges, the proposed ICR project seeks to advocate for diversified, sustainable farming practices that enhance resilience and act as natural carbon sinks/01//4.6//4.7//15/.
- In the baseline scenario, soil carbon levels are anticipated to diminish further owing to conventional tillage practices and insufficient organic inputs, resulting in the depletion of soil organic matter. Concurrently, soil erosion and nutrient depletion, exacerbated by the application of synthetic fertilizers and pesticides, may exacerbate the decline in soil quality/01//4.6/.
- To evaluate the baseline scenario, PP has implemented a farmer plan, outlining key aspects of the project site such as vegetation cover, soil type, and carbon content. This baseline data acts as a benchmark for gauging changes in carbon stock throughout the project's duration under normal conditions (i.e., business as usual). By comparing the baseline scenario with the project scenario, PP has aimed to determine the incremental GHG removal and emissions mitigation achieved through the adoption of 13 sustainable practices outlined for the proposed project /01//4.6//4.7//3.1/.

During on-site inspection/interviews, for the first project instance, PP has presented the data record/farmer plan (called the T1 form)/15/ for the participating farmers in the project activity. The format of farmer plan has been designed to gather details on following, but not limited to:

- Registered land/title ID (property identification serializations).
- Municipality (ISTAT/CAP Code) and Province
- Cadastral sheet and parcel ID
- Name or responder/farmer/stakeholder.
- Area (hectares) under project, plot progress
- Species or crop present in the farm, variety/cultivar of respective species
- Average plant height (in case of perennials)
- Crop productivity.
- Cultivation method
- Pruning method applied and residue management.
- Tillage operation method
- Fertilization techniques and type of fertilizer used.
- Irrigation applied/not.
- Vegetative cover (%)
- Date of interview/survey along with farmer's signature.

Figure 1: Example of Farmers plan/ T1 form:

ALBERAMI

Via Corte dei Mesagnesi 30 - 73100 Lecce (LE) - Tel +39 0832 1827840 - CF/PI: 05148380750 - REA: LE345546 - www.alberami.it info@alberami.it

MODULO T1 - CENSIMENTO PARTICELLA

(1) ID-ALBERAMI	1000000216		(d) ULIVO
(2) NR PARTICELLA		1 scheda per particella/cultivar	
(5) PROVINCIA	069-Chieti CH		
(6) COMUNE (Cod. Istat / CAP)	Rocca San Giovanni (CH)		
(7) CATASTO - FOGLIO	1		
(8) CATASTO - PARTICELLA	00239, 00240, 00504, 00507, 00508, 00512		
(a) ETTARI - ha	0		
(b) ARE - a	17		
(c) CENTIARE - ca	79		
(e) CULTIVAR (Cellina, Ogliarola, ...)	Leccino		
(f) FOTOVOLTAICO - KW			
(g) SESTO (6x6, 7x6, ecc.)	Irregolare		
(h) MEDIA ALTEZZA PIANTE - metri	3.6		
(p) PRODUZIONE OLIO	0=Frantoio Conto Terzi		
(q) IMBOTTIGLIAMENTO	0=NO imbottigliamento		
(r) METODO COLTURA	3=Convenzionale		
(s) COLTIVAZIONI ERBACEE	0=Erba, altre erbacee da foraggio permanenti		
(t) POTATURE	1=Deposta al suolo		
(u) POTATURA SECCA Anno Corrente	1=SI		
(v) POTATURA VERDE Anno Corrente	1=SI		
(w) TRATTAMENTO FOGLIARE	3=Prodotti chimici		
(x) LAVORAZIONI TERRENO	2=Sfalcio meccanico deposto al suolo		
(y) AMMENDANTE	4=Agrofarmaci		
(z) IRRIGAZIONE	0=NO Irrigazione		

(o)	(i) ETA'	(j) ETA'	(k) ETA'	(l) ETA'	(m) ETA'	(n) Registro
VEGETATIVO	0 - 6	7 - 14	15 - 50	51 - 99	> 100	Monum.li
morte						
veg. 10%						
veg. 20%						
veg. 30%						
veg. 40%						
veg. 50%						
veg. 60%						
veg. 70%						
veg. 80%						
veg. 90%						
vegete		63				
TOTALE PIANTE		63				

Confermo la veridicità di tutte le informazioni specificate nel presente modulo, nel rispetto delle Condizioni di Contratto di Alberami srl.

Data 16.12.2021 Firma

Based on review of the ICR PDD[/01/], review of farmer plan and records[/15/] and on-site inspection[/4.7/] of the project site, it has been confirmed that the baseline scenario identified by PP is pertinent, and correctly quoted and interpreted in the project description. The baseline scenario for the first project instance has also been confirmed through interviews with the end users of technologies and representatives of PP.

Further to the above assessment, VVB through web research[47][48][49][/B04/] confirms that the key unsustainable agricultural practices in the project boundary (Italy) includes overuse of chemical fertilizers and pesticides, excessive water use, unsuitable crop rotations, soil erosion and lack of crop diversity.

By reviewing the ICR PDD[/01/], on-site inspection/interviews[/4.6//4.7/] and supporting documents (Farmers Plan/T1 Forms of participating individuals)[/15/], VVB confirms that the baseline scenario for the first project instance has been identified in accordance with the applied methodology LIFE C-Farms[/B02/]and ICR requirement document v4.0[/B01/] and thus is deemed valid & applicable by the VVB.

47 https://apps.fas.usda.gov/newgainapi/api/report/downloadreportbyfilename?filename=Italy%20and%20Sustainable%20Agriculture%20Overview%20_Rome_Italy_2-11-2013.pdf

48 https://cinea.ec.europa.eu/news-events/news/italys-farms-act-climate-change-2022-09-28_en

49 https://walterschindler.com/agricultural-sustainability-articles/land-desertification-europe/

3.3 Projected emissions mitigations

Table VII: Net GHG emissions and mitigations from the grouped project (200,000 ha) over the project crediting period of 45 years:

Year	Estimated Baseline emissions or removals (tCO_2e)	No. of hectares	Estimated ER total (tCO_2e)	GHG Increase	Leakage	Buffer (AFOLU + CDR), 11%	Total GHG emission mitigations (tCO_2e)
			Agroecology Project				
2022	0	1114,06	1899,03	-	-	208,99	**1690,14**
2023	0	1449,16	6145,53	-	-	676,00	**5469,52**
2024	0	25,000	1,62,185	-	-	17,840	**1,443,45**
2025	0	50,000	3,24,370	-	-	35,681	**2,88689**
2026	0	75,000	4,86,555	-	-	53,521	**4,33,034**
2027	0	1,00,000	6,48,740	-	-	71,361	**5,77,379**
2028	0	1,25,000	8,10,925	-	-	89,202	**7,21,723**
2029	0	1,50,000	9,73,110	-	-	1,07,042	**8,66,068**
2030	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2031	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2032	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2033	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2034	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**

2035	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2036	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2037	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2038	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2039	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2040	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2041	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2042	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2043	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2044	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2045	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2046	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2047	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2048	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2049	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2050	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2051	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2052	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**

2053	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2054	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2055	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2056	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2057	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2058	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2059	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2060	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2061	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2062	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2063	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2064	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2065	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
2066	0	2,00,000	12,97,480	-	-	1,42,723	**11,54,757**
Total Estimated Net Carbon Removal (tCO2e)							4,57,73,018
Total Crediting years							**45**
Annual Average GHG emission mitigation (tCO2e)							**10,17,178**

VVB, based on the desk-review[/01/-/03/] and on-site inspection/interviews[/4.6//4.7/] confirms that the projected ex-ante emission reductions and/or removals generated from the from the proposed grouped project are in line with the methods and criteria and assumptions as mentioned in the ICR PDD[/01/].

4 Validation and verification activities

4.1 Validation and verification planning

Validation Planning includes:

- ✓ Perform strategic analysis
- ✓ Identify materiality thresholds
- ✓ Test estimates
- ✓ Assess GHG related activity characteristics
- ✓ Develop validation verification plan
- ✓ Develop evidence gathering plan
- ✓ Approve the validation plan & evidence gathering plan
- ✓ Amend the validation plan & evidence gathering plan, if required

Verification Planning includes:

- ✓ Perform strategic analysis
- ✓ Perform risk assessment
- ✓ Design evidence gathering activities
- ✓ Identify the need for and plan site visits
- ✓ Develop verification plan
- ✓ Develop evidence gathering plan
- ✓ Approval of verification plan & evidence gathering plan

Task	Validation (Y/N)	Validation (Y/N)
Strategic analysis	☒	☒
Materiality thresholds	☒	☒
Test estimates	☒	☒
Assessment of GHG-related activity characteristics	☒	☒
Validation plan	☒	☒
Evidence-gathering plan	☒	☒

4.2 Validation and verification plan

A project specific validation and verification plan has been developed to guide the auditing process to ensure efficiency and effectiveness. The purpose of the validation and verification plan is to present a risk assessment for determining the nature and extent of validation and verification procedures necessary, thus reducing the risk of auditing error to a reasonable level. The validation of the ICR PDD/01/ and verification of the MR/02/ has been conducted in compliance against the requirement documents/B01-B03/.

Table IX: Validation and Verification Time Frame:

Milestones	Time
Date of Contract Signing	04/07/ 2023
Submission of VV Plan	03/11/2023
On-site inspection	13/12/2023 to 15/12/2023
Submission of Validation/Verification Findings	15/12/2023

To ensure a complete, transparent, and timely execution of the joint validation and verification task, the team leader had planned the complete sequence of events necessary to arrive at a substantiated final validation and verification opinion. Various tools have been established to ensure an effective assessment planning.

Step I- Strategic Analysis
In accordance with the section 6.1.1 of ISO 14064-3, VVB has carried out strategic analysis of project in following steps:

- ✓ Identification of the types of potential material misstatements and their likelihood of occurrence.
- ✓ Identification of evidence-gathering procedures that are the basis for VVB's assessment and conclusions.

Step II- Identifying the Materiality Threshold: Please refer to section 2.5 of this report.

Step III- Identifying risks, their level and assessment: The validator has used a risk-based process to identify evidence to be collected for each characteristic of the proposed project activity.

Table X: For Validation

Sr. No.	Risk that could lead to material errors, omissions, or misstatements	Assessment of the potentialrisk		Assessment of the records/information/interview with personnel to check control/mitigation. measures
		Risk level	Justification	
1.	**ICR project activity requirements** Adherence to ICR rules and requirements related to AFOLU and applicable category i.e., ALM, including criteria for inclusion of future project instances.	High	This corresponds to high risk since compliance with the ICR rules and requirements is critical for the project. Also, criteria for inclusion of future project instances are important and criteria as this would be the basis of inclusion of new (future) project instances.	The risk has been mitigated by reviewing the ICR PDD & MR and supporting documents thoroughly in compliance with each section of ICR template instructions and ICR requirement document version 4.0.
2.	**Ownership** Adherence to ownership and legal right of the grouped project including the proof of right of carbon credits.	Medium	Since, this is a grouped project and involves privately/ held lands (farmer's land) the evidence of title agreements of Project Proponent with each landowner/grower (of each project instance) is pertinent, hence, VVB considers this as medium risk.	The risk has been mitigated by checking the agreement between the PP, farmers/landowners, and/or parties involved in the project implementation as a proof of land titles and carbon credit rights.
3.	**Baseline methodology** Adherence to selected baseline protocol as per the applied methodology and identified project	High	This corresponds to high-risk category since compliance with each of the applied methodology is critical for the project.	The risk has been mitigated through the analysis of the actual baseline scenario observed during the on-site visit and interviews, review of the historic look back period

	boundary.		The project has applied the following: • LIFE C-Farms: foundation of the project's methodological approach. • VM0042: quantifying, monitoring, and verifying soil carbon sequestration activities. AR-AMS0007: to quantify emission reductions coming from any activities related to agroforestry, afforestation and reforestation, its carbon stocks, and fluxes.	records and other supporting documents including analysis of GIS and remote sensing data.
4.	**Time period (for e.g., project start date, start date of crediting period and length of crediting period) covered by Project Report** Adherence to the ICR requirements for start date, crediting period, and length of the project	Medium	Assessment shall consider the ICR rules and requirements for start date and crediting period specific for the project as well as the guidelines for temporal boundary as per the section 3.3 applied methodology LIFE C-Farms. The risk has been considered to be medium by VVB.	The risk has been mitigated by reviewing the evidence pertaining to the project start date including the time stamped pictures, contracts, and receipts. Further verification of the project compliance in line with the section 3.4 of the ICR requirement document v4.0.
5.	**Baseline Scenario and Additionally** Accuracy of baseline scenario identification and compliance with eligibility for positive list for additionality demonstration as per ICR requirements	High	Since this is a grouped project which intends to include new activity instances, the baseline determination and additionality demonstration for all project activity instances under present validation and criteria for future	The risk has been mitigated by identifying the actual baseline scenario through on-site visit interviews and assessment in combination with a thorough desk review including independent research and review of supporting document.

			instances forms a high risk.	
6.	**Baseline assertion** Accuracyof baseline assertion	High	Considering the complexity of methodology applied LIFE C- Farms, the risk for the baseline assertion including the compliance with determination of schedule of activities in the baseline scenario as stated in the ICR requirement document v4.0, is considered as High.	The risk has been mitigated based on the comparison of actual baseline scenario observed during the on-site visit and desk reviews with the baseline scenario provided in the ICR PDD and checking the compliance with the applied methodology. Further by reviewing systematic sampling, source data and calculations.
7.	**Correctness of source of data used for Emission reduction/removal estimation/calculation.** Accuracy of default/ex-ante fixed values and equations used for the ex-ante carbon calculation.	High	As per the applied methodology, various sources for the data such as default values from secondary sources i.e., region specific studies, and other Peer- reviewed (national and/or international database) published data. This forms a high risk for overall carbon removals from the project.	The risk has been mitigated by assessment of all sources, sinks and reservoirs that are included in the project report during the on-site inspection. A thorough desk review of all the data sources will be conducted to evaluate the applicability, accuracy, and compliance with the applied methodology.
8.	**Carbon emission reduction/removal estimation including future estimate / calculation.** Accuracy of default/ex-ante fixed values and equations used for the ex-ante carbon calculation.	High	The project has applied Quantification approach 1 for accounting of SOC stock subjected to designated project region, Quantification approach 3 to quantify and report on the reductions in N_2O, CH_4, and CO_2 emission and removals relevant to the use of fertilizers (synthetic and/or organic), cover crop adoption, tilling, fossil fuel use, crop yields etc., the project intend to apply Gradient Boosting Machine (GBM) model development methodology for soil	This risk has been mitigated by cross-checking emission reduction calculation spread sheet including all baseline emission, project emission, leakage emission and final emission reduction calculation including a through desk-review of all the data sources.

			property modelling. PP has used various sources for the data such as default values from IPCC, including any other literature reports. Furthermore, accuracy in equations and formulas applied in the spreadsheet has material impact on the carbon removals from the project. This forms a high risk for overall carbon.	
9.	**Monitoring Plan** Evaluation and monitoring of the project monitoring parameter as per the ICR rules and requirements. Verification of compliance against applied methodology including monitoring approach, PP sample size and area of sample plots, monitoring of project implementation	High	Due to the complexity of the applied methodology, as well as sampling procedure, the risk is considered high. The monitoring approach for, area of sample plots, data/parameters sampling points, monitoring of project implementation adds further complexity to the monitoring. Thus, in opinion of VVB, this possesses high risk.	The risk has been mitigated by reviewing the measurement, calculation, and management /sampling plan of monitoring parameter during the desk-review and verification with the monitoring records, field logbooks during on-site inspection, as per the applied methodology.
10.	**ICR project description** Completeness and correctness of project description.	Medium	Since applied methodology has multiple components, the appropriate description of all the aspects regarding the project description is pertinent. Hence, in the opinion of VVB, this risk is considered as medium.	The risk has been mitigated by reviewing adherence of the ICR PDD to the actual site condition for e.g., the existence of the project; project start date; GHG inventory of sources and sinks; records kept on site; historical data; GIS and remote sensing data.
11.	**Non-Permanence Risk** Accuracy of assessment of permanence of carbon stock and buffer	High	Since this is a grouped project, developed in collaboration with the local farmers, the risk of permanence due to	The risk has been mitigated by cross-checking each risk factor affecting the permanent nature of carbon stock as per the non-

	credits. This includes.		various factors such as financial, pest etc. is High. Loss and reversal could also happen due to quitting participating farmers. Further the designated project region has been found to be prone to pest attack (with frequency of incidence every 10 year) this forms high risk to permanence of carbon stock.	permanence risk tool applied, with evidence provided by the PP. The project management plan (including implementation plan) & ownership of land, roles & responsibility to be checked during the on-site inspection and through document review.
12.	**Leakage** Identifying whether the project activity is subjected to leakage outside project boundary, source of project emissions. For instance, leakage due to burning of woody.	Medium	Project aims to include adoption of agricultural land management practices and the baseline of the project is agriculture/cropland, in the opinion of VVB, no site preparation is attributable to plantation and thus this risk corresponds to medium category. The source of the material for the organic amendments may	The leakage assessment provided by PP in the ICR PDD has been evaluated based on desk review and on-site inspection interviews by VVB and any non-conformities observed has been reported followed by revision in ICR PDD to represent actual leakage assessment.
13.	**Project Area and Eligibility** Assessment of eligibility of land and calculation of area for each geographic area specified in the ICR PDD	High	As per the applied methodology LIFE C-Farms the project activities shall not imply the removal of any pre-existing vegetation unless removal of woody vegetation is considered as part of management activities, in compliance with methodology and have material impacts on overall carbon removals	The land use change has been evaluated based on historical vegetation analysis by a GIS expert appointed by VVB. The actual present land use has been evaluated during on-site inspection to check the compliance with the methodology.

			from the project, thus form high risk.	
14.	Participation under any other GHG Program Risk of double counting of project or carbon credits	Medium	Since the project is implemented by collaborating with the farmers/landowners, checking of title of land and rights of carbon credits including project's existence in any other GHG program corresponds to a medium-risk category.	The risk has been mitigated by reviewing agreement of PP with landowners/farmers, land ownership proof, proof for waiver of carbon credits by the other entities along with checking the project on other registries.

Table XI: For Verification

Sr. No.	Risk that could lead to material errors, omissions, or misstatements	Assessment of the potentialrisk		Assessment of the records/information/interview with personnel to check control/mitigation. measures
		Risk level	Justification	
1.	**Raw data generation** Raw data generation including sampling approach, Implementation of monitoring procedures, mal operation by operational personnel, change of monitoring procedures, Insufficient accuracy, change of technology, Accuracy of values supplied by Third Parties	High	Inadequate implementation of monitoring procedures including the sampling plan/equations of AR sampling standard, errors in counting of trees, DBH/ Height data and other sampling plot data, Change of personnel, Undetected measurement errors, inappropriateness of Management system procedures w.r.t. monitoring plan requirements of offset project plan, non-application of management system	The risk has been mitigated by reviewing the raw data sheets and cross- checking the same with the carbon calculation spreadsheets, registered ICR PDD and MR.
2.	**Data collection, Transposition and aggregation/ Data and Information Flow** Wrong data transfer from raw data aggregated		Unintended usage of old/obsolete data, Incomplete documentation, Ex-post corrections of records, Ambiguous sources of	The risk has been mitigated by reviewing the raw data sheets and cross- checking the same with the carbon calculation spreadsheets, registered ICR PDD and MR.

	reporting forms in both logbooks and electronic formats, lab analysis data, IT Systems, spread sheet programming, Manual data transmission, Data protection Responsibilities, Data transfer to the author of the monitoring report, Data transfer to the monitoring report, Unintended use of outdated versions of monitoring report as per the template prescribed by ICR.	High	information, non-application of management procedures, mistakes during manual data transfer, Unintended change of spread sheet programming or data base entries, Problems caused by updating/upgrading or change of applied software.	
3.	**Calculation Methods** Applied formulae Miscalculation relevant to selected carbon pools and errors in spread- sheet calculation	Medium	Risk due to miscalculation of applied formulas.	The risk has been mitigated by reviewing the raw data sheets and cross- checking the same with the carbon calculation spreadsheets, registered ICR PDD and MR.
4.	**Project Implementation & Operation** Data from sample plots including DBH, height, coordinates of sample plots, marking of tree and sample plots, tree etc., cross-check of raw data, cross-check of Management system manual, cross-check of carbon calculation sheet.	High	Deviation from the project design and plan as mentioned in registered ICR PDD.	The risk has been mitigated by cross-checking the raw data, management system manual, cross- check of carbon calculation sheet data including area, check of trainings, check of responsibilities, check of QA/QC documentation, same with the carbon calculation spreadsheets, registered ICR PDD and MR.

4.3 Evidence gathering plan

VVB has developed the evidence gathering plan based on the project specific risk assessment. The evidence gathering plan has been designed to lower the validation & verification risk to an acceptable level. The evidence-gathering activities and techniques followed by VVB in the project validation & verification are as follows:

- Inquiry - information and clarifications from the PP through formal written requests.
- Sampling/Observation/Examination - During On-site visit physical examination of actual baseline as well as project scenario and project implementation status
- Reviewing records and documents - documentary evidence provided alongside the PDD.
- Recalculation - an independent checking of the GHG quantification procedures and calculations presented in documents and data provided against the methodology and tools guidelines.
- Analytical process – from peer reviewed studies/sources especially relevant to baseline scenario

- External Confirmation - peer reviewed journals, and studies conducted about existing conditions prior to the project activity as described in the ICR PDD.

VVB has assessed and evaluated all statements and relevant evidence provided by the project proponent to ensure the compliance of all the information stated in ICR PDD/01/ and ICR MR/02/and supporting documents against the ICR and ISO guidance requirements/B01/.
In accordance with the section 7.2.3 of ISO 14064-3, VVB assessed the following:

- ✓ Whether the GHG statement made by PP is accurate and complete: with appropriate justification or relevant information.
- ✓ Whether the disclosure is a fair reflection of the GHG-related activities: including identification of project boundary (both temporal and spatial/geographic), baseline type demonstration of the project additionality, and the models followed for the quantification purpose.
- ✓ Whether the disclosure contains unintended bias: particularly related to expert knowledge, default value, peer reviewed data, used for the carbon calculations.
- ✓ Whether the disclosure addressed the intended user's requirements and needs.

4.4 Activities and techniques

The joint validation and verification of the project includes the following activities:

- ✓ Contract review & signing between VVB and project proponent.
- ✓ Appointment of team members based on competencies and sectoral expertise.
- ✓ Assessment Planning
- ✓ Desk review on ICR PDD/01/ & ICR MR/02/, carbon calculation spreadsheets (ex-ante & ex- post) and other documents- to cross check and evaluate project particulars against applicable requirements/B01-B03/.
- ✓ Interviews with the stakeholders and local stakeholder meeting(s) during the on-site inspection- to physically inspect the project design.
- ✓ Reporting and recording of assessment (Draft Joint Val-Ver Report)- to report and issuance of VVB opinion on project particulars.
- ✓ Reporting findings and their closure- to address non-compliance issues identified during the assessment process.
- ✓ Independent technical review of the draft verification report and final/revised documentation (e.g., Monitoring Report, corresponding ER sheet and evidence)- to independently confirm whether the applicable GHG program requirements were objectively met or no
- ✓ Reporting and closure of TR comments/findings (CARs/CLs/FARs) and final approval for the decision made.
- ✓ Additional validation/verification activities
- ✓ Submission of final validation/verification report

During the field review of the project, the following aspects of the project has been assessed:

- ✓ Geographical boundary of the first project instance
- ✓ GHG emission reduction and/removal interventions involved in the project.
- ✓ Physical infrastructure, activities, technologies, and processes of the ICR grouped project.
- ✓ Project ownership
- ✓ Project start date, project length.
- ✓ GHG sources, sinks and gases.
- ✓ Grouped Project eligibility as per ICR and applied methodology requirement.
- ✓ Eligibility of project under applied methodological approach
- ✓ Stakeholder engagement: Grievances received, and actions taken.
- ✓ Environmental impacts; Forest/non-forest analysis
- ✓ Baseline identification and additionality demonstration
- ✓ Sustainable development contributions
- ✓ Leakage assessment

- ✓ Monitoring plan and SOPs for project monitoring and field data collection; Sampling approach
- ✓ Estimated (Ex-ante) GHG emission mitigations and/or removals and uncertainty analysis.
- ✓ Calculation of ICCs (Ex-post)
- ✓ Risk assessment for permanence.
- ✓ Interviews with participating farmers/local community members and MRV personnel

4.5 Review of documented information

During the document review, CCIPL applied standard auditing techniques to assess the quality of information provided. The joint validation and verification are performed primarily based on the review of the ICR PDD/01/ & MR/02/ and the supporting documentation.

For validation, this process includes:

- ✓ A review of data and information presented to verify completeness and consistency in accordance with ICR requirement document/B01/ requirements.
- ✓ A review of the project description/01/ and monitoring methodology/B02/, paying particular attention to the applicability conditions of the methodology, baseline, and additionality related requirements.
- ✓ A review of the monitoring plan and the project's compliance with relevant ICR and ISO criteria/B01/.

For verification, this process includes:

- ✓ A review of data and information presented by the PP to verify their completeness.
- ✓ A review of the MP and monitoring methodology, paying particular attention to the frequency of measurements, the competency of personnel performing the monitoring, and the QA/QC procedures, and
- ✓ An evaluation of data management and the QA/QC system in the context of their influence on the generation and reporting of GHG removals by sink.

The ICR PDD/01/ (version 1.0, 04/10/2023) was initially reviewed and CCIPL requested the PP to present the supporting information and documents. Inconsistencies between the PDD and the stated criteria were considered findings and identified for corrective action. Appropriate justification for any noncompliance from the validation and verification criteria was also sought. All the findings have been raised and resolved have been described under Appendix III of this report.

Refer to table in Appendix I, outlining the documentation reviewed during the joint validation and verification process.

4.6 Interviews

An on-site inspection has been performed by the member of validation and verification team of Carbon Check, from 13/12/2023 to 15/12/2023 at Ostuni, Italy.

Interview has been performed as part of the validation- verification process to confirm and verify the project design and description as stated in the supplementary documentation (please refer Appendix 1) and further to analyze on-ground implementation status of the first project instance. The validation & verification team member met with individuals with various roles in the project. This included a series of interviews with project management and on-site and in-country staff that support the mission of the project.

The table XI below summarizes the on-site inspection interview process and personnel/stakeholders identified by VVB, including their roles, who were interviewed and/or presented information additional to that provided in the ICR PDD/01/, ICR MR/02/ and any supporting documents.

Table X: The project representatives and stakeholders interviewed, and the topic discussed:

ID	Name	Role	Date	Subject	Team member	Validation /verification
/1/	Francesco Musardo	Representative, Alberami SRL	13/12/2023	- PP's roles and responsibilities. - Best agricultural practices in the project region. - ICR, A/R-ALM Eligibility criteria - Grouped Project eligibility and inclusion of new project instance. - Project Design - Baseline Scenario. - Baseline Identification - GHG Qualification - Sustainability and local stakeholders meeting. - Project implementation. - Future project plans. - Organization structure, roles, and responsibilities. - No-net Harm Assessment. - Non-Permanence Risk Assessment. - Reliance of local stakeholders on natural resources within the project area. - Stakeholder meeting process and Mechanism for ongoing communication - Ownership of the land titles and carbon credits. - Monitoring methodology and data collection procedures - QA/QC procedure in place - Competency of MRV personnel	Vikash Kumar Singh	Joint Validation and Verification
/2/	DR. Edivando do Couto	Alberami SRL				
/3/	Francesco Musardo	Representative, Alberami SRL	14/12/2023	- Physical inspection of representative farms. - VVB observation of project's on-ground implementation. - PP's monitoring methodology - sampling approach		
/4/	Paolo Samarco	Landowner/farmer	14/12/2023			
/5/	Ascania Samarco	Landowner/farmer	14/12/2023			
/6/	Francesco Musardo	Representative, Alberami SRL	15/12/2023	- Project additionality - Project organizational structure		

				- Roles and responsibilities of MRV personnel - Discussion over the VVB's assessment during physical inspection of subject areas - Closing meeting.		

4.7 Inspection

The on-site inspection for joint validation and verification has been conducted from 13/12/2023 to 15/12/2023. A ground truthing of the project area (farms included under the proposed ICR project) has been carried out during the on-site inspection and members of the validation-verification team visited sample plots identified within the project boundary per VVB's sampling plan detailed below.

Sampling Plan:

Verification Approach: Acceptance Sampling (ASP)
VVB has adopted a standard method of calculating sample size by Morris Hamburg (Hamburg, 1985) using precision level, confidence level and response distribution for determining the sample size. VVB team has opted for 20 % margin of error and 80% confidence level in determining the VVB's sample size. The total permanent sample selected by PP i.e., 9 sample (SOC Sapling points in 2023, with 10% sampling percent for identified 90 farms) Accordingly, VVB team plan to take 6 samples from the designated project region included under the project activity for the reported monitoring period with pro-rata sample size calculated based on sample size taken by the PP (i.e., weightage of sample size for a project area taken by PP) multiplied by the VVB sample size.

S.N.	First monitoring period	PP Sample Size	VVB Sample Size
1.	01/01/2022 to 31/12/2023	9	6

During onsite inspection, the Validation/Verification team visited representative farms where some of the regenerative farming practices have been implemented.
Observations: Regenerative Farming Practices
Date of visiting farmlands: 13/012/2023 and 14/12/2023
Location: Farm ID: 1000000439

1. **Minimum Tillage:** The farm practices minimum tillage, with only 13-15 cm of topsoil being tilled. This practice promotes soil health by minimizing soil disturbance and preserving soil structure.
2. **Zero Tillage:** Notably, some areas of the farm have adopted zero tillage practices, further reduced soil disturbance and promoted soil biodiversity. This approach contributes to enhanced soil health and carbon sequestration.
3. **Utilization of Pruning Residues as Mulch:** The farm utilizes pruning residues as a source of mulch. This sustainable practice helps retain soil moisture, suppress weeds, and enhance organic matter content, thereby improving soil fertility and structure.
4. **Cover Cropping:** Cover cropping is implemented across the farm. This practice involves growing cover crops during fallow periods to prevent soil erosion, fix nitrogen, and improve soil health. It enhances biodiversity and provides additional organic matter to the soil.
5. **Absence of Pesticides/Fertilizers:** Noteworthy is the complete absence of pesticides and synthetic fertilizers on the farm. Instead, the farm relies on natural and organic methods to manage pests and

enrich soil fertility. This commitment to chemical-free farming aligns with regenerative principles and supports ecosystem health.

The activities already implemented during first project instance demonstrates a real and measurable commitment to regenerative farming practices, including minimum tillage, zero tillage in some areas, utilization of pruning residues for mulch, cover cropping, and the avoidance of pesticides and synthetic fertilizers. These practices contribute to soil health improvement, biodiversity conservation, and sustainable agriculture across the project landscape.

For the first project instance to monitor and report changes in SOC stock within the project boundary, PP has employed random stratified sampling. Stratification has been conducted based on remote sensing using online GIS platforms. The factors considered for this stratification were[/01//4.6/]:

1. Average annual biomass (NDVI),
2. SRTM (Shuttle Radar Topography Mission) data-derived soil topographic moisture index,
3. Data on soil types from the Harmonised World Soil Database v1.2.

The Area of Interest (AOI) has been then stratified into 3 - 10 zones based on the variability of the three variables in the AOI. As per the interview with the MRV personnel, soil samples have been collected at the soil depth i.e., 0-10, 10-20, and 20-30 cm and submitted to the lab for testing based on those locations. After obtaining the analysis, the soil sample results (SOC values) are averaged per zone and the standard deviation is computed, and the soil carbon stock per zone is calculated and totalized for the whole AOI.

During on-site inspection validation team members conversed with the MRV personnel involved in the project monitoring and data collection/reporting and confirms that the MRV personnel have project-type specific expertise and academic qualifications, to ensure possible optimum data quality and accuracy[/01//4.6//12/].

Table: Name of the Expert for Monitoring, Reporting and Verification (MRV) of the Project Activity[/4.7//11/]:

SN.	Name of the Expert	Qualification	Role in the Monitoring, Reporting and Verification of the Project Activity
1	Francesco Musardo	MSc	Project coordinator
2	Dr. Edivando do Couto	PhD	MRV Manager
3	Dr. Ciro Galeone	PhD	GIS /Remote Sensing Analyst
4	Dr. Matheus Baumgartner	PhD	Data Analyst and Modeller
5	Dr. Thomas Vatrano	PhD	Lead Agronomist
6	Dr. Ida Rascio	PhD	Soil Scientist & Sampling Coordinator
7	Valentina Marrone	BA (Hons)	Agronmist & Farmer Coordinator
8	Dr. Celso Silva	PhD	GIS / Remote Sensing Analist
9	Davide Manelli	Lawyer	Compliance and Legal Advisor
10	Valiation and Verification Body	VVB	External Auditor or Verifier

Data management approach employed by PP demonstrates a comprehensive understanding of industry standards, a commitment to quality assurance, and a proactive approach to addressing potential challenges. The auditor would likely commend the client for their thoroughness, adherence to procedures, and dedication to continuous improvement in data management quality.

Based the on-site inspection[/4.6/], interviews[/4.7/] with the MRV personnel involved in the ICR project and desk review[/01//02/], VVB confirms that monitoring and data recording of first project instance has been conducted by PP during January 2022 to December 2023. During on-site inspection, VVB has checked the competency and

interviewed the MRV personnel and confirms that the MRV personnel[/12/] have appropriate knowledge and skills for the field work, and the monitoring has been conducted in line with the monitoring plan as stated in the ICR PDD[/02/].
Furthermore, VVB confirms that the on-ground project monitoring and reporting structure employed by project proponent is in accordance with the monitoring plan and sampling procedure stated in the ICR PDD[/01/].

4.8 Conformity

4.8.1 Validation and verification

Criteria	Assessed		No. non-conformities		Resolved	
1. Project description	Val	Ver	Val	Ver	Val	Ver
1.1 Purpose, objectives and general description of the project	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.2 Project type and sectoral scope	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 01	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.3 Project	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.3.1 Eligibility criteria for grouped project	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 20	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.4 Location	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 02	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.5 Conditions prior to implementation	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 10	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.6 Technology applied	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 03	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.7 Roles and responsibilities	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.7.1 Project proponent(s)	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.7.2 Others involved in the project	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 21	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.8 Chronological plan / implementation	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A

1.9 Eligibility	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 14	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.10 Funding	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 09	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.11 Ownership	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 21	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.12 Implementation status of the project	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	CL 01	☐ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A
1.13 Other certifications	☐ Y ☐ N ☒ N/A	☐ Y ☐ N ☒ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.14 Double counting, issuance and claiming	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 10	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.14.1 Other registration and double issuance	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 10	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.14.2 Double claiming and other instruments	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 10	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.15 Other benefits	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 10	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.16 Host country attestation	☐ Y ☐ N ☒ N/A	☐ Y ☐ N ☒ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.17 Additional information	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
1.17.1 Confidential/sensitive information	☐ Y ☐ N ☒ N/A	☐ Y ☐ N ☒ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
2. Crediting						
2.1 Project start date	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 10	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
2.2 Expected operational lifetime or termination date	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 12	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
2.3 Crediting period	☒ Y ☐ N	☒ Y ☐ N	CAR 12	NA	☐ Y ☐ N	☐ Y ☐ N

	☐ N/A ☐ N/A	☐ N/A ☐ N/A			☐ N/A ☐ N/A	☐ N/A ☐ N/A
2.4 Calander year of crediting	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 12	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
3. Safeguards						
3.1 Statutory requirements	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 16	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
3.2 Potential negative environmental and socio-economic impacts	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 06	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
3.3 Consultation with interested parties and communications	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 08	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
3.3.1 Stakeholders and consultation	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 08	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
3.3.1 Public comments	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
3.4 Environmental impact assessment (EIA)	☐ Y ☐ N ☒ N/A	☐ Y ☐ N ☒ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
3.5 Risk assessment	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 06	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
3.5.1 Additional information on risk management	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☒ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
4. Methodology						
4.1 Reference to applied methodology and applied tools	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
4.2 Applicability of methodology	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 14	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
4.3 Deviation from applied methodology	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
4.4 Other information relating to methodology application	☐ Y ☐ N ☒ N/A	☐ Y ☐ N ☒ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
5. Additionality	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 17	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A

5.1 Level 1 - ISO 14064-2 GHG emissions additionality	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
5.2 Level 2a – Statutory additionality	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
5.3 Level 2b – Non-enforcement additionality	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
5.4 Level 3 – Technology, institutional, common practice additionality	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
5.5 Level 4a – Financial additionality I	☒ Y ☐ N ☒ N/A	☒ Y ☐ N ☒ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
5.6 Level 4b – Financial additionality II	☒ Y ☐ N ☒ N/A	☒ Y ☐ N ☒ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
5.7 Level 5 – Policy additionality	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
6. Baseline Scenario	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 10	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
7. Project Boundary	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 13	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
8. Quantification of GHG emission mitigations	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 17	CL 01	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A
8.1 Criteria and procedures for quantification	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 17	CL 01	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A
8.1.1 Baseline emissions	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 17	CL 01	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A
8.1.2 Project emissions	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 17	CL 01	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A
8.1.3 Leakage	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 05, CAR 17	CL 01	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A
8.2 Quantification of Net-GHG emissions and/or removals	☒ Y ☐ N	☒ Y ☐ N	CAR 17	CL 01	☒ Y ☐ N	☒ Y ☐ N

	☐ N/A ☐ N/A	☐ N/A ☐ N/A			☐ N/A ☐ N/A	☐ N/A ☐ N/A
8.3 Risk assessment for permanence	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 07, CL 10, CAR 21	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
9. Monitoring						
9.1 Monitoring plan	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
9.2 Data and parameters remaining constant	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 18	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
9.3 Data and parameters monitored	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 18	CL 01	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A
10. Quantification of GHG emission mitigations	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 17	CL 01	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A
10.1 Criteria and procedures for quantification	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 17	CL 01	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A
10.1.1 Baseline emissions	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 17	CL 01	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A
10.1.2 Project emissions	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 17	CL 01	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A
10.1.3 Leakage	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 05, CAR 17	CL 01	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A
10.2 Quantification of Net-GHG emissions and/or removals	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CAR 17	CL 01	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A
10.3 Risk assessment for permanence	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	CL 07, CL 10, CAR 21	NA	☒ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A
11. Management of data quality	☒ Y ☐ N ☐ N/A	☒ Y ☐ N ☐ N/A	NA	NA	☐ Y ☐ N ☐ N/A	☐ Y ☐ N ☐ N/A

5 Validation and verification findings

The objective of the validation and verification findings is to resolve any outstanding issues (issues that require further elaboration, research, or expansion) which have to be clarified/corrected prior to final VVB's conclusions on the project's baseline, monitoring plan from the ICR PDD/01/ and subsequently the project implementation, monitoring practices. All the material discrepancies identified for the validation are addressed either as CARs, CLs or FARs APPENDIX 2: FINDINGS LOG

Corrective Action Requests (CAR) are issued, where:

- ✓ Mistakes have been made with a direct influence on project results requiring adjustments in the monitoring report.
- ✓ applicable methodological specific requirements have not been met.

A Clarification Request (CL) are used where:

- ✓ Additional information is needed to fully clarify an issue or where the information is not transparent enough to establish whether a requirement is met.

A Forward Action Request (FAR) has been issued, where:

- ✓ the actual project monitoring and reporting practices requires attention and /or adjustment for the consecutive verification period, or
- ✓ An adjustment of the MP is recommended.

In the context of FARs, risks have been identified, which may endanger the delivery of high-quality GHG emission mitigations or removals in the future, i.e., by deviations from standard procedures as defined by the MP. Therefore, such aspects should receive a special focus during the consecutive verification. A FAR may originate from lack of data sustaining claimed GHG emission mitigations or removals.

All documentation provided by the PP has been assessed against the applicable version of the relevant ICR guidance document/B01/-/B03/. A total of 23 findings have been raised, which includes 12 Corrective Action Requests (CARs), 11 Clarification Request (CL) and on 00 Forward Action request (FAR)APPENDIX2: FINDING LOG and submitted to the PP.

PP have addressed all the findings either by providing the audit team with the requested information or by making the appropriate corrections. Based on the review of the information/justification provided PP, all the findings have been successfully closed.

5.1 Project Description

5.1.1 Purpose, objectives, and general description of the project

Validation	
Means of project Validation	Desk-Review, on-site inspection/interviews
Findings	NA
Conclusion	The proposed grouped project "AgroEcology_Italy Reducing GHG Emissions and Increasing Carbon Sequestration in Italian Agriculture", anticipate promoting the adoption of specific regenerative agricultural practices across the European host country of Italy via generation of carbon credit income as a source of funding to enhance and support these activities and creating opportunity to local farmers/stakeholders to earn additional income. The farms joining the project activity are subjected to implement sustainable agricultural practices introduced under the proposed project/01/4.6/4.7/. VVB, based on the desk-review/01//15/, and interviews with participating farmers, confirms that the conditions prior to project implementation in the region is as described in the ICR PDD/01/, i.e., conventional farming practices (enlisted under section 5.1.5 afterwards) The project proponent aims to enroll 200,000 ha of farming land under the proposed grouped project over the crediting period of 45 years. At the time of project's on-site joint

	validation-verification, the first project instance has been implemented, spreading over 1474.89 ha across 67 farms located in Puglia, Calabria, and Sicily regions of Italy. The total estimated GHG emission mitigations and/or removals from the grouped project are 45,773,018 tCO_2e over the crediting period of 45 years (First crediting starting from 01/01/2022 to 31/12/2036; 15 years, with 2 times renewal) with an annual average of 1,017,178 tCO_2e. Based on the review of the ICR PDD/01/ and supporting documentation/03-18/, VVB confirms that the information on project activity provides clear understanding of the project, the purpose/objectives, and the technical aspects of the project implementation. The ICR PDD/01/ satisfactorily demonstrate, project particulars in line with the ICR requirement and ISO 14064-2/B01/.
Verification	
Means of verification	Desk-Review, on-site inspection/interviews
Findings	NA
Conclusion	VVB confirms that the monitoring report/02/ of the subject project provides project description in accordance with the ICR PDD/01/, and correctly demonstrate purpose and description of the project in line with ICR requirement and ISO 14064-2/B02/. At the time of project's on-site verification, the first project instance has been implemented, spreading over 1474.89 ha located in Puglia, Sicily, and Calabria. The net GHG emission mitigation achieved from the project activities (i.e., soil organic matter amendments) during reported monitoring period 01/01/2022 to 31/12/2023 are, 7,159.67 tCO_2e with 11 % of buffer deduction to address non-permanence risks associated with project implementation/01/-/03//05/4.6//4.7/. VVB has reviewed the project monitoring report/02/ thoroughly and upon physical inspection/4.6/4.7/ of the project site (first project instance) VVB, confirms that the actual status of project activities/agronomic practices implemented in the designated project region is as described in the ICR monitoring report/02/ of the proposed project.

5.1.2 Project type and sectoral scope

Validation	
Means of project Validation	Desk-Review, on-site inspection/interviews
Findings	CL 01 was raised and resolved
Conclusion	Applicable ICR sectoral scope: 14 – Afforestation and reforestation and 15- Agriculture[50] The grouped project is under hybrid project type (both reduction and removal), as the project includes replacement of conventional agricultural farming practices by implementing regenerative agricultural practices with inclusion of agroforestry component. Project activity intends to effectively curb the release of harmful greenhouse gases that fuel climate change through implementation of best agricultural practices (described under section 1 and 3.1 of this report) in the project region.

[50] Carbonregistry.com

	Based on the review of the ICR PDD/01/ and on-site inspection/4.6//4.7/, VVB confirms that the first project instance includes amended agricultural land management practices to improved soil health and thus increase soil carbon sequestration potential in the region. Further the project includes agroforestry practices to improve soil health along with woody perennials health. Therefore, the first project instance meets the ICR requirement, ISO 14064-2/B01/ and the requirements of the baseline and monitoring methodology LIFE C-Farms/B02/.
Verification	
Means of verification	Desk-Review, on-site inspection/interviews
Findings	No findings were raised.
Conclusion	At the time project's first periodic verification, the project has implemented following practices in the region: - Minimum tillage including tillage of only 13-15 cm of topsoil, - Some of the farms has applied zero tillage practice, - Use of pruning residues as source of mulch - Cover cropping. - Avoidance of application of pesticides/fertilizer VVB, based on the physical inspection/4.7/ of the project site confirms that the description of the project type and sectoral scope in the ICR MR/02/ is correct and complies to the ICR requirements/B01/, the ICR-PDD/01/. VVB confirms that the project has applied the baseline & monitoring methodologies/B02/ correctly.

5.1.3 Project

Validation	
Means of project Validation	Desk-Review, on-site inspection/interviews
Findings	None
Conclusion	The CCIPL team has verified that the ICR project: "AgroEcology_Italy Reducing GHG Emissions and Increasing Carbon Sequestration in Italian Agriculture" has been started with the onboarding of farms and/or farmers in to the first project instance.
Verification	
Means of verification	Desk-Review, on-site inspection/interviews
Findings	None
Conclusion	Information regarding implementation has been presented appropriately in the monitoring report/02/ and found to be consistent with the PDD/01/.

5.1.3.1 Eligibility criteria for grouped project

Validation	
Means of project Validation	Desk-Review, on-site inspection/interviews
Findings	CAR 20 was raised and resolved

Conclusion

In line with the ICR requirement document v4.0, section 5.1/B01/ and ICR template requirement the PDD/01/, project description demonstrates the schematics of the project instances planned to include under the grouped project. The project proponent has established specific eligibility conditions for each farming activity planned within the proposed project. Moreover, in compliance with section 5.2 of the ICR requirement/B01/, the proponent has delineated criteria for including additional project instances under a grouped project post-registration as outlined below:/01//4.6/:

Eligibility criteria for inclusion	Evidence checked/reviewed by VVB
Implementation of Multiple Best Agricultural Practices (BAPS): The project requires farmers to select and implement at least three BAPs that have not been previously adopted on their lands. This approach not only encourages the adoption of sustainable and regenerative practices but also allows the combination of multiple emission reduction activities under a single initiative. The project activity must adhere to the applicability conditions of the applied methodology and the ICR Guidelines. The project instance must be located within the geographical boundary of the grouped project.	VVB based on the desk-review/01//02/ and on-site inspection/4.7/ of the project activity confirms that the participating farmers has adopted implementation of the sustainable farming practices proposed under ICR project. Through review of the project documentation/01//02/ and supplementary information/04/-/18/, it has been confirmed that first project instance has been implemented in compliance with the guideline of applied methodology LIFE C-Farms/B02/. VVB based on the review of ICR PDD/01/ physical inspection of project site/4.7/ and KML file/supporting evidence/11/ confirms that the spatial boundary of first project instance has been correctly demonstrated along with information on geographic coordinates and extent of project area. VVB confirms that the first project instance is situated in Puglia region of Italy.
Common Management and Collective Monitoring: The management structure of the AgroEcology_Italy project facilitates the coordination and collective monitoring of the activities implemented by participating farmers. Through signing contracts with Alberami, farmers commit to implementing selected BAPs, monitoring, and reporting progress, ensuring that all activities follow the same methodology and can be collectively monitored.	VVB, has conducted a comprehensive examination of the management structure directing the project. This included an analysis of organizational charts, roles, responsibilities, and reporting lines. The management structure demonstrates a clear delineation of authority, roles, and responsibilities among stakeholders involved in project implementation, ensuring effective coordination and oversight/01//4.6//05/. VVB has further examined monitoring protocols, data collection methods, and reporting procedures/01//02/. It has been confirmed that PP has established a comprehensive framework for collective monitoring, wherein participating farmers are required to adhere to standardized monitoring protocols and report progress periodically. This enables stakeholders to track and evaluate the effectiveness of implemented activities consistently. VVB has confirmed during on-site interview/4.6/ with representative of project proponent, that there will be a contractual agreement between participating farmers and Alberami, assessing

		the clarity of obligations and commitments related to BAP implementation, thereby ensuring adherence to project objectives, and facilitating collective monitoring efforts.
	Technical Assessment and Ongoing Support: The technical assessment process to verify the eligibility and feasibility of the chosen BAPs, including technical visits to the properties, ensures that all implemented activities are aligned with the project's objectives. Additionally, the project provides technical training, resources, and financial incentives to support the effective implementation of practices, facilitating unified activity management.	Based on the review of the project description/01/, monitoring plan in place/02/, and monitoring records provided by PP such as "instance 1 Data: AgroEcology-Project_Who-Is-Doing-What__FINAL (1)/10/", SDG impacts during monitoring period/06/, VVB confirms that technical assessment process and ongoing support mechanisms outlined by the PP demonstrate a robust framework for ensuring the effective implementation of BAPs. Through a combination of rigorous evaluation, capacity-building initiatives, and incentivization, the project is likely to achieve its goals while fostering sustainable agricultural practices.
	Use of Advanced Technologies for Monitoring and Evaluation: The application of advanced technologies for data collection and analysis strengthens the project's ability to monitor and evaluate activities collectively, allowing for continuous adjustments and improvements in practices and farmer engagement. This is essential for grouped projects, where collective monitoring of reduced emissions and environmental, economic, and social benefits is crucial.	
	Annual Reporting and Carbon Credits Generation: Documenting outcomes in annual reports and independent verification of these results enable the generation of carbon credits. This aspect demonstrates the project's ability to quantify the environmental benefits of grouped activities, a key element for grouped projects aiming to offset greenhouse gas emissions.	The project description/01//02/ demonstrates a thorough and advanced approach to monitoring and evaluation through the utilization of cutting-edge technologies, particularly the RothC model, for predicting fluxes in SOC. Further based on the review of carbon calculation spreadsheet/03/, soil reports by independent laboratories and tabulated results/17/, VVB confirms that the project proponent has provided valid and acceptable monitoring data for the first project instance.
	VVB, based on the review of the abovementioned evidential documentation and on-site inspection/interviews/4.6//4.7/, confirms that the first project instance has been implemented in accordance with the eligibility criteria outlined by project proponent (section 1.9 of PDD)/01/, for the inclusion of project instance under the proposed grouped project.	
Verification		
Means of verification	Desk-Review, on-site inspection/interviews	

Findings	No finding has been raised
Conclusion	Considering the above-mentioned assessment and evidence, VVB confirms that definition of eligibility criteria followed by first project instance, complies and meets the requirement of section 5.1, 5.2, and 5.3 of ICR requirement/B01/.

5.1.4 Location

Validation	
Means of project Validation	Desk-Review, on-site inspection/interviews
Findings	CL 02 was raises and resolved.
Conclusion	VVB has reviewed the ICR PDD (section 1.3) for the physical location of the project and found the description in line with section 3.6 and 4.2 of the ICR requirements/B01/. The Project is located in the European country of Italy and encompasses the following Italian regions, namely (from north to south and islands)/01//4.6/: • North-West: Aosta Valley, Liguria, Lombardy, Piedmont; • North-East: Emilia-Romagna, Friuli-Venezia Giulia, Trentino-South Tyrol, Veneto; • Centre: Lazio, Marche, Tuscany, Umbria; • South: Abruzzo, Apulia, Basilicata, Calabria, Campania, Molise; • Islands: Sardinia, Sicily. VVB confirms that the project's geographical boundary has been correctly demonstrated in the ICR PDD/01/ and as further confirmed by reviewing the respective KML files/11/ with information on GPS co-ordinates of the project instance included under the proposed grouped project. VVB, based on the review of the geo-tagged KML files/11/ with the co-ordinates for the project boundary and on-site inspection, confirms that all planned project instance and their respective project area are in the host country, Italy. Based on review of KML files/11/ provided by PP, VVB confirms that the KML files are in compliance with the ICR v4.0 requirements (section 1.3 & 5.1), furthermore, the total area under the project activity presented in PD is according to area calculated from KML files.
Verification	
Means of verification	Desk-Review, on-site inspection/interviews
Findings	NA
Conclusion	VVB based on the on-site inspection/4.7/ and review of supporting document/11/, confirms that the information relevant to the project location and extent of project area for the reporting monitoring period is valid and appropriate. As per the ICR MR geodetic coordinates for the first project instance are: Latitude: 36° N, 8° E; : 36° N, 18° E Longitude: 47° N, 8° E; 47° N, 18° E

	VVB confirms that the GPS coordinates for the first project instance are found to be correctly indicated in the monitoring report/02/ and are consistent with the information as described in the ICR PDD/01/.

5.1.5 Conditions prior to implementation

Validation	
Means of project Validation	Desk-Review, on-site inspection/interviews
Findings	CL 10 was raised and resolved
Conclusion	As detailed under section 3.2 of this report, to assess the baseline scenario, a farmer plan has been employed by PP, which include details on the current/baseline conditions of the project site, including the vegetation cover, soil type, and carbon content prior to the implementation of regenerative practices under the ICR project. Through assessment of baseline studies/report/15//18/, web research/B04/ and interviews/4.6/ with the participating farmers/local stakeholders VVB confirms that the conditions prior to project implementation in the region is as described in the ICR PDD/01/, i.e., conventional farming practices, area under first project instance include the following: - intensive use of synthetic/inorganic fertilizers, - monoculture, limited crop rotations, bare fallow between crop rotations - mouldboard ploughing - application of pesticide/herbicides - Burning of pruning residue VVB, confirms that the description of conditions prior to the project in the ICR PDD/01/ has been appropriately stated. The description of process and impacts of conditions prior to the project initiation is appropriate and correctly quoted.
Verification	
Means of verification	Desk-Review, on-site inspection/interviews
Findings	None
Conclusion	Based on the supporting documents for baseline studies (i.e., Farmer Plan/ T1 form)/15/ and further discussed during on-site inspection/interviews/4.6//4.7 VVB confirms that the statements on condition prior to project initiation for the first project instance are valid and acceptable. Organic farming often requires initial investments and may have different profitability dynamics compared to conventional farming. Here project proponent intends to promote adoption of sustainable farming practices through incentivization of the agricultural practices and additionally enhancing the carbon sequestration potential of the project landscape.

5.1.6 Technology applied

Validation	
Means of project Validation	Desk-Review, on-site inspection/interviews
Findings	CL 03 was raised and resolved
Conclusion	A detailed assessment of the technology and measures planned to be implemented under the ICR project has been provided in section 3.1 of this report. For the first project instance following regenerative practices have been employed/4.6//4.7/: - Minimum tillage including tillage of only 13-15 cm of topsoil,

	- Some of the farms has applied zero tillage practice, - Use of pruning residues as source of mulch - Cover cropping. - No application of pesticides/fertilizer Based on the on-site inspection/4.7/ of the project site, interviews/4.6/ literature review/18/, supporting document for project implementation status/02/, SOPs in place by project proponent/01/, VVB confirms that the technology and measures employed by the PP are appropriate and applicable for the designated project region. VVB confirms that the information on technology and measures provided in the section 1.5 of the ICR PDD/01/, appropriately describe how the proposed regenerative practices (i.e., 13 sustainable agricultural practices), will contribute to GHG emission mitigations along with demonstration of how project is additional to the conditions in business as usual/baselines in the subject region.
Verification	
Means of verification	Desk-Review, on-site inspection/interviews
Findings	No finding has been raised.
Conclusion	VVB, based on the on-site inspection/interviews/4.6//4.7/ confirms that at the time of first periodic verification, the first project instance has been implemented. Further, to substantiate the information on application and suitability of sustainable agricultural/technological measures in the region, PP has provided literature references (refer section 1 of this report). VVB, confirms that on-ground technological aspect of the project implementation is in consistence with the project description/01//02/ and project activity has resulted positive GHG emission reductions/removals within the project boundary.

5.1.7 Roles and responsibilities

Validation	
Means of project Validation	Desk-Review, on-site inspection/interviews
Findings	None
Conclusion	ICR PDD section 1.7/01/, correctly demonstrates the roles and responsibility of the parties involved in the project implementation. As per the PDD/01/, Alberami SRL is the proponent. This has been further confirmed during on-site inspection/interviews/4.6/4.7/.
Verification	
Means of verification	Desk-Review, on-site inspection/interviews
Findings	None
Conclusion	The roles and responsibilities of the project participants are in accordance with the PDD/01/. The participants were interviewed to confirm roles and responsibility for project implementation, monitoring, and reporting. Additionally, PP has provided an on-ground organizational structure/02/4.6/ enlisting the MRV personnel involved in the project monitoring and reporting along with their roles and responsibilities during project implementation.

5.1.7.1.1 Project proponent(s)

Validation	
Means of project Validation	Desk-Review, on-site inspection/interviews
Findings	None
Conclusion	Based on the review of ICR PDD/01/ and confirmed during on-site interviews/4.6/, VVB confirms that the information provided on "project proponent involved in the project" is adequate and in line with the requirement of ICR project description template. As described in section 1.7.1 of the ICR PDD/01/, Alberami S.R.L. as project proponent is responsible for the project implementation. VVB has further reviewed the supporting document substantiating the project ownership/15/ and confirms ALberami SRL is the sole owner of the project. The name of the project proponent indicated in the PDD/01/ is consistent with that which is listed on the ICR project website.
Verification	
Means of verification	Desk-Review, on-site inspection/interviews
Findings	None
Conclusion	During on-site inspection/interviews, the representative of project proponent has also confirmed that "Alberami SRL" is the project proponent and is also the rightful owner of the ICCs generated from the first project instance.

5.1.7.2 Others involved in the project

Validation	
Means of project Validation	Desk-Review, on-site inspection/interviews
Findings	CAR 21 has been raised and resolved.
Conclusion	As described in section 1.7.2 of the ICR PDD/01/, DR. Edivando do Couto (MRV Manager) as PDD Developer is responsible for the project documentation/reporting. Based on the review of ICR PDD/01/ and confirmed during on-site interviews/4.6/, VVB confirms that the information provided by PP on "other entities involved in the project" is adequate and in line with the requirement of ICR project description template.
Verification	
Means of verification	Desk-Review, on-site inspection/interviews
Findings	None
Conclusion	It is confirmed that the other party involved in the project are appropriately described in the ICR MR/01//05/.

5.1.8 Chronological plan / implementation

Validation	
Means of project Validation	Desk-Review, on-site inspection/interviews
Findings	NA

Conclusion	As described in the section 1.8 of the ICR PDD/01/, the chronology of the grouped project is as follows: 1. Start date: 01/01/2022. 2. Baseline Period: 5 years prior to implementation - 01/01/2016 to 31/12/2021 3. Termination of the Project: 31/12/2066 4. Frequency of monitoring reporting, crediting period: every 2 years, 15 years (renewal twice; total crediting period: 45 years) 5. Validation and Verification activities: Validation (30/09/2023), 1°Verification (26/11/2023), 2°Verification (30/06/2025), 3°Verification (30/06/2026). The chronological events and/or planning of the subject project have been assessed in line with ICR requirement/B01/, for which detailed assessment has been provided under section 5.2 of this report. VVB, confirms that the ICR PDD/01/, appropriately describes timeline planned for project implementation and is consistent with the ICR template requirement 4.0/B01/.
Verification	
Means of verification	Desk-Review, on-site inspection/interviews
Findings	None
Conclusion	VVB has reviewed the ICR MR/02/, further confirmed during on-site inspection, that the chronology of the first project instance is correct and consistent in accordance with information as described in the ICR PDD/01/.

5.1.9 Eligibility

Validation	
Means of project Validation	Desk-Review, on-site inspection/interviews
Findings	CAR 14 was raised and resolved.
Conclusion	As per the section 3.3 of the ICR requirement document v 4.0/B01/, *"All projects with a start date after 1. January 2013 are eligible for registration with ICR subject to conformity to other requirements. Projects with a start date before 1. January 2020 shall demonstrate historical additionality (section 4.4.1) from its implementation and continuance of additionality at validation".* It is confirmed that the project start date is 01/01/2022/15/, therefore VVB confirms that the project is eligible to be registered under ICR program. In addition to this PP has set out eligibility criteria for project instance to be included under the grouped project as follows: - Implementation of proposed regenerative practices. - Common Management and Collective Monitoring. - Technical Assessment and Ongoing Support - Use of Advanced Technologies for Monitoring and Evaluation. - Annual Reporting and Carbon Credits Generation.

	VVB, confirms that section 1.9 of the ICR PDD[/01/], reflects the appropriate and adequate information on eligibility criterion set out for each agricultural practice planned to be implemented under grouped project. PP has provided requisite evidential documentation[/15/] to justify and/or ensure that the farms enrolled will implement sustainable agricultural practices in accordance with the eligibility criteria enlisted in the PDD[/01/], and native ecosystems will not be converted in the process. VVB, based on the review of the ICR PDD[/01/] and on-site inspection/interviews[/4.6//4.7/] confirms that the project activity involves regenerative farming practices which are intended to replace the conventional and less eco-friendly farming practices, by farm-level interventions such as organic composting, reduced soil disturbance/tillage cover cropping, mulching, and pruning residue management. The methodological approach applied by the project are as follows: ✓ C-Farms – A methodology, developed by several leading Italian research and commercial entities and co-funded by the 2020 LIFE Program of the European Commission under code "LIFE20 PRE IT/01. VVB has provided detailed assessment of project eligibility in section 5.4.2 of this report.
Verification	
Means of verification	Desk-Review, on-site inspection/interviews
Findings	None
Conclusion	The first project instance has been started upon onboarding of farms/farmers under first project instance[/01//4.6/]. VVB has reviewed the supporting evidence[/02//03//06/] and confirms that the proposed project is eligible to generate additional, real, and transparent net positive GHG emission mitigations in the region. VVB, based on the review of supporting evidence[/02//06/], for the first project instance confirms that the agricultural management practices employed after project start date and are in line with the information provided in the PDD[/01/]. The baseline of the designated project region was subjected to conventional cropland management, which includes continuous cropping systems, monoculture, bare fallow practices, moldboard plowing, removal of crop residues, and the application of inorganic nitrogen fertilizers[/01/]. VVB, based on review of supporting evidence[/15/] and on-site inspection/interviews[/4.6/4.7/], confirms that prior to project implementation the project area was under agricultural land-use system and does not involve any site preparation and/or clearing of the native ecosystem.

5.1.10 Funding

Validation	
Means of project Validation	Desk-Review, on-site inspection/interviews
Findings	CL 09 was raised and resolved.
Conclusion	VVB confirms the authenticity of the funding received by the client from the European Regional Development Fund (ERDF), totaling €280,000 as described in section 1.10 of

	the ICR PDD/01/. This funding comprises a €180,000 grant and a €100,000 interest-free loan, forming part of a larger project development application amounting to €350,000. The ERDF funding has been intended for project specific purposes such as infrastructure development, management costs, and supporting project initiation/01//4.6/. VVB has reviewed the Fund releasing letter "Contratto di finanziamento ALBERAMI SRL"/09/ and confirms that ICR PDD/01/ satisfactorily demonstrate the information on the sources of the public financing in line with ICR template requirement. During on-site interviews/4.6/, it has been confirmed, the project proponent, will enter contractual agreements with designated beneficiaries/farmers participating in the project. These agreements aim to safeguard the rights and benefits of the beneficiaries following the project's implementation. The farmers anticipate receiving incentive through the sale of carbon credits generated from project activity. Thereby the project has been implemented in accordance with ICR guidelines.
Verification	
Means of verification	Desk-Review, on-site inspection/interviews
Findings	None
Conclusion	The source of funding/09/ has been confirmed in line with ICR requirement document/B01/. VVB confirms the acceptability and appropriate utilization of the public funding received by the project proponent, in accordance with regulatory guidelines and project objectives.

5.1.11 Ownership

Validation	
Means of project Validation	Desk-Review, on-site inspection/interviews
Findings	CAR 21 was raised and resolved.
Conclusion	PP has presented evidence to demonstrate ownership of land area subjected to implementation of agronomic practices under ICR project. VVB has verified the same by cross-checking the land titles details outlined in the farmer survey questionnaires (including property identification serialization) and project's monitoring records/03//15/. The land ownership remains with the respective farmers identified within the project boundary. Based on the review of the ICR PDD/01/, onsite inspection/interview/4.6//4.7/, VVB confirms that the Alberami S.R.L. (PP), as the Project Proponent has the rightful ownership of the Carbon Credits from the sale of ICCs generated from the GHG emission mitigations subjected to project implementation in the region. Representative of project proponent has ensured that the evidential documentation depicting the long-term agreement signed between landowners/farmers and Alberami SRL will be made available at the time of subsequent verification of the project.
Verification	
Means of verification	Desk-Review, on-site inspection/interviews
Findings	None
Conclusion	Project proponent has provided the detailed structure of project ownership in section 1.11 of project description/01/

	The legal ownership of carbon credits from the project and land/project area ownership has been verified during on-site inspection/interviews/4.6/4.7/, by cross-checking on the supporting documents/03/15/. VVB, confirms that the project ownership for the first project instance is as described in the PDD/01/ and has been adequately substantiated.

5.1.12 Implementation status of the project

Validation	
Means of project Validation	Desk-Review, on-site inspection/interviews
Findings	NA
Conclusion	The project has been implemented by Alberami SRL, adhering to the methodology LIFE C-Farms, and integrating the quantification approach outlined in VM0042 v2.0 and AR-AMS0007 v3.1/B02/. The start date of the project is the date when the first farm/farmer were enrolled under the project. The start date is confirmed as 01/01/2022/15/. At the time of physical inspection of the project site, first project instance has been established in Puglia, Calabria and Sicily regions of Italy covering an area of 1449.16 ha. The roles and responsibilities of the project participants are in accordance with the PDD/01/ and there were no changes in the defined structure. The project personnel were interviewed/4.6/ to assess monitoring procedures such as data collection, recording and estimation of project's GHG mitigation contributions. VVB based on the desk-review/01/-/18/ and on-site inspection/interviews/4.6//4.7/ confirms that project description demonstrates a thorough understanding of baseline conditions, effective utilization of data-driven methodologies, and successful implementation of regenerative agricultural practices leading to substantial GHG emission reductions, thus indicating transparent and measurable project performance.
Verification	
Means of verification	Desk-Review, on-site inspection/interviews
Findings	None
Conclusion	VVB, confirms that the implementation and operation of the project has been conducted in accordance with the monitoring plan contained in the PDD/01//4.6//4.7/ and the SOP for project monitoring and reporting. Data collection and monitoring systems are described in detail in the PDD/01/ and has been assessed during the on-site verification/4.6//4.7/ of the project. The monitoring and data management procedures utilized for the project during the reported monitoring period has been found to be consistent with those outlined in the PDD/01/ and meet the requirements of the applied methodology/B02/. VVB, confirm that the project has not received any other form of environmental credit for the project. The project activity has been implemented as described in the revised ICR PDD/01/ and no material discrepancy was identified between the project implementation and the project description.

5.1.13 Other certifications

Validation

Means of project Validation	Review of declaration, on-site interviews, web search
Findings	NA
Conclusion	This project has not sought or received another form of GHG-related credit, including renewable energy certificates. This has been confirmed by checking on other GHG program/registries (CDM/GS/GCC/Plan Vivo)/B03/ and has been verified by reviewing the declaration/07/ that the project and/or project participants is/are not seeking registration under other GHG program.
Verification	
Means of verification	Review of declaration
Findings	NA
Conclusion	This project has not sought nor received another form of GHG-related environmental credits. Furthermore, PP has attested/07/ that they have not sought or received another form of GHG-related environmental credit including renewable energy certificates.

5.1.14 Double counting, issuance and claiming

Validation	
Means of project Validation	Review of declaration, on-site interviews, web search
Findings	CL 10 was raised and resolved
Conclusion	The project has not been refused registration or is seeking registration under any other GHG program. Furthermore, each participating grower has attested that they have not registered and will not seek to register their enrolled fields under other GHG programs during the duration of their contract with Alberami/01//4.6/. Growers involved in this project are allowed to participate in government programs that support practices that are similar or complementary to project activities that yield non-GHG environmental credits, such as water quality credits and subsidy measures such as Common Agricultural Policy (CAP) that support practices that are similar or complementary to project activities but do not measure their impact in terms of CO_2 or other GHG sequestration/01/. As per the section 1.4 of the applied baseline methodology LIFE C-Farms, *"the mechanism CAP (Common Agricultural Policy) and/or any other revenues for private market that supports the adoption such as investments, advisory services, training, research opportunities, collective approaches, etc. by providing payments for land managers/landowners to undertake certain practices, does not constitute a double payment. Those practices, even if they are beneficial for carbon removals, are part of the whole farming management. So the relevant payments are intended to finance such practices and not directly aimed at rewarding carbon removals, so that double funding is excluded".* The project activity is not seeking registration under any other GHG program/01/. This has been further confirmed by checking on other registries (CDM/GS/GCC/Plan Vivo)/B03/

	and has been verified by reviewing the declaration/07/ provided by project proponent, that the project is not seeking registration under other GHG program.
Verification	
Means of verification	Review of declaration
Findings	None
Conclusion	CCIPL team has interviewed the participating stakeholders/4.6/ and confirmed that the enrolled parties under first project instance have not sought for the any financial assistance other than revenues from the sale of ICCs from project.

5.1.14.1 Other registration and double issuance

Validation	
Means of project Validation	Review of declaration, on-site interviews, web search
Findings	CL 10 was raised and resolved
Conclusion	The project activity is not seeking registration under any other GHG program/01/. This has been further confirmed by checking on other registries (CDM/GS/GCC/Plan Vivo)/B03/ and has been verified by reviewing the declaration/07/ provided by project proponent, that the project is not seeking registration under other GHG program.
Verification	
Means of verification	Review of declaration
Findings	None
Conclusion	VVB has received the signed & sealed deceleration/07/ by project proponent and project participants and confirm project does not seek other registration and/or double issuance for the same project activities as implemented under first project instance.

5.1.14.2 Double claiming and other instruments

Validation	
Means of project Validation	Review of declaration, on-site interviews, web search
Findings	CL 10 was raised and resolved
Conclusion	The project activity is not seeking registration under any other GHG program/01/. This has been further confirmed by checking on other registries (CDM/GS/GCC/Plan Vivo)/B03/ and has been verified by reviewing the declaration/07/ provided by project proponent, that the project is not seeking registration under other GHG program.
Verification	
Means of verification	Review of declaration
Findings	No issue was raised.
Conclusion	VVB has reviewed the declaration/07/ and confirms that first project instance has been implemented in line with ICR requirement/B01/ and ISO 14064-2 guideline and it will not lead to double claiming of GHG emission mitigations in the region.

5.1.15 Other benefits

<table>
<tr><th colspan="2">Validation</th></tr>
<tr><td>Means of project Validation</td><td>Desk-Review, on-site inspection/interviews</td></tr>
<tr><td>Findings</td><td>CL 10 was raised and resolved</td></tr>
<tr><td>Conclusion</td><td>
PP has employed an SOP to monitor and report the SDG contributions from the project, which include following aspects[/01//4.6/]:

Data Collection Framework: To facilitate a comprehensive (quantitative as well as qualitative) appraisal of the project's impact.
Surveys and Interviews: Aiming towards project beneficiaries and pertinent stakeholders.
Baseline Data Establishment: To serve as a benchmark against which the efficacy and impact of the project can be judiciously evaluated.
Monitoring and Reporting Regimen: To keep in place a set of interventions in response to emerging trends and dynamics within the realm of the selected SDG indicators.
Data Analysis and Dissemination: v. Routine generation of comprehensive reports, including data analysis employing both quantitative statistical software and qualitative analysis techniques.
Quality Assurance and Validation: thorough data validation assessments, meticulous inter-rater reliability evaluations for interview processes, and periodic site visits conducted by project supervisors to meticulously validate the integrity of data collection processes.
Ethical Considerations in Alignment with European Union Compliance: This entails securing informed consent from all participants, ensuring data confidentiality, and meticulously upholding participant anonymity.

As described in the section 1.14 of the ICR PDD[/01/], project activity expect to contribute towards the following sustainable development goals[/01//02/]:
<table>
<tr><th>SDG Indicators</th><th>Current Contributions achieved by first project instance
SDG 1: No Poverty</th></tr>
<tr><td>1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day.</td><td>The project has made a substantial impact in improving the financial resilience of small-scale farmers in Italy. Although extreme poverty isn’t a widespread issue in this context, the project has addressed the significant income variability that these farmers often face. By introducing sustainable and profitable farming practices, along with access to new income streams like carbon credits, the project has contributed to stabilizing and potentially increasing their earnings. This initiative helps mitigate the</td></tr>
</table>
</td></tr>
</table>

	economic vulnerabilities inherent in small-scale farming.
1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.	The project has notably enhanced economic stability among participant farmers, leading to greater resilience against poverty. This has been achieved through diversifying income sources, particularly by integrating carbon credit earnings and promoting more profitable sustainable farming practice.
SDG 2: Zero Hunger	
2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists, and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.	The project has led to a significant boost in agricultural productivity and income for small-scale producers, a remarkable achievement given the typically expected transitional period in adopting new farming practices. Within just two years, participating farmers have reported early positive outcomes, underscoring the effectiveness of the sustainable and regenerative farming practices introduced by the project. These practices have not only increased crop yields but have also contributed to the overall financial stability of the farmers.
2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.	The project`s implementation of regenerative agriculture has been instrumental in transforming the food production systems into more sustainable and resilient models. This includes practices like crop diversification, soil health improvement, and efficient water use, all contributing to enhanced productivity while minimizing environmental impact. Over 95% of farmers currently enrolled onto the program are organic-certified, in the process of becoming certified or adopting organic farming practices.
SDG 8 (Decent Work and Economic Growth)	
8.2 Achieve higher levels of economic productivity through diversification, technological upgrading, and innovation, including through a focus on high value added and labour-intensive sectors.	The project has fostered increased economic productivity by introducing innovative agricultural practices that diversify farming activities. Through the adoption of regenerative farming methods and the integration of agroforestry, farmers are achieving higher yields and better soil health, which contributes to greater economic output and efficiency.
8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity, and innovation, and encourage the formalization and growth of micro-, small-	The project has advanced the development and implementation of policies that incentivise sustainable agriculture, which has been instrumental in fostering a supportive environment for rural development. It has encouraged the uptake of practices that contribute to economic empowerment

and medium-sized enterprises, including through access to financial services.	and environmental stewardship among the agricultural community.
SDG 9: Industry, Innovation, and Infrastructure (Direct)	
9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets	The initiative has successfully broadened access to financial services for small-scale farmers, enabling them to invest in sustainable agriculture. This has included providing easier access to credit and financial instruments that facilitate the adoption of regenerative practices and technological upgrades.
9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending	The project has not only integrated innovative farming technologies but also recruited a team of highly skilled professionals, including experts in Agriculture 4.0, remote sensing, data science, and IT with blockchain expertise. This skilled workforce is enhancing the efficiency and productivity of agricultural practices and fostering a knowledge-based environment within the sector.
SDG 12: Responsible Consumption and Production (Direct)	
12.2 By 2030, achieve the sustainable management and efficient use of natural resources.	The project has effectively implemented regenerative agricultural practices that significantly improve resource efficiency. These practices include optimized water usage, soil fertility enhancement, and reduced reliance on non-renewable inputs. The initiative also focuses on minimizing environmental impact through eco-friendly farming techniques, which are instrumental in promoting sustainable resource management within the agricultural community.
12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.	The project has successfully fostered a reduction in the use of harmful agricultural chemicals by advocating for and facilitating the transition to natural farming alternatives. With the majority of participant farmers practicing or transitioning to organic farming, there has been a marked decrease in the chemical footprint on the land, leading to improved soil health and reduced environmental contamination.
12.8 The project has successfully fostered a reduction in the use of harmful agricultural chemicals by	The project has established a robust information-sharing platform that actively disseminates knowledge on sustainable practices within the farming community. This includes providing access to the

advocating for and facilitating the transition to natural farming alternatives. With the majority of participant farmers practicing or transitioning to organic farming, there has been a marked decrease in the chemical footprint on the land, leading to improved soil health and reduced environmental contamination.	latest research, best practices in sustainable agriculture, and the benefits of adopting these methods. Digital content, workshops, training sessions, and on-the-ground support have all played a part in enhancing farmers'; understanding and application of sustainability principles.
SDG 13: Climate Action (Direct)	
13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.	The project has notably increased the resilience of agricultural practices to climate-related hazards through the adoption of regenerative farming techniques. This includes practices like improved soil management, water conservation, and biodiversity enhancement, which have been effective in mitigating the impacts of climate variability. Farmer feedback underscores the success of these methods in creating more resilient farming systems.
13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	The project has played a pivotal role in increasing the awareness and understanding of climate change issues among farmers. Through various initiatives, it has actively disseminated information about the impacts of climate change and effective mitigation strategies. Farmers have been introduced to methods for reducing their carbon footprint and adapting to climate variations, which includes practices like water conservation, soil management, and the use of renewable energy sources in agriculture.
SDG 15: Life on Land	
15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species	The project has made a considerable impact on habitat conservation and biodiversity enhancement, primarily through the implementation of key agroforestry practices. These practices include the protection and re-creation of natural landscapes within agricultural areas, the establishment of buffer strips and windbreaks to protect soil and water resources, and the introduction of biodiversity in traditional Mediterranean monocultures. This approach has not only improved habitat quality but also contributed to the overall health of the ecosystem.
SDG 17: (Partnerships for the Goals) (Indirect)	
17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to	This project exemplifies North-South cooperation, strengthening ties between Swiss technology and Alberami`s local knowledge and implementation capabilities.

	science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism Indicators	It serves as a model for other regions looking to engage in similar technology transfers, thereby enhancing international cooperation in environmental sustainability. Alberami gains access to advanced Swiss blockchain technology, enhancing its technological base and innovation capacity. The Swiss company, in turn, benefits from insights into local conditions and requirements in Alberami`s region, potentially informing future innovations.
	VVB, based on the review of project description /01/, supplementary documentation (SDG impacts during the monitoring period) /06/ and on-site inspection/interviews /4.6//4.7/ within the project boundary confirms that the information on SDG contributions from the project have been correctly quoted and has been substantiated adequately.	
Verification		
Means of verification	Desk-Review, on-site inspection/interviews	
Findings	None	
Conclusion	VVB by reviewing the ICR MR /02/, review of evidential document /06/, and by physical inspection of project site /4.7/, has confirmed that the SDG contributions achieved by the first project instance have been correctly stated and are the reflection of appropriate monitoring and reporting process. In addition to this, VVB confirms that the project activities implemented under the first project instance have resulted in net positive contributions towards SDG goals.	

5.1.16 Host country attestation

Validation	
Means of project Validation	On-site interviews, web search
Findings	None
Conclusion	VVB, based on the review of the EU Regulations on Organic Farming /08/ pertinent to implementation of proposed farming practices in the region, confirms that no host country attestation is applicable to the project activity.
Verification	
Means of verification	Not applicable
Findings	No issue was raised.
Conclusion	No host country attestation is required for the subject project instance.

5.1.17 Additional information

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	No issues were raised

Conclusion	Based on the review of the ICR PDD/01/, MR/02/ and supporting documents/03-18/ VVB confirms that all the information provided in the ICR PDD/01/ is publicly available.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	No issues were raised
Conclusion	VVB confirms that all the information provided in the ICR MR/02/ is publicly available.

5.1.17.1 Confidential/sensitive information

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	No issues were raised
Conclusion	Based on the review of the ICR PDD/01/ and supporting documents/02-18/, VVB confirms that no confidential/sensitive information has been excluded from the public version of the project description.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	No issues were raised
Conclusion	As per the ICR MR/02/, information pertaining to the technology transfer between Swiss Sagl and the PP is being kept confidential due to it being protected by NDA as it contains trade secrets and patented information belonging to a third party and it is not otherwise publicly available. The technology does not relate to the determination of the baseline scenario, project boundary, demonstration of additionality, and estimation and monitoring of GHG emission reductions and removals (including operational and capital expenditures). Based on the desk-review of project documentation/01//02//03/ and supplementary information/04/-/18/, VVB confirms that all the information related to the determination of the baseline scenario, project boundary, demonstration of additionality, and estimation and monitoring of GHG emission reductions and/or removals (including operational and capital expenditures is publicly available. Thereby project description in line with the ICR template guideline.

5.2 Crediting

5.2.1 Project start date

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	CL 10 was raised and resolved.
Conclusion	As described in the section 2.1 of PDD/01/, the identified start date of the project is 01/01/2022, which is the day when the activity that led to GHG emission mitigation have

	been implemented (i.e., onboarding of farms and/or farmers under first project instance) has been started. By reviewing the farm onboarding agreement signed between designated farmer and Alberami SRL, VVB confirms that the agreement has been signed on 01/01/2022. It has been confirmed that the start date for the grouped project is the day when the first project instance has been initiated. Thereby VVB confirms that project start date identified by PP, is following the requirement of section 3.4.1 of the ICR document v4.0/B01/.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	None
Conclusion	It has been confirmed that the information on project start date in the monitoring report/02/ is in line with ICR requirement v4.0/B01/ and is consistent with the ICR PDD/01/. VVB, has reviewed the initial farm onboarding agreement/document, for the first project instance indicating project start date as 01/01/2022.

5.2.2 Expected operational lifetime or termination date

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	CAR 12 was raised and resolved.
Conclusion	As described in the ICR PDD/01/, The lifetime of the project "AgroEcology_Italy - Climate Change Mitigation through Environmentally Conscious Farming" has been set as 45 years compiled. The project proponents have chosen to design this project as a 15-year long project renewable twice, making 45 years in total: • 15 years of enrolment period: from 01/01/2022 until 31/12/2036 • 15 years (first renewal): from 01/01/2037 to 31/12/2051 • 15 years (second renewal): from 01/01/2052 to 31/12/2066 During on-site inspection/interviews/4.6/, representative of project proponent has ensured that the evidential documentation depicting the long-term agreement signed between landowners/farmers and Alberami SRL will be made available at the time of subsequent verification of the project. Therefore, VVB concludes that the overall technical lifetime of the project activity as indicated above (i.e., 45 years) will remain functional. As per section 3.4.2 of ICR requirement v4.0/B01/, "*Crediting period for projects with a start date after 1. January 2021: For project activities involving CDR, a crediting period of a maximum of 15 years or a conservative estimate of the technical lifetime of the installed technologies or implemented measures and associated impacts. The crediting period is renewable a maximum of twice*". Therefore, it has been confirmed that the renewal timeline for project crediting period i.e., 15 years is correctly stated per ICR requirement v4.0/B01/and follows the ICR template requirement.
Verification	
Means of verification	Desk review, on-site inspection/interviews

Findings	None
Conclusion	Based on the review of the ICR MR[/02/] and on-site inspection/interviews[/4.6/], VVB confirms that the project activities implemented under first project instance will remain practical over the reported technical lifespan and has been correctly quoted in consistence with ICR PDD[/01/] and evidence provided.

5.2.3 Crediting period

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	CAR 12 was raised and resolved.
Conclusion	As per section 3.4.2 of the ICR requirement[/B01/], "*Crediting period for projects with a start date after 1. January 2021: Crediting period for project activities is a maximum of 5 years or a conservative estimate of the technical lifetime of the installed technologies or implemented measures and associated impacts. The crediting period is renewable a maximum of twice or a maximum of 10 years with no option of renewal. For project activities involving CDR, a crediting period of a maximum of 15 years or a conservative estimate of the technical lifetime of the installed technologies or implemented measures and associated impacts. The crediting period is renewable a maximum of twice.*" Following the ICR requirement document v4.0[/B01/], the crediting period identified for the proposed grouped project is of 45 years starting from 01/01/2022 to 31/12/2066 with the first crediting period of 15 years staring from 01/01/2022 to 31/12/2036[/01/]. VVB confirms that the project area will be protected by a legally binding commitment[/4.6/] to continue management practices that protect carbon stocks over the length of the project crediting period.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	None
Conclusion	The reported crediting period in the ICR MR[/02/], is in accordance with the ICR PDD[/01/] information. VVB has reviewed the agreement signed between parties involved in project implementation and confirms, that the agronomic practices and management activities under first project instance will be continued over the reported crediting period of 45 years.

5.2.4 Calander year of crediting

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	None
Conclusion	Per ICR PDD[/01/], project crediting period has been indicated as 15 years, renewable twice thus making 45 years in total: • 15 years of enrolment period: from 01/01/2022 until 31/12/2036 • 15 years (first renewal): from 01/01/2037 to 31/12/2051 • 15 years (second renewal): from 01/01/2052 to 31/12/2066

<table>
<tr><td></td><td>VVB, confirms that the project proponent has provided calendar year wise/vintage wise break-up for the projection of GHG mitigations generated from the project activity.</td></tr>
<tr><td colspan="2">Verification</td></tr>
<tr><td>Means of verification</td><td>Desk review, on-site inspection/interviews</td></tr>
<tr><td>Findings</td><td>None</td></tr>
<tr><td>Conclusion</td><td>As per the ICR MR/02/, the calendar year for the subject project has been identified as follows:
<table>
<tr><th>Calendar year of crediting</th><th>Estimated GHG emissions mitigations (tCO2-e)</th></tr>
<tr><td>01/01/2022 to 31/12/2022</td><td>1,899.3</td></tr>
<tr><td>01/01/ 2022 to 31/12/2023</td><td>6,145.53</td></tr>
<tr><td>01/01/22 to 31/12/2036</td><td>11,130,302</td></tr>
<tr><td>01/01/2037 to 31/12/2051</td><td>17,321,358</td></tr>
<tr><td>01/01/2052 to 31/12/2066</td><td>17,321,358</td></tr>
<tr><td>Total estimated GHG emission mitigations during the crediting period (tCO2-e)</td><td>45,773,018</td></tr>
<tr><td>Total number of years (yrs)</td><td>45</td></tr>
<tr><td>Annual average (tCO2-e)</td><td>1,017,178</td></tr>
</table>
For the first periodic verification the reported monitoring period has been identified from 01/01/2022 to 31/12/2023/02//4.6/, VVB confirms that the provided vintage wise break-up for the GHG emission reductions/removals is valid and acceptable.</td></tr>
</table>

5.3 Safeguards

5.3.1 Statutory requirements

<table>
<tr><td colspan="2">Validation</td></tr>
<tr><td>Means of project Validation</td><td>Desk review, on-site inspection/interviews, web search</td></tr>
<tr><td>Findings</td><td>CAR 16 was raised and resolved.</td></tr>
<tr><td>Conclusion</td><td>As per the ICR PDD/01/, the project proponent, Alberami, is an Italian startup with authority to do business throughout the world and has complied with all relevant local, regional, and national laws in Italy. To the best of its knowledge, Alberami is compliant with all applicable anti-discrimination and labor laws in Italy, including/01//4.6/:
• Occupational Health and Safety Act (D.Lgs. 81/2008)
• Fair Labor Standards Act (D.Lgs. 66/2003)
• Civil Rights Act of 1964 (Legge n. 903/1977)
• Italian Law On Disability Discrimination (D.Lgs. 205/2000</td></tr>
</table>

	Furthermore, this project will be implemented in accordance with the following laws and regulations in Italy[/01/4.6/]: • Environmental Impact Assessment (D.Lgs. 152/2006) - An environmental impact assessment will be conducted prior to the implementation of the project to ensure that any potential impacts on the environment are identified and addressed. • Water Pollution Control Act (D.Lgs. 152/2006) - This project will be implemented following best management practices for water quality in Italy, including the reduction of erosion and pesticide and fertilizer runoff using reduced and no-till practices. • Land Use Planning Act (D.Lgs. 42/2004) - Alberami will ensure that the project is developed in accordance with the land use planning regulations in Italy, including the identification of suitable land for the project and the protection of natural resources. VVB based on the review of PDD[/01/] and supporting document provided by PP for SDG impacts during the monitoring period[/06/], confirms that the project commits to conducting regular field observations in accordance with Italian law. This indicates a proactive approach to identifying and mitigating potential environmental impacts. The commitment to water quality management and land use planning also demonstrates alignment with pertinent regulations. Further ICR PDD[/01/], entails that growers participating in this project must also comply with all relevant local, regional, and national laws and regulations in Italy, including the Food Security Act (D.Lgs. 193/2007) which provides requirements for growers who are farming highly erodible lands or wetlands and their affiliates if they participate in agricultural programs in Italy. Participating in the project will not hinder continued compliance with applicable laws and regulations. Alberami has retained legal counsel to advise on these matters and ensure compliance by participating growers. There are no regional or local laws and regulations in Italy related to carbon credits and emissions trading that apply to this project. Additionally, given the nature and scope of the project, it is not necessary to obtain permits or approvals from local, regional, or national authorities. This project involves the use of private agricultural lands and is not expected to have negative effects on product quality, production, or overall land, so there are no specific agriculture-specific regulations that need to be followed[/01/]. VVB confirms that there are no contradictory laws to the proposed project activity exists in the territory covering the project instances. The project follows all applicable legal and regulatory requirement regarding carbon sequestration associated with the land particularly the EU regulatory framework on organic farming practices[/08//17/].
Verification	
Means of verification	Desk review, on-site inspection/interviews, web search
Findings	None
Conclusion	During on-site interviews[/4.6/], VVB has converse with the participating stakeholder in the first project instance and has ascertained that they were aware regarding applicable

	laws and policies in the host country (relevant to project implementation and/or management). Further, VVB confirms that the project instance has been implemented in compliance with the above-mentioned host country regulations.

5.3.2 Potential negative environmental and socio-economic impacts

Validation	
Means of project Validation	Desk review, on-site inspection/interviews, web search
Findings	CL 06 was issued and resolved.
Conclusion	As described in the section 3.2 of the PDD/01/, the project expects to have positive environmental impacts beyond reducing greenhouse gas emissions, such as reducing erosion, reducing nutrient runoff into waterways, and increasing resilience to extreme weather events. Additionally, it is not expected to have negative socio-economic impacts at the community level. Instead, it is expected to have positive economic impacts, as a transition to more sustainable farming practices and, if applicable, certified organic farming, may result in higher valued end produce, which often commands a premium of 35-50% in Italy over non-organic produce. VVB based on the desk review of project description/01/ and peer reviewed literature reference/18/ (also refer section 1 of this report), confirms that the regenerative agricultural activities planned to be implemented under the proposed grouped project are likely to have net positive impact on the ecosystem within project boundary and/or surrounding region. As per the PDD/01/, farmers may experience some financial challenges during initial phase of project implementation due to the upfront costs of adopting new practices and potential changes to yield. However, these potential economic impacts are expected to be minimal and temporary. Alberami has implemented measures to mitigate these potential impacts, including providing agronomic support and training to farmers to ensure that the new practices have a net neutral or positive impact on their operations and yield/01//4.6/. Additionally, financial support through upfront payments and the sale of carbon credits is intended to offset any initial increases in expenses or changes to revenue. In the long term, Alberami expects farmers to see financial benefits from increased yields, especially in extreme weather years, thanks to improved soil health and overall farm resilience and improved yield quality overall (Magkos, F., Arvaniti, F., and Zampelas, A., 2003) "Sustainability and quality in organic and conventional food products: A systematic review" American Journal of Clinical Nutrition/01/. VVB, confirms that the PP has evaluated and has addressed all the possible environmental and socio-economic risks that may have arisen due to implementation of project activity in the region. During on-site inspection/interviews/4.6/, representative of project proponent has ensured that the evidential documentation depicting the long-term agreement signed between landowners/farmers and Alberami SRL will be made available at the time of subsequent verification of the project.

	These agreements aim to safeguard the rights and benefits of the beneficiaries following the project's implementation. The farmers anticipate receiving incentive through the sale of carbon credits generated from project activity. Thereby the project has been implemented in accordance with ICR guidelines.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	None
Conclusion	In line with the requisite of section 4.2.1 of the ICR requirement v4.0/B01/, the first project instance involves local/native species plantation for cover cropping or for other agronomic management practices in the region. Further VVB has verified that upon project implementation the participating land growers/farmers are committed to avoid application of the synthetic fertilizer and/or inorganic chemical application within the project area. PP has ensured to present legal binding agreements signed between ALberami SRL and participating farmers (at the time of subsequent verification of the project), to ensure that the farmers will implement sustainable farming practice and will not violate applicable host country laws/rules during project's life span.

5.3.3 Consultation with interested parties and communications

Validation	
Means of project Validation	Desk review, on-site inspection-interviews
Findings	CL 08 was issued and resolved.
Conclusion	As per the ICR PDD/01/, an initial kick-off stakeholder meeting for the project activity was conducted in Oliveti d'Italia – Andria in Puglia region of Italy on 21/02/2022 including 16 participants. In the meeting, the basic information of project activity was provided to the participants and interested farmers/growers. They were given a presentation on best agricultural practices which can reduce greenhouse gas emissions. Similar meetings were conducted in the following locations and dates. (a) Grumo Appula, Puglia region on 19/07/2022 (No. of participants 35) (b) Confagricoltura Offices, Bari on 06/02/2023 (No. of participants 160) (c) Campobello di Mazara, Sicily on 29/03/2023 (No. of participants 95) (d) In addition, the Project Proponent has conducted site visits and field-level demonstrations to the interested farmers/growers. The first such demonstration and site visit was conducted in Torano Castello in Calabria region on o2/05/2023 and involved 30 participants over 3 sites. The consultation meetings were aimed not just at presenting and discussing the project but also at fostering relationships with local associations and cooperatives, a key aspect for the expansion of the project in the area. Such meetings are key aspects for long-term success of the project activity. Therefore, the Project Proponent will keep on conducting these meetings in the future as well for initial project instances as well as for future instances to be added/01//4.6/.

	VVB, based on the on-site interviews with the representatives of project proponent and participating stakeholders[/4.6/], confirms that all parties involved were first conversed with about the purpose and objectives of the project activity and the expected impacts it will have in the region. Furthermore, VVB has reviewed supplementary documentation (Photographs Consultation Meetings and AP4 Report of Stakeholder Consultation Events for the Agroecology Project)[/14/] and confirms that PP has followed ICR guideline to ensure engagement of pertinent stakeholder identified within the project boundary for first project instance.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	CL on evidence
Conclusion	VVB has interviewed[/4.6//4.7/] the relevant stakeholders including PP, project developers, PDD developers MRV personnel, involved in the first project instance and confirms that they were consulted prior to project implementation.

5.3.3.1 Stakeholders and consultation

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	CL 08 was issued and resolved.
Conclusion	Based on the review of the ICR PDD[/01/], further verified during on-site inspection/interviews[/4.6/4.7/], VVB has ascertained that more than 300 local stakeholders have joined the consultation meetings during the pertinent time frame of 21/02/2022 to 02/05/2024 in different locations of Puglia, Sicily, and Calabria regions of Italy. VVB based on the review of the supporting documents: photographs of on-site stakeholder consultation[/14/] and further "AgroEcology_Italy Stakeholder Consultation Report"[/14/], confirms that description provided in section 3.3 of ICR PDD[/01/] is the transparent and valid reflection of actual stakeholder engagement process employed by PP and is in accordance with the ICR guideline v4.0[/B01/]. Furthermore, PP has employed an on-going communication mechanism to keep in place a grievance redressal channel to address future opinions of stakeholders on project activity. Upon project implementation Alberami SRL has conducted a participatory community survey to assess the opinions of the local stakeholders have been provided in the supporting document (Participant Evaluation Questionnaire for the AgroEcology Project by Alberam, Farmers_ Feedback - Re SDGs, Summary of survey responses on SDGs)[/06/]. There were no negative comments received from the local stakeholders. VVB confirms that the project description and supporting document[/06//14/] clearly outlined the outcomes of the stakeholder feedback, the process of continuous communication, relevant statutory requirements. PP has provided adequate information on Stakeholder identification[/06//14/], Legal rights of stakeholders[/17/], diversity

<table>
<tr><td></td><td>of stakeholders, location and timeline of on-site stakeholder meetings and effects of project implementation on pertinent stakeholders.</td></tr>
<tr><td colspan="2">Verification</td></tr>
<tr><td>Means of verification</td><td>Desk review, on-site inspection/interviews</td></tr>
<tr><td>Findings</td><td>NA</td></tr>
<tr><td>Conclusion</td><td>In line with requirement of ICR template guideline PP has provided following details with respect to stakeholder consultation[/02/]:
<table>
<tr><td>Stakeholder</td><td>Diverse group of stakeholders including farmers, cooperatives, millers, and businesses in the olive oil industry. See appendix 4 Stakeholders consultation report and Appendix 2 report of SDG impacts during the monitoring period.</td></tr>
<tr><td>Legal rights</td><td>Farmers in the targeted region have various rights, including representation and advocacy by professional organizations such as Confagricoltura Puglia, which defends the interests of agricultural companies; the right to information and consultation on issues affecting the sector, especially in agroecological practices and carbon farming; involvement in collaborative initiatives and access to cooperative platforms to promote dialogues and joint actions; eligibility for financial benefits or subsidies that foster sustainable practices and contribute to carbon reduction; the encouragement to adopt sustainable agricultural practices that benefit the environment and promote better land quality and production; and the right to improved quality of life and safety, through the adoption of agroecological practices that can lead to a healthier life and food security.</td></tr>
<tr><td>Diversity</td><td>A diverse group of stakeholders including farmers, cooperatives, millers, and businesses. Economics: Involved in the olive oil industry. Cultural: Deep-rooted in olive cultivation tradition.</td></tr>
<tr><td>Location</td><td>Location: C/O Oliveti d'Italia – Andria, (Puglia)

This consultation took place in Andria, within the Puglia region, hosted by Oliveti d'Italia. The setting suggests a focus on olive production, which is significant in this area.

Location: Grumo Appula – BA (Puglia)

Another meeting in the Puglia region, this time in Grumo Appula. The specific focus or agenda of this consultation is not detailed, but given the region, it could again be related to agricultural practices or local environmental concerns.

Location: Torano Castello – CS (Calabria)

Moving to the Calabria region, a consultation was held in Torano Castello. This indicates an expansion of the stakeholder engagement to a different Italian region, possibly addressing regional specificities in agriculture or environmental issues.

Location: Campobello di Mazara (TP) - Sicily

In Sicily, the consultation was at Campobello di Mazara, indicating a further geographical spread and possibly discussing issues relevant to Sicilian stakeholders, which could range from agriculture, fisheries, to rural development.</td></tr>
</table></td></tr>
</table>

		Location: Confagricoltura Offices – Bari, Puglia Returning to Puglia, a consultation was held at the Confagricoltura Offices in Bari. This location is particularly significant as Confagricoltura is a major agricultural organization in Italy, suggesting that this meeting could have a strong emphasis on agricultural policies, challenges, and developments.
	Effects	Potential for an additional revenue stream through the integration of agroecological practices with carbon farming and enhanced agrarian economy through the integration of innovative cultivation techniques with existing agricultural practices.
	Date of consultation	Initial Kick-off Meeting – Puglia Date: 21st February 2022 Location: C/O Oliveti d'Italia – Andria, Puglia Second Regional Stakeholder Consultation in Puglia Date: 19th July 2022 Location: Grumo Appula – BA, Puglia Third Regional Stakeholder Consultation in Puglia Date: 6th February 2023 Location: Confagricoltura Offices – Bari, Puglia First Regional Stakeholder Consultation in Sicily Date: 29th March 2023 Location: Campobello di Mazara (TP) – Sicily First Regional Stakeholder Consultation in Calabria, Field Visits and Demonstrations Date: 2nd May 2023 Location: Torano Castello – CS, Calabria
	Stakeholder engagement	Meeting at Oliveti d'Italia offices, Andria; PowerPoint presentation, discussions on agroecological practices, Q&A session.
	Consultation	Discussion focused on the integration of agroecological practices with carbon farming within olive groves, aiming to generate additional revenue for farmers. Aimed at investigating the potential integration of agroecological methods and carbon farming into local agricultural practices, fostering relationships with local associations and cooperatives.
	Stakeholder input	Input was gathered through discussions and a Q&A session, leading to collaborative strategies and a cooperative dialogue on innovative farming techniques. Discussion and Q&A session engaged stakeholders in practical examination of project implementation, fostering discourse on sustainable agriculture.
	Free prior informed consent	Farmers interested in joining the ALBERAMI program are required to enter into a contractual agreement with the Project Proponent. This agreement mandates the implementation of at least three new agronomic practices that align with the best agricultural practices (BAPs) outlined by the project. To ensure the additionality of the carbon reductions achieved, the farmers must not have used these sustainable practices prior to joining the program. As of September 2023, the project has engaged a substantial number of farmers, with over 296 registered

	on the Alberami platform. This wide engagement indicates a successful outreach and consent process, ensuring that stakeholders are both informed and willing to participate.
Conclusion	Positive reception: stakeholders showed significant interest and engagement, establishing a cooperative dialogue for future initiatives.
Ongoing consultation	The ongoing process of consultation with stakeholders for the Agroecolo Project incorporates several interactive and accessible methods: **Online Questionnaires:** Utilized to gather a wide range of feedback and insights from stakeholders, allowing for broad participation. **Telephone Hotline:** Offers immediate and direct communication for stakeholders to express concerns or ask questions. **+44 351 821 4474** **Digital Platforms:** Information sharing and engagement through the project's website and Instagram account to reach a diverse audience. Facebook: https://www.facebook.com/Alberami.it LinkedIn:https://it.linkedin.com/company/alberami Instagram: https://www.instagram.com/alberami_it Website: www.alberami.com **Online and face-to-face Meetings:** Facilitates real-time discussions and updates, enabling stakeholders from different locations to participate without travel constraints.

Considering the desk review[/01//02/], review of the stakeholder consultation report[/14/], contractual agreement to be provided at the subsequent project verification, and further verified during on-site interviews[/4.6/,] VVB confirms that the local stakeholder consultation process followed by project participant is in line with the ICR requirement[/B01/] as the information provided and supplementary documentation, has been found to be adequate in context of project implementation. Therefore, VVB deems that the process has properly identified all stakeholders who might be impacted by the proposed project.

5.3.3.2 Public comments

Validation	
Means of project Validation	Desk review, on-site inspection/interviews, supporting document
Findings	NA
Conclusion	VVB based on the on-site interviews with the representatives of project proponent and participating stakeholders[/4.6/], confirms that a 30-day public consultation has been held for the project activity with the local stakeholder/farmers involved, starting from 22/09/2023 to 22/10/2023 (PDD appendix: Project Gantt). VVB based on the review of project page on ICR Registry confirms that project has not received any public comment during the subject period. Project Page: AgroEcology_Italy (carbonregistry.com)
Verification	
Means of verification	Desk review, on-site inspection/interviews

Findings	NA
Conclusion	VVB based on the review of project page on ICR registry confirms that project has not received any public comment during the subject period.

5.3.4 Environmental impact assessment (EIA)

Validation	
Means of project Validation	Desk review, on-site inspection/interviews, web search
Findings	None
Conclusion	As per the ICR PDD/01/, no environmental impact assessments were carried out for this project. This project will not involve any permitting or activities that are required to conduct environmental impact assessments by existing regulation, and no negative environmental impacts are anticipated. Project activities are expected to yield positive environmental outcomes and increased agroecosystem resilience/01//4.6//4.7/. VVB based on the desk-review/01/ and supplementary documentation/06//17/ provided by PP confirms that the project activity has been implemented in accordance with the EU regulations on organic farming practices and does not require to perform EIA in the project region.
Verification	
Means of verification	Desk review, on-site inspection/interviews, web search
Findings	None
Conclusion	EIA is not required for the proposed project.

5.3.5 Risk assessment

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	CL 08 was issued and resolved.
Conclusion	VVB, confirms that PP has correctly identified the possible risks that negatively may affects net GHG mitigations and has employed relevant measures to prevent/mitigate those risk as summarized below/01//4.6//4.7/: • **Environmental Risk:** According to the Risk Analysis. Climate Change in Italy, a document elaborated by the Euro-Mediterranean Centre on Climate Change CMCC Foundation in 2020[51], In Italy, climate change is manifesting through rising temperatures, altered rainfall patterns, and an increase in extreme weather events. The most severe scenario, RCP8.5, projects a troubling +5°C rise in average temperatures by 2100 compared to the turn of the century. This will be accompanied by a significant reduction in annual precipitation levels and a heightened intensity of rainfall on wet days. Furthermore, Italy can expect more

[51] https://climate-adapt.eea.europa.eu/en/metadata/organisations/cmcc

frequent hot and dry days throughout the year, exacerbating the challenges posed by climate change.

The host country is most susceptible to the following risks due to climate change and rising average global temperature:

- Geo-hydrological Perils: the consequences of melting snow, ice, and permafrost will become more severe, particularly impacting the Alpine and Apennine regions in terms of the magnitude and seasonal timing of disruptive events. Additionally, the expected increase in intense precipitation patterns heightens hydraulic risks for smaller basins, which tend to overflow during heavy rains before larger basins and raises the vulnerability to surface landslides in areas with more porous soils. Overall, Italy's climate change impacts are set to intensify the challenges posed by geo-hydrological instability, compounding an already complex situation.

- Water resources: reduction in both the quantity and quality of water resources. Over the coming decades, factors like rising average temperatures, increased evapotranspiration, and decreased rainfall are expected to significantly diminish water flow, with a projected 40% reduction by 2080. Anthropogenic activities, particularly increased water withdrawals, are further anticipated to cause a 10-15% decline in flow rates.

- Agricultural impacts: alterations in the duration of the growing season, earlier onset of phenological phases, and the possibility of shifting cultivation areas towards higher latitudes and altitudes, where more favourable conditions for growth and development may prevail. Reduced productivity, particularly for spring-summer crops, especially those that rely on non-irrigated methods.

- Forest fires: a significant fire risk increase exceeding 20%, along with an expected extension of the fire season by 20 to 40 days in the upcoming decades.

- **Technical risks:** The listed technical risks associated with each one of practices, are related with eventual and temporary decrease of productivity due to the transitory process of learning and adaptation to new practices which replace, at least in part, the traditional knowledge usually applied by decades.

- **Social risks**: From the perspective that some practices usually tend to be more labor intensive in the field. In case if this trend is confirmed, the risks of production costs increase, in consequence of intensification of labor participation.

- **Legal and regulatory risks:** Due to possibility of future changes in subsidies policy or programs that may dramatically change farmer's disposition to accept the adoption of new technologies in terms of practices to be adopted.

VVB confirms that the project proponent has correctly identified the possible risks expected to impact GHG emission mitigations and/or affect environmental and socio-economic conditions within the project region.

Verification	
Means of verification	Desk review, on-site inspection/interviews, web search

Findings	None
Conclusion	As per the ICR MR/02/: PP has identified following risks with respect to project implementation:

	Risks identified	Mitigation measures
Risk 1	Decreased water availability	Implement efficient irrigation systems; Water harvesting and storage; Drought-resistant crops
Risk 2	Increased irrigation costs	Alternative energy sources for irrigation; Government subsidies for water-efficient technologies
Risk 3	Competition for water resources	Integrated water resources management: Implementing policies for agricultural water use prioritization
Risk 4	Reduced olive production	Crop diversification; Improved pest and disease management
Risk 5	Increased fire risk and fire season	Enhanced fire prevention measures; Community awareness and preparedness programs
Risk 6	Technical risks due to new practices	Training and education; Research and development on best practices
Risk 7	Increased labor intensity	Mechanization and automation; Workforce development programs
Risk 8	Legal and regulatory changes	Stay informed and engaged with legal changes; Legal advisory services

Based on the thorough review of project documentation/01//02/ and supporting information/06//17//18/, it has been confirmed that the major risks and uncertainties which can influence the implementation and emission reduction estimates have been identified and suitably addressed in project design and reported in the PDD/01/. VVB confirms that PP has employed possible measures to mitigate above-mentioned risks.

5.3.5.1 Additional Information on risk management

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	None
Conclusion	As per the ICR PDD/01/ and on-site inspection/interviews/4.6/, the project is expected to have indirect risks associated with external factors arise from a possible loss of competitiveness, either through intensification of production in other Mediterranean countries, or through the advent of technologies that allow the expansion of the production frontier to other climates, through genetic engineering techniques, expanding the possible area of olive production in the world. Given this scenario, the project itself, aggregate value to the olive production, turning into a value-adding strategy to mitigate the impact/01/.

	VVB confirms that PP has incorporated a standardised monitoring and reporting procedure/01//17/ to ensure project instance are implemented in accordance with the scope and criteria of project goals, which are deemed acceptable and in line with ICR guidelines/B01/ and EU methodological approach/B02/ and regulatory requirements/17/.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	None
Conclusion	N/A

5.4 Methodology

5.4.1 Reference to applied methodology and applied tools

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	None
Conclusion	The project has applied following methodologies/01//4.6/: • **LIFE C-Farms:** "Carbon Farming Certification Scheme Standard", to quantify GHG emission reductions achieved from project activities. VVB confirms that the above-mentioned methodologies have been correctly referenced for the project activity and found to be valid and applicable in accordance with the guideline of ICR program and ISO 14064-2/B01/. Furthermore, the references to the versions of methodology and tools were found to be correct and valid for use.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	None
Conclusion	Based on the desk-review/01//02/, and physical inspection, VVB confirms that the project has correctly applied the above-mentioned baseline and monitoring methodologies for execution of project monitoring, data collection and reporting.

5.4.2 Applicability of methodology

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	CAR 12 was issued on methodology applicability conditions
Conclusion	Applicability criteria for the baseline line methodology have been assessed by the validation-verification team by means of document review and interview. VVB, team confirms that the project activity meets the criteria of the applied methodology, the assessment has been summarized below:

LIFE C-Farms: "Carbon Farming Certification Scheme Standard"/B02/

S. N.	Applicability Condition	PP Justification	VVB assessment

	1	1. Internal management and monitoring: operators or groups of operators commit to maintaining the application of selected carbon farming practices throughout the monitoring period, defined in this scheme equal to 5-10 years. Continuous internal monitoring is performed annually ensuring the implementation of the carbon farming practices and at the beginning and end of the monitoring period to quantify the carbon benefits, while verifying that surface occupied by recognized carbon removal land uses within the whole farmland are not subjected to a decrease.	The Project proponent commit to maintaining the application of selected farming practices throughout the monitoring period, with continuous internal monitoring performed annually ensuring the implementation of the proposed practices, while verifying that surface occupied by recognized carbon removal land uses within the whole farmland are not subjected to a decrease. Please refer to section 10. Monitoring.	VVB has reviewed the monitoring and management plan/01/ demonstrated in the PDD/01/ and confirms that PP has employed quality control and quality assurance procedure to ensure accuracy and transparency of the on-field data collected followed by monitoring and reporting. The monitoring plan as described in the PDD/01/ is found to be valid and applicable. VVB has further reviewed on-ground monitoring SOPs for SOC relevant data collection and lab analysis and deems it to be appropriate. The on-site inspection of the first project instance has been conducted by audit team from 13-15 December 2023. VVB has learned that all the monitoring activities have been carried out by the MRV personnels with project-type specific expertise and academic qualifications, to ensure possible optimum data quality.
	2	Stakeholder consultation;	A public consultation will be held for 30 days. The starting and closing dates are defined in Project Gantt. Please refer to section Appendix.	Considering the desk review/01//02/, review of the stakeholder consultation report/14/, and further verified during on-site interviews/4.6/, VVB confirms that the local stakeholder consultation process followed by project participant is in line with the ICR requirement/B01/ as the information provided and supplementary documentation, has been found to be adequate in context of project implementation. Therefore, VVB deems that the process has properly identified all stakeholders who might be impacted by the proposed project. VVB based on the on-site interviews with the representatives of project proponent and participating

				stakeholders/4.6/, confirms that a 30-day public consultation has been held for the project activity with the local stakeholder/farmers involved, starting from 22/09/2023 to 22/10/2023.
	3	Development and management of registry: the carbon farming registry is public and available online, the registry reports information on carbon removal units generated, available and sold. The registry tracks over the years the certificate issued by the CB, information on the project from which each unit is derived, and information on purchasers of carbon removal units. The access to this information on request ensures transparency and publication of information.	The information of Project registry and reports will be available to public consultation.	As per the supporting document (Complete Fee Schedule & Earnings for Farmers)/06/, and VVB's web search[52], Alberami SRL has employed a fee schedule and earnings for farmers. This document encompasses following details: - What is the value of 1 Carbon Credit in term of t CO_2e. - To whom Carbon Credit will be shared and value of carbon credit to be sold (i.e., 1 Carbon Credit = 60 Euros). - Fee structure and revenues for farmers. - Earning distribution: Including buffer deductions, 55 % - 65 % farmer's gain and 25 – 35 % revenue with the project proponent. - Criteria for farmer's membership into project activity. Therefore, VVB confirms that project proponent has made respective project information available for participating stakeholders. VVB confirms that the project meets the applicability condition.
	4	Appointment and training of certification bodies.	The dates are defined in the Project Gantt. Please refer to section Appendix.	As per the ICR PDD/01/, the project has established a robust information-sharing platform that actively disseminates knowledge on sustainable practices within the farming community. This includes providing access to the latest research, best practices in sustainable agriculture, and the benefits of adopting these methods.

[52] Farmer Membership Pricing - Alberami - Carbon Farming - CO2 Offsetting

			Digital content, workshops, training sessions, and on-the-ground support have all played a part in enhancing farmer's understanding and application of sustainability principles. VVB based on the review of supplementary documentation/02//03/06//14/, confirms that project has employed appropriate measure to ensure technical assistance for participating farmers and thus meets the applicability condition.
5	Addressing non-conformity issues: procedures are defined below in this standard in chapter 5-10.3 to handle any non-conformities.	Any non-conformity issues will be addressed following the procedures defined in chapter 5.3 of the Standard.	In accordance with the requirement of section 5.3 of the applied methodology LIFE C-Farms, PP has addressed all the non-conformity raised during project's joint validation and first periodic verification. VVB confirms that all the findings issued have been resolved satisfactorily upon receipt of pertinent supporting evidence and/or information. Thereby project description is in line with the applicability condition.
6	Carbon removals estimation needs to consider possible risks associated with permanence. The scheme considers the possibility of events, natural and/or anthropogenic, which may be the cause of the carbon removals loss generated over time (fires, damage caused by insect attacks or other diseases, intense weather events that may cause tree crashes, etc.). In order to establish a rigorous approach and credible risk management, a buffer is identified, a percentage of the absorbed carbon that is set aside and not injected into the market, serving as a reserve for possible losses.	A buffer pool has been determined and then applied in the quantification of the project's Net GHG mitigation, to cover the risks associated with non-permanence. See section 8.3 Permanence risk assessment.	VVB has reviewed the non-permanence risk report/05//. The risks identified along with the risk score and VVB assessment are as mentioned in section 6.4.2 under sub heading "Risk assessment for permanence" of this report. VVB confirms that the overall permanence risk associated with the project activity has been addressed correctly.

Considering the confirmation of all the above-mentioned applicability conditions of the applied methodology LIFE C-Farms/B02/, VVB confirms that the project activity follows the

	respective requirements, thus has been implemented following valid and acceptable project design.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	None
Conclusion	Subject to closure of finding as above

5.4.3 Deviation from methodology

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	As per section 4.3 of the ICR PDD/01/, the Project has been developed according to the EU approved methodology LIFE C-Farms/B02/, while incorporating elements of the following methodologies that are recognized and approved for use in carbon offset projects developed under ISO 14064,2: ● VERRA's VM0042 v2.0: This methodology provides the framework to quantify emission reductions from soil carbon sequestration activities and is used to define the different quantification approaches applied in this project to provide a robust and standardized approach to quantify, monitor, and verify soil carbon sequestration activities; checked and verified by VVB. ● CDM's AR-AMS0007: This methodological framework has been used to calculate the net anthropogenic greenhouse gas (GHG) emission reductions from A/R projects on lands other than wetlands. Monitoring of soil organic carbon (SOC) Stocks and the above ground biomass (AGB) will be done by remote sensing technology detailed in Section 1.5: "Technology" and Section 10: "Monitoring". VVB, based on the desk review, on-site inspection/interviews/4.6//4.7/, and supporting documents as listed in Appendix I of this report, confirms that the description on methodology deviation has been correctly stated and is complying with the section 4.12 of the ICR requirement v4.0/B01/. It has been confirmed by VVB that the deviation from the methodology is limited to the quantification approach and calculation formulas for carbon removal/reduction, aligning with ICR guideline/B01/, ensure optimum possible accuracy for GHG mitigation estimation and thereby valid and acceptable to the VVB.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	Based on the review of ICR MR/02/, on-site-inspection interviews, it has been confirmed that the methodology deviation is only intended towards project monitoring and quantification of net GHG mitigation generated from the project. VVB confirms that the on-ground execution of the methodological approach selected by PP is in consistence as described in the ICR PDD/01/ and MR/02/. Therefore, VVB confirms that the methodological deviation obtained by PP has been reported in the pertinent project documents/01//02/ and is in line with ICR guideline.

5.4.4 Other information relating to methodology application

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	None
Conclusion	No Other Information Relating to Methodology Application has been considered.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	NA

5.5 Additionality

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	CAR 17 was raised and resolved.
Conclusion	As per the additionality guidelines of ICR Guidelines, additionality is a vital consideration for quantifying project based GHG emissions mitigation. As per ICR Guidelines, the Project proponents shall demonstrate the project's additionality and, at a minimum, meet level 1, and either 2a or 2b. They shall also meet one additional level from 3, 4 or 5. In this project activity, the Project Proponent has applied Level 1, Level 2a and Level 3 for establishing the additionality. Briefly, it is as following: Level 1: ISO 14064-2 GHG emissions additionality, as per the section A.3.3 of ISO 14064-2, additionality as a concept of cause and effect. For any cause and effect, the effect can be described as additional if it would have not occurred in the absences of the GHG program in which it participates (for example, International Carbon Registry in this project). ISO 14064-2 states that in section A.3.3, the concept of additionality is inherent to the GHG baseline determination to ensure that GHG emission reductions or removal generated by the project go beyond what would have happened in the absence of the project. In the section 6 of the PDD, the PP has described the baseline scenario. To determine the baseline, a farmer plan (called the T1 form - included in the Appendix for reference) describe the original condition (business-as-usual or baseline condition) of the project site including details of the vegetation cover, soil type and their carbon content ad will measure, starting from the baseline, changes in the carbon stock at the site for the duration of the project in the absence of the project activities (i.e. business as usual). This baseline data will serve as a reference point for measuring changes in carbon stock at the site over the duration of the project in the absence of project activities.

	By comparing the baseline scenario with the project scenario, the Project Proponent has determined the additional carbon sequestration and emissions reductions achieved through the implementation of the relevant 13 Best Agricultural Practices (BAPs) for the first project instance. For inclusion of the next project instance as well, the Project Proponent will first conduct baseline assessment of the project instance and accordingly will implement BAPs that will generate GHGs emissions reductions which will go beyond what would have occurred in the baseline scenario. Based on the review of the project description/01/ and on-site inspection/interviews/4.6//4.7/ on baseline assessment and additionality, VVB confirms that the project design description represents a net environmental benefit and real mitigation of GHG emission mitigations more than what would have been achieved in the baseline scenario.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	None
Conclusion	VVB confirms that the additionality demonstration provided in the ICR PDD/01/, is in accordance with the requirement of section 4.4.1. of ICR Guideline v4.0/B01/.

5.5.1 Level 1 - ISO 14064-2 GHG emissions additionality

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	In accordance with section 4.4.1 of the ICR Requirements, v4.0, VVB confirms that the project includes project activities and interventions that will lead to GHG emissions mitigations that are additional to what would occur in comparison to the determined GHG baseline. As confirmed in section 5.8.2 of this report, the project has estimated net GHG emission mitigations of 45,773,018 tCO_2e, with actual net GHG emission mitigations and removal achieved for the first monitoring period (01/01/2022-31/12/2023) of 7,159.67 tCO_2e. Hence, VVB confirms that the project is Level 1 Additional.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	As confirmed in section 5.8.2 of this report, the project has actual net GHG emission mitigations and removal achieved for the first monitoring period (01/01/2022-31/12/2023) of 7,159.67 tCO_2e. Hence, VVB confirms that the project is Level 1 Additional.

5.5.2 Level 2a – Statutory additionality

Validation

Means of project Validation	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	As per the discussion during VVB's on-site inspection with representative of project proponent/4.6/, the Agroecology project has been considered Statutory Additional, as defined by the ICR standards v4. 0/B01/ for Level 2a additionality. The project scenario goes beyond the relevant statutory requirements in the host country, Italy, due to the following reasons/01/: • The existing environmental laws do not mandate the specific sustainable practices undertaken by the proposed project, nor do they focus on GHG sequestration outcomes. Therefore, the project's actions have been considered to extend beyond regulatory requirements, aligning with the criteria of Statutory Additionality. • By voluntarily implementing practices that exceed legal mandates and specifically target GHG sequestration, the project demonstrates a commitment to environmental stewardship beyond regulatory compliance. This commitment enhances its overall contribution to mitigating climate change impacts, thus meeting the criteria of Statutory Additionality. VVB has confirmed that the sustainable farming practices (best agricultural practice for the project region) as outlined in the section 1.1 of ICR PDD/01/ are not mandated by Italian environmental laws and/or regulation. Further through checking on relevant web portals[53, 54], it has been confirmed that the project satisfies Level 2a additionality i.e., statutory additionality/B01/.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	VVB confirms that the project meets the level 2 additionality.

5.5.3 Level 2b – Non-enforcement additionality

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	Not applicable.

[53] ITALY National Sustainable Development Strategy: https://r.search.yahoo.com/_ylt=Awrx.9mlwBJm4J4HEga7HAx.;_ylu=Y29sbwNzZzMEcG9zAzEEdnRpZAMEc2VjA3Ny/RV=2/RE=1712533798/RO=10/RU=https%3a%2f%2fwww.eea.europa.eu%2fthemes%2fsustainability-transitions%2fsustainable-development-goals-and-the%2fcountry-profiles%2fitaly-country-profile-sdgs-and/RK=2/RS=g0TeMHklzZPnQxkAJRk2CbxK.xM-

[54] Italy's national action plan for the sustainable use of plant protection products: https://r.search.yahoo.com/_ylt=Awrx.9lQwBJmGQcJlQ67HAx.;_ylu=Y29sbwNzZzMEcG9zAzEEdnRpZAMEc2VjA3Ny/RV=2/RE=1712533713/RO=10/RU=https%3a%2f%2ffood.ec.europa.eu%2fsystem%2ffiles%2f2019-03%2fpesticides_sup_nap_ita_en.pdf/RK=2/RS=H.SWR93OvZkyhq_AIYTxcSX2dhs-

Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	NA

5.5.4 Level 3 – Technology, institutional, common practice additionality

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	As per the discussion during on-site inspection/interviews/4.6/, it has been obtained that there are no agriculture-based carbon projects registered in the host country of Italy. In addition, the organic farming holdings in Italy is less than the conventional farm holdings (as per EU data, 11% farm holdings in Italy area organic). As of 2019, the organic area in Italy was approximately 2 million hectares. This represents 15.8% of the national utilized agricultural area (UAA)[55]. PP has identified technological barriers (lack of knowledge/adoption of sustainable agricultural practices) and investment barrier (absence of incentives for farmers) preventing implementation of sustainable farming practices. To alleviate the identified barrier PP is committed to provide comprehensive training and education programs to local farmers, financial assistance, and to facilitate connections between farmers and buyers for sustainable agricultural products, creating market opportunities that incentivize the adoption of these practices/4.6/. VVB based on the on-site inspection/interviews/4.6//4.7/, and baseline assessment survey/15/ carried out by PP, confirms that the barriers identified by PP are appropriate for the subject region. VVB confirms that the project meets the level 3 additionality per ICR requirement v4.0/B01/.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	VVB confirms that the project meets the level 3 additionality per ICR requirement v4.0/B01/.

5.5.5 Level 4a – Financial additionality I

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	NA

[55] https://www.sinab.it/sites/default/files/Facts%20and%20figures%202020%20EN.pdf

Conclusion	Not Applicable.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	Not Applicable.

5.5.6 Level 4b – Financial additionality II

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	Not Applicable.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	Not Applicable.

5.5.7 Level 5 – Policy additionality

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	Not Applicable.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	Not Applicable.

5.6 Baseline scenario

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	CL 10 was issued and resolved.
Conclusion	In accordance with the guideline of section 4.4 of ICR document v4.0/B01/ and section 3.1 of the applied methodology LIFE C- Farms/B02/, the baseline scenario for the proposed project has been identified as the "continuation of unsustainable agricultural practices", indicating conventional tillage practice, use of synthetic fertilizers and pesticides, lack of cover crops and crop rotations, and poor management of pruning residues and other organic matter/01//4.6//4.7. During on-site inspection/interviews, for the first project instance, PP has presented

	the data record/farmer plan (called the T1 form)[/15/] for the participating farmers in the project activity. The format of farmer plan has been designed to gather details on following, but not limited to: - Registered land/title ID (property identification serializations). - Municipality (ISTAT/CAP Code) and Province - Cadastral sheet and parcel ID - Name or responder/farmer/stakeholder. - Area (hectares) under project, plot progress - Species or crop present in the farm, variety/cultivar of respective species - Average plant height (in case of perennials) - Crop productivity. - Cultivation method - Pruning method applied and residue management. - Tillage operation method - Fertilization techniques and type of fertilizer used. - Irrigation applied/not. - Vegetative cover (%) - Date of interview/survey along with farmer's signature. The standardized baseline is benchmarked against conventional cropland management serves as a reference point for managing project activities, The standardized baseline details includes continuous cropping systems, monoculture, bare fallow practices, moldboard plowing, removal of crop residues, and the application of inorganic nitrogen fertilizers[/01//4.6//15/]. VVB, based on review of the ICR PDD[/01/], and on-site inspection of the project site, confirms that the baseline scenario identified by PP is relevant, and correctly quoted and interpreted in the project description. The baseline scenario for the first project instance has also been confirmed through interviews with the end users of technologies and representatives of PP. i.e., continuation of the conventional farming practices in the region.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	By reviewing the ICR PDD[/01/], on-site inspection/interviews[/4.6//4.7/] and supporting documents (Farmers Plan/T1 Forms of participating individuals)[/15/], VVB confirms that the baseline scenario for the first project instance has been identified in accordance with the applied methodology LIFE C-Farms[/B02/]and ICR requirement document v4.0[/B01/] and thus is deemed valid & applicable by the VVB.

5.7 Project boundary

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	CAR 13 was issued and resolved.
Conclusion	VVB, has reviewed the ICR PDD[/01/] and confirms that the identification and selection criteria of GHG SSRs complies with the applied methodology and International Standard ISO 14064-2[/B01/] and applied methodology LIFE C-Farms[/B02/].

	VVB, confirms that. - Project boundary of the project activity has been properly delineated. - All identified GHG sources, sinks and reservoirs for the project and baseline scenarios have been appropriately defined in the ICR PDD/01/. - The selection and justification for inclusion or exclusion is appropriate and appropriately supported in the ICR PDD/01/. Considering the desk-review/01/, supporting information provided/03-17/ by PP, and on-site inspection/interviews/4.6//4.7, VVB confirms that the project boundary has been demonstrated appropriately, all the inclusions/exclusions made by PP are complying against the applied methodology/B02/ and ICR requirements/B01/.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	None
Conclusion	The carbon pool selected for GHG accounting of the first project instance is SOC, AGB, during the first monitoring period/03//4.6/ and is valid and acceptable to the VVB. PP has provided appropriate justification for the inclusion and or exclusion of respective GHG pools from the project boundary of first project instance. The emission source soil organic carbon (CO_2) has been identified for the first project instance/03//4.6/. The change in woody biomass has been selected as GHG source but has not been quantified for the first project instance as this GHG source is include for the practices involving new plantations, where new permanent trees are established in the project region as part of the sustainable agronomic practices/01//4.6//4.7/.

5.8 Quantification of GHG emission mitigations (ex-ante)

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	CAR 17 was issued and resolved.
Conclusion	The quantification of ex-ante net removals has been calculated using the areas of the farms enrolled in the project that apply each of the proposed practices and the average annual change in soil organic carbon stocks and living biomass values derived from scientific literature/01/. CO_2 removals that can be generated from the project activities are calculated as the difference between the project scenario (in which the virtuous practice is applied) and the standardized baseline. The difference (Δ) between these two scenarios correspond to the amount of CO2 stocked into the project pool. The unit of measurement used is the carbon dioxide equivalent ton (tCO2). A carbon removal activity shall provide a net carbon removal benefit, which shall be quantified using the following formula/01/: **Net carbon removal benefit = CRbaseline – CRtotal – GHGincrease (eq.1)** where: CRbaseline= carbon removals under the baseline; CRtotal= total carbon removals of the carbon removal activity;

	GHGincrease = increase in direct and indirect greenhouse gas emissions, other than those from biogenic carbon pools in the case of carbon farming, which are due to the implementation of the carbon removal activity. Total emission reductions and removals calculated are detailed above under section 3.3 of this report. The aggregated GHG emission mitigations have been completed in line with the proposed methodology. The parameters used in the calculation are assessed under section 5.9.2 and 5.9.3 of this report. PP has correctly applied the step-by-step approach in line with the applied methodology, the assessment team has cross-checked the justification provided by the PP. The methodology LIFE C-Farms/B02/, has been followed to estimate GHG emission reduction/removals of the project activity.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	Verification CL 01 was issued and resolved.
Conclusion	VVB confirms that the PP has incorporated the methods for quantifying the GHG emission mitigations/removals generated by the project in accordance with the applied methodology/B02/. VVB has performed review of all input data, parameters, formulas, calculations, conversions, statistics, and output data to ensure consistency with the documentation/01//02/, methodology/B02/, associated and tools/B02/.

5.8.1 Criteria and procedures for quantification

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	CAR 17 was issued and resolved.
Conclusion	The following approaches have been applied by PP to quantify GHG mitigations from project/01//B02//4.6/: • **LIFE C-Farms:** "Carbon Farming Certification Scheme Standard**":** to quantify GHG emission reductions achieved from project activities. It has been confirmed that carbon calculations were performed in accordance with the applied methodology/B02/ and associate applicable tools and provide an adequate estimate of GHG emission reductions associated with the project activity.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	CL 01 was issued and resolved.
Conclusion	The criteria and GHG quantification procedures have been discussed under succeeding sections of this report.

5.8.1.1 Baseline emissions

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	CAR 17 was issued and resolved.
Conclusion	**Carbon Removal Baseline (CRbaseline)/01/**

	The standardized baseline is identified with conventional management in cropland which includes continuous cropping systems, monoculture, bare fallow, moldboard-plough, crop residues removal and inorganic nitrogen fertilizer application. VVB has reviewed the farmer questionnaire reports/15/ (also refer section 3.2 of this report) and has further verified project baseline during on-site inspection interviews/4.6//4.7/ and confirms that the standardized baseline has been identified in line with applied methodology LIFE C-Farms/B02/. **Carbon removal under the standardized baseline** At present, data, and methodologies to define if soils under business-as-usual agricultural management within the project boundaries represent a net CO_2 source or sink are lacking. Notwithstanding, for a conservative standardized baseline CO_2 emission from cropland SOC losses may be assumed equal to 0. VVB based on the review of the project description and baseline assessment (Please refer section 3.2 of this report) and further verified during on-site inspection/interviews confirms that the standardized baseline of the first project instance does not includes any carbon farming activity prior to project implementation in the project area. Therefore, in accordance with section 4.1 of LIFE C-Farms/B02/ the conservative estimate of baseline emissions/removals as 0 (zero) is valid and acceptable to the VVB.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	CL 01 was issued and resolved.
Conclusion	The Validation/Verification team has verified that the values are correctly applied to the values in conformance with the methodology applied LIFE C-Farms/B02/ the same is correctly reported in the PDD.

5.8.1.2 Project emissions

Validation	
Means of project Validation	Desk review, on-site inspection/interviews
Findings	CAR 17 was issued and resolved.
Conclusion	**Carbon Removals Total (CR_{total})** The CR_{total}, at the end of the monitoring period, is calculated on the basis of measurement of the carbon pools at two points in time to assess the carbon stock changes due to the application of the carbon farming practice. The carbon pools include soil (SOC), living biomass (LB) and are expressed in tons CO_2/ha/yr. Change in the carbon stocks in project, occurring in the selected carbon pools, in year t is calculated as follows: $CR_{total}= \Delta C_{SOC} + \Delta C_{LB} + \Delta C_{HWP}$ (eq.2) $\Delta C_{SOC,LB} = (C_{t1} - C_{t0}) / t_1-t_0$ (eq.3) $\Delta CO2 = -44/12*\Delta C$ (eq.4) Where: CR_{total}= Total change in carbon stocks under the carbon-farming project, expressed as tonnes C yr-1 ΔC_{SOC}=Total change in soil organic carbon stocks under the carbon-farming project, expressed as tonnes C yr-1 ΔC_{LB}= Total change in above and below ground living biomass carbon stocks under the carbon-farming project, expressed as tonnes C yr-1.

ΔC_{HWP}=Total change in harvested wood products carbon stocks under the carbon-farming project, expressed as tonnes C yr-1
$\Delta C_{SOC,LB}$, HWP= annual carbon stock change in the pool, tonnes C yr-1
Ct_1 = carbon stock in the pool at time t_1, tonnes C
Ct_0 = carbon stock in the pool at the beginning of the certification period (time t0), tonnes C
ΔCO_2 (i) = annual CO_2 removals from net changes of the soil carbon stock during the monitoring period, in t CO_2 yr-1.

Greenhouse Gas Increase (GHG increase)
To calculate GHG increase under the project scenario, emissions in the carbon farming project must be compared with those generated in the baseline scenario and included only when the project activity significantly increases such emissions compared to the baseline scenario.
The GHG increase can be generated by direct and indirect emissions increase.
Therefore, $GHG_{increase}$ is calculated through equation 5 and evaluates only differences >0 deriving from emissions between the carbon farming project and
the baseline.

$GHG_{increase} = GHG_{cf} - GHG_{bsl}$ (eq.5)/ (eq 10 of LIFE- C Farms)
$GHG_{cf} = GHG_{direct} + GHG_{indirect}$ (eq.6)/ (eq 11 of LIFE- C Farms)

Where:
$GHG_{increase}$ = increase in direct and indirect greenhouse gas emissions, other than those from biogenic carbon pools in the case of carbon farming [tCO_2eq/yr].
GHG_{bsl} = GHG emissions other than biogenic carbon pools in the baseline scenario [tCO_2eq/yr], including soil emissions from fertilizer application and fossil fuel use related to agricultural operations.
GHG_{cf} = GHG emissions other than biogenic carbon pools in the project scenario [tCO_2eq/yr] including soil emissions from fertilizer application and fossil fuel use related to agricultural operations.
GHG_{direct}= Direct GHG emissions other than biogenic carbon pools due to the carbon farming activity within the project boundaries [tCO_2eq/yr].
$GHG_{indirect}$ = Direct GHG emissions including biogenic carbon pools due to the carbon farming activity outside the project boundaries [tCO_2eq/yr].

GHG_{bsl} include direct and indirect GHG from inorganic nitrogen fertilizer application (GHG (INF)) and direct GHG from fossil fuel consumption (GHG(FUEL)) related to agricultural operations; it also may include GHGs from organic nitrogen fertilizer application (GHG(OA)), nitrogen-fixing cover crops (GHG(CC).
GHG_{cf} include GHGs from organic nitrogen fertilizer application ($GHG_{(OA)}$), nitrogen-fixing cover crops ($GHG_{(CC)}$), GHG emissions from fossil fuel consumption related to agricultural operations ($GHG_{(FUEL)}$) and GHG from inorganic nitrogen fertilizer ($GHG_{(INF)}$) if this is applied in the project.

$GHG_{cf;bsl} = GHG_{(INF)} + GHG_{(FUEL)} + GHG_{(OA)} + GHG_{(CC)}$ (eq.7)/ (eq 12 of LIFE- C Farms)

$GHG_{(INF)} = X_{(INF)} \times EF_{(INF)} /1000$ (eq.8)/ (eq 13 of LIFE- C Farms)
$GHG_{(FUEL)} = X_{(FUEL)} \times EF_{(FUEL)} /1000$ (eq.9)/ (eq 14 of LIFE- C Farms)
$GHG_{(OA)} = X_{(OA)} \times EF_{(OA)} /1000$ (eq.10)/ (eq 15 of LIFE- C Farms)
$GHG_{(CC)} = X_{(CC)} \times EF_{(CC)} /1000$ (eq.11)/ (eq 16 of LIFE- C Farms)

Where:
$GHG_{cf;bsl}$: total emissions from the baseline or the project, expressed as t CO_2/ha/yr
$GHG_{(INF)}$: soil direct and indirect emissions from inorganic nitrogen fertilizer application, expressed as t CO_2/ha/yr.

	$GHG_{(FUEL)}$: direct emissions from fossil fuel use for machinery operations, expressed as t CO_2/ha/yr. $GHG_{(OA)}$: soil direct and indirect emissions from organic nitrogen fertilizer application, expressed as t CO_2/ha/yr. $GHG_{(CC)}$: soil direct and indirect emissions from nitrogen-fixing cover crops cultivation with biomass returned to soil, expressed as t CO_2/ha/yr. X= amount of Nitrogen applied to soil, in kg N/ha/yr. In the case of the AgroEcology-Italy Project, it has been considered that there is no GHG_{inc} (equal to zero), since the application of the proposed practices would lead to GHG_{bsl} being equal to or higher than GHG_{cf}, based on the fact that the use of fossil fuels and inorganic fertilizers would be considerably reduce by the application of the Practices 1,2 and 8. In addition, the decrease in GHG emissions from these two sources will be greater than the emission from nitrogen application from any organic fertilizers or n-fixing species cover crops. The proposed project aims to introduce regenerative farming practices to the project area, which were not present in the baseline scenario/01//4.6/. After project initiation, it is expected that the project will facilitate the removal of greenhouse gas (GHG) emissions from the project boundary, rather than increasing them. Therefore, VVB confirms that the conservative estimate of zero increase in GHG emissions during the project scenario is valid and acceptable.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	CL 01
Conclusion	VVB based on the review of ICR PDD/01/, ex-ante carbon calculation spreadsheet/03/ and discussion during on-site interviews with MRV personnel/4.6/, confirms that quantification approach followed to estimate to project emission/removals from the project activity is in compliance with the applied methodology LIFE C-Farms/B02/.

5.8.1.3 Leakage

Validation	
Means of project Validation	Desk-review on-site inspection/interviews
Findings	CAR 17 was issued and resolved.
Conclusion	Leakage is defined as net changes in GHG emissions outside the project boundaries. AgroEcology-Italy Project promotes the implementation and intensification of sustainable agricultural practices in areas that usually continue to play their productive role. Additionally, the implemented practices are expected to increase agricultural production in the regions, minimizing the leakage of activities outside the project boundaries/01/. VVB based on the review of project description/01/, physical inspection/4.7/ of project site confirms that the project area was subjected to land use management and agricultural practices prior to project initiation. Further in project scenario all the farming practices are expected to be implemented on the same farmland where baseline studies/15/ have been carried out. Therefore, VVB confirms that there will be no displacement of agricultural activities beyond the project boundary.
Verification	

Means of verification	Desk-review on-site inspection/interviews
Findings	CL 01
Conclusion	It has been confirmed that the project activity will not lead to displacement of activities and/or leakage emissions outside the project boundary.

5.8.2 Quantification of Net-GHG emissions and/or removals

Validation	
Means of project Validation	Desk-review on-site inspection/interviews
Findings	CAR 17 was issued and resolved.
Conclusion	As per the ICR PDD/01/, the quantification of ex ante net removals was calculated using the areas of the farms enrolled in the project that apply each of the proposed practices and the average annual change in soil organic carbon stocks and living biomass values derived from scientific literature. This equation is a formula for estimating the carbon dioxide (CO_2) sequestration rate in tons per hectare per year ($tCO_2.ha^{-1}.\ yr\text{-}1$) based on various factors related to land use and agricultural practices. Breakdown of the equation: $$Area \times \left[0.56 \times 3.78_{\text{بـ}\ no\ new\ plantations} + 0.14 \times (3.78 + 1.01 + 4)_{\text{بـ}\ practices\ 4\ and\ 5} + 0.3 \times \left(3.78 + \left(0.8 \times 2.2_{\text{بـ}\ planting\ olive\ trees} + 0.2\left(\frac{1.8+2.6+1.5}{3}\right)_{\text{بـ}\ planting\ other\ trees}\right)\right)_{\text{بـ}\ new\ plantations}\right] = Area \times 5.12\ tCO2.ha^{-1}.yr^{-1}$$ 1. No new plantations: This component contributes 56% of the total ER. To calculate this, the equation multiplies the area by 0.56, which represents 56%, and then multiplies by 3.78. The value 3.78 represents the estimated carbon sequestration rate (in tons of CO_2 per hectare per year) for areas with no new plantations. 2. Implementation of practices 4 and 5: This contributes 14% to the total ER. It multiplies the area by 0.14 (14%), then by 3.78 (the carbon sequestration rate for areas with no new plantations) and adds 1.01. This additional value of 1.01 represents the expected additional carbon sequestration resulting from implementing practices 4 and 5. 3. Planting new trees: This contributes 30% to the total ER. It's divided into two parts: - Planting olive trees: It multiplies the area by 0.3 (30%), then by 3.78 (the carbon sequestration rate for areas with no new plantations), and by 0.8 (80% of 2.2). The value 2.2 represents the estimated carbon sequestration rate (in tons of CO_2 per hectare per year) for olive tree plantations, and 0.8 represents 80%. - Planting other trees: It multiplies the area by 0.3 (30%), then by 1.8 (the carbon sequestration rate for areas with no new plantations) and adds 2.6. The value 1.8 represents the estimated carbon sequestration rate (in tons of CO_2 per hectare per year) for other tree plantations, and 2.6 represents the expected additional carbon sequestration from planting other trees. For the quantification of emission reduction in the first instance Roth C model (Version 2.1) was applied.

The RothC model is a soil carbon model that simulates the turnover of organic carbon in non-waterlogged topsoil. This model is widely used to predict the effects of changes in land use, climate, and farming practices on soil organic carbon, which is crucial for assessing soil health, fertility, and the global carbon cycle. Developed by Rothamsted Research in the UK, the RothC model operates on a monthly time step and can simulate soil carbon dynamics over years to centuries.

Key features of the RothC model include:

1. Decomposition Process: The model simulates the decomposition of soil organic carbon into various pools with different turnover rates. These pools include decomposable plant material (DPM), resistant plant material (RPM), microbial biomass, humified organic matter, and inert organic matter.
2. Inputs and Outputs: Inputs to the model include the amount and type of organic material added to the soil, monthly climate data (temperature, precipitation), soil properties (clay content, which affects the decomposition rate), and vegetation cover. The primary output is the amount of soil organic carbon, but it can also predict CO2 emissions from soil as organic matter decomposes.
3. Applications: RothC has been applied in various studies to understand how different farming practices (like tillage, crop rotation, organic amendments) affect soil organic carbon levels. It's also used in climate change studies to predict how soil carbon stocks might change with global warming or changes in rainfall patterns.
4. User Friendliness: While the model is sophisticated in its simulation capabilities, it has been designed to be accessible to researchers and policymakers with a user-friendly interface in some versions, enabling the simulation of different scenarios without requiring in-depth programming knowledge.
5. Integration with Other Models: RothC can be integrated with other environmental and agricultural models to provide a more comprehensive understanding of ecosystem dynamics, particularly those related to carbon cycling and greenhouse gas emissions.

The RothC model's ability to simulate long-term soil carbon dynamics makes it a valuable tool in the study of global carbon cycles, aiding in the development of sustainable land management practices and climate change mitigation strategies.

Model Framework

PP has collected soil parameters such as clay content, litter inputs, and soil thickness as well as climate data including monthly averages of temperature, precipitation, and evaporation retrieved from old satellite imagery data. With the collected set of data, PP set up the simulation for 45 years (crediting period) and calculated the effects of climate on decomposition using temperature, evapotranspiration and rainfall. Time series of carbon inputs has considered the baseline values[56] and run through all properties to yield another output which is called input time series. The script distributes a time series for each Property based on the carbon inputs, hence, it has the same dimensions as the environmental data, but it has now data of carbon removals.

PP has used the historical data for the baseline 2022, which is considered as start date for project implementation. The baseline series has been considered from 1993 to 2013 and from 2013 onwards, baseline series is considered until 2020 and for projection of carbon removal the timeline has been considered after 2013. The variables have been used to extrapolate the results.

The carbon series includes the carbon value through time for 120 months which means 10 years, which is actually from 2013 to 2023, PP has simulated carbon data

1. [56] Mondini, Claudio, et al. "Soil C storage potential of exogenous organic matter at regional level (Italy) under climate change simulated by RothC model modified for amended soils." Frontiers in Environmental Science 6 (2018): 144. (https://doi.org/10.3389/fenvs.2018.00144)

for 10 years. The baseline was set back on 2013 using an average from the scientific paper.
Then, PP determined the size of the inert organic matter pool (IOM) based on total soil organic carbon stock using an empirical function by (Falloon et al., 1998):

$$IOM = 0.049*(TOC)\ 1.139$$

Where,
IOM is Inert organic matter, t C ha-1 and
TOC is Total organic carbon, t C ha-1
The RothC Model function is used to load the model with initial conditions and environmental parameters for 45 years which gives carbon stocks for each pool per month.

The segmentation of soil organic carbon by the RothC model into different pools is instrumental for understanding the intricacies of soil carbon turnover. These pools, characterized by their decay rates, are influenced by soil attributes such as temperature, moisture, and clay content, providing a nuanced view of soil organic matter dynamics.
Decomposition Dynamics
The decomposition rate for each carbon pool is governed by:

$DecompRate_i = k_i \times C_i \times Effect_{clay} \times Effect_{temp} \times Effect_{moist}$
where $DecompRate_i$ delineates the decomposition rate for pool i, k_i represents the specific decomposition rate constant, C_i the carbon content, and Effectclay, Effecttemp, and Effectmoist are the environmental modifiers about clay, temperature, and moisture respectively.
Inter-Pool Carbon Fluxes
The transitions between carbon pools follow these relations:
$DPM_{new} = (1-f_{DPM}) \times Input$

$RPM_{new} = f_{DPM} \times Input$

$BIO_{new}=k_{DPM} \times DPM + kRPM \times RPM$

$HUM_{new} =f_{HUM} \times (k_{DPM} \times DPM + kRPM \times RPM)$

Here, input stands for the influx of fresh organic carbon, while f_{DPM} and f_{HUM} represent the portions allotted to decomposable material and humified substances, respectively.
Processes of Humification and Inertization
The transformation into humified and inert materials is described by:
$HUM_{increase} = f_{HUM} \times BIO_{new}$

$IOM_{increase} = f_{IOM} \times HUM$
with f_{IOM} symbolizing the proportion of humified matter transitioning into inert status.

In accordance with the ICR requirements for guaranteeing the permanence over time of the credits generated, a buffer system has been established, in which a percentage of the carbon absorption units generated is reserved to guarantee the permanence over time of the credits generated. An estimation of 11% of the carbon removal units is set aside as a reserve to cover any losses (Buffer) /01/.

This value is divided in two different accounts/01/:

- 10% of issued ICCs in the AFOLU buffer adjustment account.
- 1% of issued ICCs in the CDR (non-AFOLU) buffer adjustment Account.

	Total emission reductions and removals calculated are detailed above under section 3.3 of this report. The aggregated GHG emission mitigations have been completed in line with the proposed methodology. The parameters used in the calculation are assessed under section 5.9.2 and 5.9.3 of this report. VVB team has carried out physical inspection of the sampling plots randomly identified within the project boundary to confirm the actual status project implementation, whether the monitoring plan has been employed in consistence as stated in the ICR PDD[/01/], data collection, monitoring, recording, and reporting procedure followed to compile the field level data/field records used to quantify the GHG aggregate mitigations. The estimated GHG emission reductions and removals has been reviewed, re-calculated and cross-checked the accuracy for the reported crediting period of 45 years (01/01/2022 to 31/12/2066). The assumptions provided in the ICR PDD[/01/] are deemed reasonable and conservative, and after the crosschecking ex-ante carbon calculation spreadsheet[/03/], it has been confirmed that the total estimated GHG emission mitigations and/or removals from grouped are 45,773,018 tCO_2e with annual average of 1,017,178 tCO_2e. VVB, confirms that the GHG emission mitigation qualification has been correctly demonstrated and found to be valid & appropriate in line with applied baseline methodology LIFE C-FARMS and monitoring methodology VM0042 v2.0[/B02/]
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	VVB, based on the review of ICR MR[/01/], ex-post carbon calculation spreadsheet[/03/] and field data/parameter measurement records (during physical inspection of project site), confirms that the net GHG emission mitigations and removals achieved during the reported monitoring period from 01/01/2022 to 31/12/2023 by the first project instance amounts to 7,159.67 tCO_2e.

5.8.3 Risk assessment for permanence

Validation	
Means of project Validation	Desk-review on-site inspection/interviews
Findings	CL 07 & 10, CAR 21 was issued and resolved.
Conclusion	VVB has reviewed the non-permanence risk report[/05/] in compliance with the VERRA's AFOLU Non permanence risk tool v4.0[/B01/]. The risks identified along with the risk score and VVB assessment are as mentioned in the table below:

Risk	VVB assessment and Justification

	Internal Risks	**Project management (PM)**	Based on the review of the project description[/01/], and on-site inspection of the project site[/4.7/], VVB confirm that the species selected by project proponent for the plantation are native to the host country (Italy). **Mitigation:** Management team includes individuals with significant experience in AFOLU project design and implementation, carbon accounting and reporting (e.g., individuals who have successfully managed projects through validation, verification, and issuance of GHG credits) under the GHG Program or other approved GHG programs. Hence the risk rating for this factor is -2. PP has provided comprehensive organizational structure including responsibility and competencies of the personnel for the project monitoring in section 10 of the ICR PDD[/01/]. PP has demonstrated project monitoring and reporting plan in the section 10 and Appendix of the ICR PDD[/01/], reflecting information on: SOPs for soil sampling and data collection, Above ground and below ground biomass measurement, sampling methodology, GHG data collection reporting process, data management process, and QA/QC procedure to ensure data accuracy and transparency. Considering the abovementioned assessment VVB confirms that the risk score of -2 for project management risk is appropriate and acceptable.
		Financial Viability	As per the NPR report[/05/], the project has secure < 15% of funding needed to cover the total cash out before the project reaches breakeven. The risk score selected by PP is 3. **Mitigation:** Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven. Risk score is selected as -2. As per the ICR PDD[/01/], The European Regional Development Fund (ERDF) funding received by project proponent has been intended for project specific purposes such as infrastructure development, management costs, and supporting project initiation. VVB has reviewed the Fund releasing letter "Contratto di finanziamento ALBERAMI SRL"[/09/] and confirms that the information provided is valid and acceptable. During on-site inspection interviews, and through review of the contract signed between farmers and PP, it has been confirmed that ALberami SRL, the project proponent, has entered into agreements with designated beneficiaries/farmers participating in the project. These agreements aim to safeguard the rights and benefits of the beneficiaries following the project's implementation. The farmers anticipate receiving incentive through the sale of carbon credits generated from project activity. Thereby the project has been implemented in accordance with ICR guidelines. Therefore, VVB confirms that project activity is financially viable for the reported crediting period. Hence the risk score of 1 is valid and appropriate to the VVB
		Opportunity Cost (OC)	NPV from the most profitable alternative land use is expected to be between 20% and up to 50% more than from project activities, where baseline activities are conventional farming practices. The risk score selected by PP is - 4. **Mitigation:** Project is protected by legally binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting period (see project longevity). The risk score has been selected as -2. During on-site inspection/interviews[/4.6/], representative of project proponent has ensured that the evidential documentation depicting the long-term agreement signed between landowners/farmers and Alberami

			SRL will be made available at the time of subsequent verification of the project. Therefore, VVB concludes that the overall technical lifetime of the project activity as indicated above (i.e., 45 years) will remain functional. VVB has reviewed the land title document (consisting of details on registered landowner/farmer and property address)/03//15/ for the area under first project instance and confirms that in most of the cases farmers are the landowners and confirms that the growers/farmers have rights to farm and manage the land within the project area. Furthermore, Alberami SRL has ensured transparent distribution of revenue generated from the sale of Carbon credits generated from the project activity. Thereby, ensuing the long-term engagement of farmers to continue sustainable farming practices in the project region[57]. Based on the abovementioned assessment, VVB confirms that the risk score of -6 is acceptable to the VVB.
		Project longevity (PL)	As per the project's Non-Permanence Risk Report/05/ PP has identified the project longevity of 45 years. With legal agreement or requirement to continue the management practice the risk score has been selected to be 8. As per the NPR report and discussion with PP during on-site inspection/interviews/4.6/, VVB has ascertained that the project longevity is based on the contractual agreements (to be provided during subsequent project verification) signed between landowners and the project proponent i.e., Alberami SRL and project participants enrolled under project activity. Therefore, VVB confirms that legal agreement is in place to continue the implementation of regenerative agricultural activities es and management practice over the time of project longevity. The risk score of 8 for project longevity is acceptable to the VVB.
	Total internal risk (PM+ FV + OC + PL)		In conclusion, VVB confirms that the total internal risk for the ICR project gives 1 which is deemed appropriate and valid
	External Risk	Land Tenure and Resource Access/Impacts (LT)	As per the NPR report/09/, ownership and resource access/use rights are held by different entity(s) (e.g., land is government owned, and the project proponent holds a lease or concession) Thus, the risk score of 0 has been considered. During on-site inspection/interviews/4.6/, representative of project proponent has ensured that the evidential documentation depicting the long-term agreement signed between landowners/farmers and Alberami SRL will be made available at the time of subsequent verification of the project. Therefore, VVB concludes that the Alberami SRL, as the Project Proponent will have the rightful ownership of the Carbon Credits from the sale of ICCSs generated from the GHG mitigations subjected to project implementation in the region. Further the farmers identified within project boundary are the landowners, this has been by cross-checking the document (included land title details)/15/. VVB confirms that the project area is protected by a legally binding commitment to continue management practices that protect carbon stocks over the length of the project crediting period. Hence, VVB confirms that the risk score of 0 is valid and acceptable.
		Community Engagement (CE)	The PP has scored both the applicable risks under community engagement as -5. Based on the review of the ICR PDD/01/ and the on-site inspection of the project site and interviews with the parties involved in the proposed grouped project, VVB confirms that all the pertinent local stakeholders have been identified during consultation meetings. PP is committed to ensure net

[57] Farmer Membership Pricing - Alberami - Carbon Farming - CO2 Offsetting

		positive impact on environment and on socio-economic conditions of the project region/01//4.6/. Therefore, VVB confirms that the justification provided by the PP relevant community engagement is complying with the requirement of section 2.3.2 of the applied tool. VVB confirms that the risk score identified by PP i.e., 0 is valid and appropriate.
	Political Risk (PC)	The governance score for the host country has been calculated to be 0.5. PP has provided the Governance Scores across the six indicators of the, averaged over the years 2018 to 2022.

Governance indicator	2018	2019	2020	2021	2022
Control of Corruption	0.2	0.2	0.5	0.5	0.5
Government effectiveness	0.4	0.5	0.4	0.3	0.4
Political stability	0.3	0.4	0.4	0.6	0.4
Regulatory quality	0.7	0.9	0.5	0.5	0.5
Rule of Law	0.2	0.3	0.2	0.2	0.3
Voice and Accountability	1	0.9	1.1	1.1	1.1
Overall mean	0.5				

	As the Governance score is between 0.19 to less than 0.82 the risk score of 0 has been selected by PP. VVB has calculated the governance score for the host country from the mean of Governance Scores across the six indicators of the World Bank Institute's Worldwide Governance Indicators (WGI), averaged over the most recent five years of available data (year 2018 to 2022)[58]. The governance calculated is 0.5, thereby the risk score of 0 is valid and appropriate.
Total external risk (LT + CE + PC)	In conclusion, VVB confirms that the total external risk for the ICR project gives 0, which is deemed appropriate and valid
Fire (F)	Score (LS): 1 Mitigation: 0.50 Risk Score (LS × M): 0.50 Fire risks are minimal in the project activity as biomass burning is prohibited by the applied methodology LIFE C-Farms. Based on the desk-review/01/, and physical site inspection/4.7/, VVB confirms that the project activity does not involve any such activity that requires biomass burning for site preparation.
Pest and Disease outbreaks (PD)	Score (LS): 5 Mitigation: 0.50 Risk Score (LS × M): 2.50 Pests are common in Italian agricultural systems which can affect the crops if not managed. In the project activity, the PP is applying integrated pest management, reduced pesticide application to control pests and disease outbreaks wherever, it is part of the Best Agricultural Practices (BAPs). PP has provided detailed mitigation measure in place to alleviate the risk of pest incidence: especially due to *Xylella Fastidiosa* bacterium affecting bacterium that can infect a wide range of plants, including olive trees, almond trees, and grapevines. The project's focus on increasing biodiversity is also widely seen as a positive aspect. It is a known fact that the Xylella

[58] https://info.worldbank.org/governance/wgi/Home/Reports

		Fastidiosa spread throughout the region was simplified by the fact that the area is home to 2 prevalent olive tree cultivars, namely the *Ogliarola Salentina* and the *Cellina di Nardò*, both very susceptible to the disease[/01//4.6/]. Studies by Xiloyannis et al. (2017), Masi et al. (2022), Minnocci et al. (2022), found that olive trees grown in sustainable or regenerative agricultural systems were more resistant to Xylella Fastidiosa infection than olive trees grown in conventional agricultural systems. The studies also showed that regenerative agricultural practices can help olive trees and other trees affected by Xylella Fastidiosa to fend off the brunt of the disease and continue to bear fruit. They also found that regenerative agricultural practices helped to reduce the spread of Xylella Fastidiosa by reducing the populations of insect vectors that transmit the bacterium.
	Extreme Weather (W)	Score (LS): 2 Mitigation: 0.50 Risk Score (LS × M): 1.00 Italy has observed extreme weather events in the form of heatwaves, and floods (flash floods) in recent years in the range of 25-50 years. Major extreme events observed in Italy is related to floods in 1998 and 2002[59].
	Geological risk (G)	Score (LS): 0 Mitigation: 0.50 Risk Score (LS × M): 0.00 Italy has been divided into four seismic zones. The southern and central part and island of Sicily fall under zone 1 and zone 2 of seismic zone. Earthquakes can and do affect agricultural practices, the extent and nature of the impact can vary widely. Direct impacts might include damage to infrastructure (like irrigation systems or storage facilities) and changes in land topography. However, agricultural lands, especially those not near urban centers or major fault lines, might experience less immediate or severe damage from seismic events compared to building environments. Most of the agricultural lands are located away from the built structures. Therefore, the is minimal opportunity of loss because of any earthquake events[60].
	Other natural risk (ON)	Score (LS): 0 Mitigation: 1.00 Risk Score (LS × M):
	Total natural risk (F + PD + W + G + ON)	In conclusion, VVB confirms that the total natural risk for the ICR project gives 4, which is deemed appropriate and valid

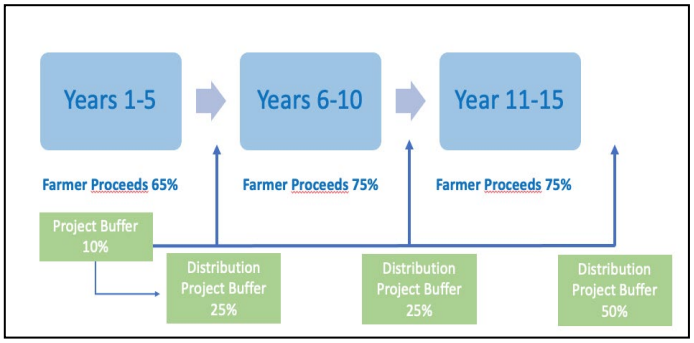
Overall Non-performance risk rating and buffer determination:

Risk Category	Rating/ Risk Score
Internal Risk	0.50
External risk	0.00
Natural Risk	4.00
Overall risk rating (a + b + c)	10

In total, the project faces the abovementioned risks affecting permanence of GHG mitigation projected from project and if certain risks are there, mitigation measures are in

[59] Kron, Wolfgang, Petra Löw, and Zbigniew W. Kundzewicz. "Changes in risk of extreme weather events in Europe." Environmental Science & Policy 100 (2019): 74-83.

[60] Pagliacci, Francesco, et al. "The socioeconomic impact of seismic events on animal breeding. A questionnaire-based survey from central Italy." International Journal of Disaster Risk Reduction 56 (2021): 102124.

	place. In the opinion of VVB, the overall project implementation and management is sound and reasonable. Thus, the VVB confirms that the applied risk score of 10% is adequate for the project activity. Additionally, per discussion with the project personnel (via Microsoft teams meeting platform on 10/04/2024) to encourage farmer's participation under proposed ICR project and to ensure long-term engagement of participating farmers, PP has created a separate project revenue distribution account namely "Participation Credits". This trategy demonstrates a thoughtful approach to long-term engagement, risk mitigation, and participation in market growth.  - The distribution of credits at the end of 5, 10 and 15 years incentivizes farmers to engage with sustainable practices for the long term and aligns their interests with the success of the project. - The proposed strategy adds value by promoting long-term engagement among farmers, mitigating risks associated with project abandonment, and providing participants with an opportunity to benefit from market growth. By distributing credits over multiple intervals, the strategy encourages sustained participation and investment in the project's success. VVB has further reviewed the official website of ALberami SRL indicating the information on farmers participation (Guide for Farmer Membership - Alberami - Carbon Farming CO2 Offsetting). Therefore, project description/01/, describing commitment for long-term engagement of participating farmers has been found to be valid and acceptable for the VVB.
Verification	
Means of verification	Same as above
Findings	None
Conclusion	In accordance with ICR guideline PP has committed to deposit 11% 10% of issued ICCs in the AFOLU buffer adjustment account and 1% in the CDR (non-AFOLU) buffer adjustment account and has followed the same for net GHG quantification. VVB confirms the selected buffer allocations and valid and acceptable.

5.9 Monitoring

5.9.1 Monitoring plan

Validation

Means of project Validation	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	Review of ICR PDD and SOPs/xx/ reveals that the project has adopted the following approaches for monitoring of Soil Organic Carbon (SOC) and Biomass and Implementation of Agricultural Practices. • Remote Sensing Activities • Modeling Using RothC • Verra's VM0042 measure and model (Quantification approach 1) Furthermore, PP has employed, a farmer plan called "T1 form" has been devised to include details on the current condition of the project site, including the vegetation cover, soil type, and carbon content. Therefore, it includes crucial information regarding the project baseline as well as the on-site information of the months after the project implementation/01//4.6/. Additionally, the project incorporates the results of uncertainty assessments into its operations. This involves adjusting data collection and analysis methods based on identified uncertainties to enhance the accuracy and reliability of project outcomes. By systematically addressing uncertainty, the project not only improves data quality but also ensures that decisions are informed and reflective of real-world conditions. VVB confirms that all data and information related to the monitoring of the project including stratification and sampling design, roles and responsibilities, software and equipment, resources, and methodologies to obtain, estimate, measure, calculate, compile, and record the GHG data has been appropriately defined in section 10.1 of the ICR PDD as well as the SOPs/01//12//17/.
Verification	
Means of verification	Desk review, on-site inspection/interviews
Findings	NA
Conclusion	Based on the review of ICR MR/02/, VVB confirms that AgroEcology_Italy project demonstrates a comprehensive and data-driven approach to monitoring methodologies. VVB's assessment of the methodologies employed, including estimation, modeling, measurement, calculation approaches, and addressing uncertainty: 1. Estimation Methodology: • The client employs extensive climatic data retrieved from MODIS images covering a decade indicating a commitment to utilize long-term and high-resolution data for accurate estimation. • The use of R scripts for processing and preparing data showcases a structured and systematic approach to data manipulation, ensuring reliability in the estimation process. 2. Modelling Methodology: • The selection of the RothC model demonstrates a scientifically established approach for simulating soil carbon dynamics.

- The calibration process tailored to Italy's agricultural context indicates an effort to enhance the model's accuracy and relevance to the project's specific conditions.

3. Measurement Methodology:

- Incorporating experimental data selection and adjustments specific to Italy's agricultural context indicates a thorough approach to integrating empirical evidence into the modelling process.
- The consideration of soil carbon stocks, carbon input over time, and environmental effects on decomposition rates reflects a comprehensive measurement strategy, capturing key variables influencing SOC dynamics.

4. Calculation Approaches:

- The RothC model simulations conducted for each of the 67 farms encompassing 1449.16 hectares illustrate a gross approach to calculations, considering the heterogeneity across the project area.
- The utilization of R scripts for data processing suggests a transparent and replicable approach to calculations, enhancing the project's credibility and auditability.

5. Addressing Uncertainty:

- The project's detailed approach to calibrating the model and incorporating experimental data serves to mitigate uncertainties inherent in modelling complex systems.
- By simulating the impact of regenerative agricultural activities on soil carbon dynamics over time, the project acknowledges, and addresses uncertainties related to future scenarios, contributing to a more robust assessment of potential outcomes.

VVB has reviewed the SOP for soil sampling and data collection and confirm that the SOPs are valid and applicable for the proposed project. Further PP has employed quality control and quality assurance procedure to ensure accuracy and transparency of the on-field data collect followed by monitoring and reporting.
Based on the review of the ICR MR/02/ and on-site inspection/interviews/4.6//4.7/, VVB confirms that the monitoring plan stated in the ICR PDD/01/ has been satisfactorily execute in the project region.

5.9.2 Data and parameters remaining constant

Validation	
Means of project Validation	Desk-review on-site inspection/interviews
Findings	CAR 18 was issued and resolved.
Conclusion	The grouped project employed monitoring methodology namely VM0042 Methodology for Improved Agricultural Land Management Version 2.0/B02/ for project monitoring and data collection. According to section 10.2 of ICR PDD/01/ the data/parameters that remain constant following the requirements of the methodology are given below:

Data / Parameter	Value applied	VVB Assessment
Weighted average adoption rate (*AR*)	Must be less than or equal to 20%	The value identified and/or planned to be used is expected to be in line with VM0042 v2.0.
Area of proposed project-level adoption of each activity ($Area_{ay}$)	The proposed project-level adoption of $Activity_{an}$	
Adoption rate of the n largest most common	Conditional on data source.	

proposed project activity in the region (EA_{an})		
Project Area (A_0)	The project area will be measured prior to validation. In the present project activity instance project area is 1474.89 hectares.	Based on the review of the ICR PDD[/01/], through KML shapefile of project boundary[/11/] VVB confirms that the first project instance covers an area of 1474.89 ha.
Global warming potential (GWP) of CH_4 (GWP_{CH4})	28 t CO_2e	Since the value is a default value as per the IPCC Fifth Assessment Report, its valid and applicable.
Global warming potential (GWP) of N_2O (GWP_{N2O})	265 t CO_2e	Since the value is a default value as per the IPCC Fifth Assessment Report, its valid and applicable.
Fraction of all organic N added to soils and N in manure and urine deposited on soils that volatilizes as NH_3 and NOx. ($Frac_{GASM}$)	0.21	Since the value is a default value following the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 4, Chapter 11, Table 11.3, its valid and applicable.
Fraction of synthetic N added to soils that volatilizes as NH_3 and NOx ($Frac_{GASF}$)	0.11	
Proportion of pre-fire fuel biomass consumed (CF_c)	The combustion factor is selected based on the agricultural residue type burned	VVB confirms that during project implementation no combustion activity has been employed. Thereby the value has not been provided in the ICR PDD[/01/].
Methane emission factor for the burning of agricultural residue type *c* ($EF_{c,CH4}$)	The emission factor is selected based on the agricultural residue type burned	
Emission factor for direct nitrous oxide emissions from N additions from synthetic fertilizers, organic amendments and crop residues ($EF_{Ndirect}$)	See Box 1 of VM0042	Value has been sourced as per Box 1 of VM0042 v2.0
Emission factor for N_2O emissions from atmospheric deposition on soils and water surfaces (EF_{Nvolat})	0.01 t N_2O-N or t NH_3-N + NOx-N volatized	Since the value is a default value following the IPCC 2019, Volume 4, Chapter 11, Table 11.3, the value applied is valid and applicable.
Fraction of N applied to soils that is lost through leaching and runoff, in	Wet climates or land under irrigation (other than drip irrigation), a value of 0.24 is	Since the value is a default value following the IPCC 2019, Volume 4, Chapter

regions where leaching and runoff occurs ($Frac_{LEACH}$)	applied. For dry climates, a value of zero is applied.	11, Table 11.3, the value applied is valid and applicable.
Emission factor for nitrous oxide emissions from leaching and runoff (EF_{NIeach})	0.11 t N_2O-N / t N leached and runoff	Since the value is a default value following the IPCC 2019, Volume 4, Chapter 11, Table 11.3, the value applied is valid and applicable.
Emission factor for the type of fossil fuel j (gasoline or diesel) combusted ($EF_{CO2,j}$)	For gasoline EF_{CO2}=0.002810 t CO_2e per liter. For diesel EF_{CO2}=0.002886 t CO_2e per liter	The value applied is valid and appropriate to the VVB as it's a default value following the IPCC 2019, Volume 2, Chapter 3, Table 3.3.1.
Consumption of fossil fuel type *j* (gasoline or diesel) for sample unit *i* in year *t* (FFCbsl,j,i,t)	Variable	Value has been sourced as per Box 1 of VM0042 v2.0
Average productivity for product *p* during the historical baseline period ($P_{bsl,p}$)	Variable (productivity; Kg/ha	Value has been sourced as per Box 1 of VM0042 v2.0
Average regional productivity for product *p* during the same years as the historical baseline period. ($RP_{bsl,p}$)	Conditional on data source (productivity; Kg/ha	Value has been sourced as per Box 1 of VM0042 v2.0
Mass of agricultural residues of type c burned in the baseline scenario for sample unit *i* in year *t* ($MB_{bsl,c,i,t}$)	Conditional on data source (productivity; Kg/ha	Value has been sourced as per Box 1 of VM0042 v2.0
Mass of baseline N containing synthetic fertilizer applied for sample unit *i* in year *t* ($M_{bsl,SF,i,t}$)	See Box 1 of VM0042	Value has been sourced as per Box 1 of VM0042 v2.0
N content of baseline synthetic fertiliser applied ($NC_{bsl,SF,i,t}$)	See Box 1 of VM0042	Value has been sourced as per Box 1 of VM0042 v2.0
Mass of baseline N containing organic fertiliser applied for sample unit *i* in year *t* ($M_{bsl,OF,i,t}$)	See Box 1 of VM0042	Value has been sourced as per Box 1 of VM0042 v2.0
N content of baseline organic fertilizer applied ($_{NCbsl,OF,i,t}$)	See source of data.	Peer-reviewed published data may be used. For example, default manure N contents may be selected from (Edmonds et al., 2003) cited in (US EPA, 2011) or

			other regionally appropriate sources such as the European Environment Agency.
	Annual dry matter, including aboveground and below ground, of N-fixing species g returned to soils for sample unit *i* at time *t* ($MB_{g,bsl,i,t}$)	See Box 1 of VM0042	Value has been sourced as per Box 1 of VM0042 v2.0

VVB based on the desk-review/01//03/, and supplementary documentation/05//-/17/ confirms that the details on data/parameter available and/or default value applied is in accordance with the applied monitoring methodology and acceptable to the VVB.

Verification	
Means of verification	Desk-review on-site inspection/interviews
Findings	NA
Conclusion	Further PP has provided details of default data and parameter that were applied in RothC model and SOC simulation as follows/02//4.6/: **The Italian Portion of The Global Soil Organic Carbon Map (GSOCMAP):** - The Global Soil Organic Carbon map for Italy estimates soil organic carbon stock (CS) at 0-30 cm depth, using data from 1990-2013. With 6748 sampled points, corrected SOC values and estimated bulk density, the map employs interpolation methods like neural networks and GLM, validated with MAE and RMSE statistics. Contact for data inquiries is available through the Research Centre for Agriculture and Environment (CREA). - The time series from 1993 -2013 has been applied to obtain average SOC stock in baseline scenario following the literature reference, Fantappie et al., 2018. - To model the carbon dynamics for the period between 2014 and 2020. Environmental variables were extracted using the Google Earth Engine for this period and for the following period (2021-2023). Carbon inputs for the first period were treated as constant and corresponded to the expected input for olive tree crops (0.06 per month), based on the table of agricultural practice inputs. Subsequently, each property had its carbon inputs increased depending on the implemented practice. - VVB based on the review of RothC model application procedure and by interviewing the project's MRV personnel confirms that the source referred for SOC relevant spatial data and methodology applied is valid and appropriate. **500-meter grid of Derived Soil Profiles (DSP) for Italy - SuoliCella500:** To obtain % value of sand, silt, clay, and value of soil depth the following steps were followed/02//4.6/

	- Data Collection: Collect data from the national database of Italian Soil Typological Units (STU) and corresponding Derived Soil Profiles (DSP). These profiles are obtained on a 500 meters grid, totaling 1,109,672 points, using a neural network. - Mapping: Use neural network mapping to determine the most probable WRB Reference Soil Group (RSG), WRB Qualifiers, and USDA textural soil types for each point on the 500 meters grid. - Grouping: Group the 18,707 Observed soil profiles and the respective 33,014 Soil Horizons into 4,472 STUs based on combinations of Soil Region, WRB Reference Soil Group (RSG), WRB Qualifiers, and USDA textural soil types obtained on the 500 meters grid. - Statistical Analysis: Calculate statistics such as Mean Value, Standard Deviation Value, and Numerosity for soil rooting depth and common analytical parameters of the soil horizons (e.g., Coarse fragment content fraction, pH in water, Carbon (C) - organic, Carbonate (CO_3--) - Total, Clay, Sand, Silt fraction, Granulometry, Textural soil types). - Coordinate System: Ensure the 500 meters grid adopts EPSG 23032 (ED50 UTM-32) coordinate system for consistency. - Reference Scale: Attribute a reference scale of 1:250,000 to the 500-meter grid map based on the numerosity of DSP produced for the entire Italian territory. VVB The source referred is the "CREA Consiglio per la ricerca in agricoltura e l'analisi dell'economia agrarian – Italy"[61] i.e., Council for Agricultural Research and Economics Analysis of the host country (under Ministry of Agriculture, Food Sovereignty and Forests. VVB confirms that the data and parameter remaining constant have been sufficiently described.

5.9.3 Data and parameters monitored

Validation	
Means of project Validation	Desk-review on-site inspection/interviews
Findings	CAR 18 was issued and resolved.
Conclusion	The validation/verification team has reviewed the data and parameters to be monitored detailed in the PDD/01/ against the proposed methodology VM0042 v2.0/B02/. The team further, during the site visit, interviews with PP and project personnel assessed the monitoring and recording procedures in place. Data and Parameters to be monitored have been summarized below: **Data and Parameters to be monitored:** Data / Parameter: Weighted average adoption rate (AR) — Value applied: Variable Data / Parameter: Area of proposed project-level adoption of each activity ($Area_{an}$) — Value applied: Variable

[61] CREA - Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria - CREA

Adoption rate of the n largest most common proposed project activity in the region (EA_{an})	Variable
Area of sample unit I (A_i)	Variable
Sample unit; defined area that is selected for measurement and monitoring, such as a field or stratum (i)	Variable
Type of fossil fuel combusted (j)	Variable
Type of synthetic N fertilizer (SF)	Variable
Type of organic N fertilizer (OF)	Variable
Areal-average soil organic carbon stocks in the baseline scenario for sample unit i in year t ($SOC_{bl,I,t}$)	Variable
Areal-average soil organic carbon stocks in the baseline scenario for sample unit i in year t-1 ($SOC_{bl,I,t-1}$)	Variable
Areal-average soil organic carbon stocks in the project scenario for sample unit i in year t ($SOC_{wp,I,}t$)	Variable
Areal-average soil organic carbon stocks in the project scenario for sample unit i in year t-1 ($SOC_{wp,I,t-1}$)	Variable
Change in carbon stocks in trees and shrubs in the baseline ($\Delta CTREE,bsl,i,t$ and $\Delta C_{SHRUB,bsl,i,t}$)	Variable
Change in carbon stocks in trees and shrubs in the project ($\Delta CTREE,wp,i,t$ and $\Delta C_{SHRUB,wp,i,}t$)	Variable
Consumption of fossil fuel type j in the project for sample unit i in year t ($FFC_{wp,j,I,t}$)	Various
Mass of N containing synthetic fertiliser applied in the project sample unit I in year t ($M_{wp,SF,I,t}$)	Various
Mass of N containing organic fertilizer applied in the project for sample unit i in year t ($M_{wp,OF,i,t}$)	Various
Leakage in year t (LE,t)	Various
Number of buffer credits to be contributed to the AFOLU pooled buffer account in year t ($Buffer,_t$)	Various

As per the ICR PDD[/01/], project proponent has followed methodology VM0042 v2.0[/B02/], to monitor pertinent data parameter. The approach followed and justification for source of data has been found aligning with the applied monitoring methodology.

VVB confirms that all the monitoring activities have been carried out by the MRV personnels with project-type specific expertise[/12/] and academic qualifications, to ensure possible optimum data quality. VVB has ascertained that the PP has demonstrated the precise organizational structure along with the on-site/field level roles and responsibility of each monitoring personnel, thereby ensuring regular and appropriate data collection, measurement and/or monitoring, and reporting of project particulars.

Verification

Means of verification	Desk-review on-site inspection/interviews
Findings	Verification CL 01
Conclusion	dditionally, PP has provided information on data input and sources utilized for parameters pertinent to SOC modelling using RothC Model[/02//03//4.6/]: **Reference evapotranspiration (ASCE Penman-Montieth)":**

- Dataset provided by Idaho EPSCoR and TERRACLIMATE have been applied by PP, which represents reference evapotranspiration calculated using the ASCE Penman-Montieth method.
- Using ASCE Penman-Montieth method, numerical values of evapotranspiration were retrieved. This method considers various climatic parameters to calculate the amount of water that would evaporate from a well-watered grass surface under specific climatic conditions.
- Approach used includes the necessary variables and temporal coverage for analysis to understand the spatial and temporal patterns of reference evapotranspiration in area of interest. Therefore is acceptable to the VVB.

MODIS Temperature:

- PP has selected MOD11A2.061 dataset, which provides global coverage of land surface temperature (LST) and emissivity data derived from Terra satellite observations.
- The dataset used has an 8-day temporal resolution and a spatial resolution of 1 kilometer.

CHIRPS Rainfall: Data source: UCSB-CHG/CHIRPS/PENTAD, which provides monthly precipitation data across Europe.

- CHIRPS Pentad dataset developed by the Climate Hazards Group have been applied for rainfall/precipitation.
- The dataset used provides highly accurate precipitation estimates by combining satellite infrared data with ground station observations. It operates on a 5-day temporal resolution, providing global coverage.

Soil Physical parameters: Data source: Field sampling/ soil sampling
i) Soil Organic Matter (SOM) (%) and Organic Carbon (mg/kg): Walkley-Black method, loss on ignition (LOI), or dry combustion method.
ii) Phosphorus (ppm): through various extraction methods like Olsen, Mehlich-3, or Bray methods, followed by colorimetric analysis.
iii) Bulk Density (g/cm^3): Measured using soil cores or cylinders collected from the field, as the ratio of dry soil mass to its volume
iv) Total Nitrogen (mg/kg): using Kjeldahl digestion or combustion methods followed by colorimetric analysis.

Soil sampling for the respective area of interest followed by laboratory analysis to obtain % organic matter (includes decomposed plant and animal residues, microorganisms, and other organic materials).

VVB has reviewed the soil analysis reports issued by authorized laboratories[17]/ and has ascertained the following:

Soil reports provided by ECO CONTROL s.a.s (Laboratories qualified under Department of Environment and Health) Includes details of:

- Sample ID,

	- Date, - Location (Lat/long coordinates) of soil sample collection, - Applicant, ie., Alberami SRL - Nitrogen (g/kg) content using Kjeldal method, - % organic matter, P_2O_5 (PPM) values, - Organic carbon (g/kg), - Apparent density (g/cm^3) The methodology applied for chemical analysis is based on the guideline of "Italian Society of Soil Science". The soil analysis reports/17/ provided are sealed and signed by the responsible Agronomist and head of the laboratory. VVB confirms that PP has followed standard procedures to obtain data values for chemical and physical properties of soil sample identified within project area. **Soil Reports provided by LabSel SRL Laboratory** (qualified to carry soil analysis per Ministerial decree 14/05/96 and Art. 1 of legislative decree 29/04/2010 n.75): Includes information on: - Issue date. - Client/Applicant ie., Alberami SRL - Location (Lat/long coordinates) - Field procedure: Verra VM0042 - Packaging/container type: HDPE bag, glass containers. - Quantity of soil sample: 7000g - Timeline of receipt of soil sample, soil analysis, and final data evaluation - Amendment notes: such as Density parameter integration. - Soil parameters: SOC, density, total nitrogen, assimilable phosphorous and standard method followed to analysis each parameter. - Digital signatures of chemist and physicist responsible. VVB has cross-referenced the soil data/parameter values provided in spreadsheet; "AP5 Tabulated result of soil samples taken in the field and measured in the laboratory", and the soil analysis reports. VVB confirms that the soil parameter values are consistent in provided supporting documents/17/. Based on the review of the ICR PDD/01/, MR/02/, evidential documentation/03-18/ and on-site inspection/interviews/4.6//4.7/, further a comprehensive discussion with MRV personnel over the calculation approach followed (Via Teams meeting Platform, held on 10/04/2024), VVB confirms that the data/parameter to monitored as outlined in the ICR PDD/01/ are valid and applicable for the first project instance.

5.10 Quantification of GHG emission mitigations (ex-post)

Validation	
Means of project Validation	Desk-review on-site inspection/interviews
Findings	CL 01 of Verfication.

Conclusion	
	As per the ICR MR/02/ PP has applied Roth C (Source/reference: [62],[63], [64], [65], [66] model for SOC assessment for the first project instance. The RothC model serves as a well-established framework for simulating soil organic carbon dynamics. By segmenting organic carbon into distinct pools with unique decay rates, the client enables a nuanced analysis of soil carbon turnover, thereby enhancing the understanding of soil organic matter dynamics. Project Proponent has appropriately incorporated various environmental parameters such as temperature, moisture, and clay content into the RothC model. By considering these factors as modifiers of decomposition rates, the model accounts for the complex interplay between soil attributes and carbon dynamics, thereby improving the accuracy of the simulations. Following the inter-pool carbon fluxes PP has demonstrated the flow of carbon within soil system in the project region. Taking into consideration the transformation of organic matter into humified and inert materials, the long-term implications of soil management practices on carbon sequestration has been analyzed. The decomposition rate for each carbon pool is governed by: $Decomp_{Ratei} = k_i \times C_i \times Effect_{clay} \times Effect_{temp} \times Effect_{moist}$ Where $Decomp_{Ratei}$ delineates the decomposition rate for pool i, ki represents the specific decomposition rate constant, Ci the carbon content, and $Effect_{clay}$, $Effect_{temp}$, and $Effect_{moist}$ are the environmental modifiers about clay, temperature, and moisture respectively. Inter-Pool Carbon Fluxes: The transitions between carbon pools follow these relations: $DPM_{new} = (1-f_{DPM}) \times Input$ $RPM_{new} = f_{DPM} \times Input$ $BIO_{new} = kDPM \times DPM + kRPM \times RPM$ $HUM_{new} = fHUM \times (kDPM \times DPM + kRPM \times RPM)$ Here, input stands for the influx of fresh organic carbon, while f_{DPM} and f_{HUM} represent the portions allotted to decomposable material and humified substances, respectively. **Processes of Humification and Inertization** The transformation into humified and inert materials is described by:

[62] Mondini, Claudio, et al. "Soil C storage potential of exogenous organic matter at regional level (Italy) under climate change simulated by RothC model modified for amended soils." Frontiers in Environmental Science 6 (2018): 144. (https://doi.org/10.3389/fenvs.2018.00144)

[63] Francaviglia, Rosa, et al. "Changes in soil organic carbon and climate change–Application of the RothC model in agro-silvo-pastoral Mediterranean systems." Agricultural Systems 112 (2012): 48-54. (https://doi.org/10.1016/j.agsy.2012.07.001)

[64] Fantin, Valentina, et al. "The RothC Model to Complement Life Cycle Analyses: A Case Study of an Italian Olive Grove." Sustainability 14.1 (2022): 569. (https://doi.org/10.3390/su14010569)

[65] Mondini, C., K. Coleman, and A. P. Whitmore. "Spatially explicit modelling of changes in soil organic C in agricultural soils in Italy, 2001–2100: Potential for compost amendment." Agriculture, ecosystems & environment 153 (2012): 24-32. (https://doi.org/10.1016/j.agee.2012.02.020)

[66] 5. Mondini, Claudio, et al. "Modification of the RothC model to simulate soil C mineralization of exogenous organic matter." Biogeosciences 14.13 (2017): 3253-3274. (https://doi.org/10.5194/bg-14-3253-2017)

HUMincrease = fHUM×BIOnew

$$IOMincrease = fIOM \times HUM$$

with $fIOM$ symbolizing the proportion of humified matter transitioning into inert status.

This approach not only leverages peer-reviewed studies and official data repositories but also engages in original data collection and analysis, providing a robust foundation for assessing the environmental benefits of the AgroEcology_Italy project's regenerative agriculture practices.
Three R scripts were designed for the AgroEcology_Italy project that serve to streamline the process of analyzing soil organic carbon (SOC) dynamics using the RothC model, reflecting a meticulous approach to data handling and simulation that aligns with the project's sustainable agricultural goals.

PP has outlined the steps followed in the section 7 of the ICR MR/02/ :

1. **Data Retrieval and Organization:** Collection of climatic data from MODIS images, covering essential variables such as temperature, precipitation, and evapotranspiration.

2. **Data Filtering and Borrowing:** Refining the dataset to ensure relevance and completeness. It includes filtering the data to include only those properties under the project's purview.

3. **Adjustment for Unavailable Data:** The script incorporates methods to extrapolate or replicate data to fill gaps. This ensures that the model has a complete dataset and minimizes potential inaccuracies.

4. **Model Simulation:** Using RothC model for SOC dynamics analysis, leveraging the RothC model. It defines the model inputs, including decomposition rates, initial carbon stock levels, and agricultural practice-related changes in carbon inputs. This script represents the project's analytical backbone, processing environmental and management data to simulate how SOC levels might evolve over time under various scenarios.

5. **Export and Analysis:** The final script transitions from simulation to application, focusing on organizing the RothC model outputs actionable insights. It facilitates data sharing among the project team, generates graphical representations for easy interpretation of the results, and performs statistical analyses to compare SOC levels before and after the implementation of regenerative practices. Moreover, it calculates potential carbon credits, offering a quantitative basis for evaluating the project's impact on carbon sequestration and its financial implications. The results of the RothC model can be seen in the Appendix 12 model outputs/17/.

Based on the independent web search[67,68,69] on application of RothC model, VVB confirms that the procedures employed by MRV personnel is valid and acceptable.

PP has carried out field sampling to evaluate the impact of project activities with respect to the conventional farming practices. For this the baseline data has been obtained from

[67] Rothamsted Carbon Model (RothC): Understanding Soil Carbon Dynamics
[68] ROTHC-26 (rothamsted.ac.uk)
[69] Technical Manual Global Soil Organic Carbon Sequestration Potential Map GSOCseq (Published by FAO, 25/11/2020)

Global Soil Organic Carbon (SOC) map for Italy. PP has provided soil analysis reports reflecting the soil parameter values for; total nitrogen, organic carbon content, soil organic matter (SOM), phosphorus content, and soil density.

The soil samples have been collected at 3 depth (0.1 m, 0.2 m, and 0.3 m) to analysis soil and carbon sequestration potential of respective farm holdings/sample points/02//4.6/.

PP has outlined the soil properties analyzed and plot IDs indicating maximum output for relevant soil parameter:

Soil Parameter	Value range obtained (Min. – Max.)/17: AP5/
Bulk Density	1.19 g/cm³ to 1.8 g/cm³ at a depth of 0.1m 1.2 g/cm³ to 1.8 g/cm³ at a depth of 0.2m 1.2 g/cm³ to 1.8 g/cm³ at a depth of 0.3m
Total Nitrogen	0.57 mg/kg to 5.1 mg/kg at 0.1m depth 0.54 mg/kg to 3.4 mg/kg at 0.2m depth 0.51 mg/kg to 1.0 mg/kg at 0.3m depth
Organic Carbon	1.35 mg/kg to 4.0 mg/kg at 0.1m depth 1.0 mg/kg to 2.1 mg/kg at 0.2m depth 0.1 mg/kg to 1.49 mg/kg at 0.3m depth
Soil Organic Matter	2.32 mg/kg to 6.88 mg/kg at 0.1m depth 1.81 mg/kg to 3.59 mg/kg at 0.2m depth 0.4 mg/kg to 2.58 mg/kg at 0.3m depth
Phosphorus Content	4.0 ppm to 38.0 ppm at 0.1m depth 4.0 ppm 37.9 ppm at 0.2m depth 4.0 ppm 35.2 ppm at 0.3 m depth
Sand Fraction	61.79 % to 19.24 % at 0.1m depth
SOC	4.67 t C/ha to 57.35 t C/ha at 0.1m depth 12.30 t C/ha to 57.35 t C/ha at 0.1m depth 10.65 t C/ha to 36.66 t C/ha at 0.1m depth
Avg. Carbon sequestration	48.90 t CO_2/ha to 157.38 t CO_2/ha

VVB has cross-referenced the soil data/parameter values provided in spreadsheet; “AP5 Tabulated result of soil samples taken in the field and measured in the laboratory”, and the soil analysis reports. VVB confirms that the soil parameter values are consistent in provided supporting documents/17/.

Model Calibration: As per the ICR MR/02/ and discussion with the MRV personnel, the RothC model was calibrated using soil organic carbon (SOC) values from 10 sampling sites, along with environmental factors like clay content, temperature, and moisture.

This calibration was done using the Generalized Likelihood Uncertainty Estimation (GLUE) method to estimate RothC parameters, ensuring accurate predictions.

The calibration aimed to estimate seven parameters of the RothC model simultaneously, including decomposition rates and evaporation coefficient. Using 100,000 parameter sets, carbon dynamics of each site from the baseline SOC (average between 1990 and 2013) and until the month when soil samples were taken (December 2023) using each parameter set, independently.

The Root Mean Squared Error (RMSE) was used to assess prediction accuracy, and the 2.5%-quantile of RMSE was selected to build posterior distributions for each parameter, providing estimates for model parameters. This calibration method aligns with recommendations for accurate parameter estimation in RothC models/02/.

Estimates and standard errors (S.E.) of the mean for the seven parameters estimated under the RothC model calibration procedure. Estimated parameters: decomposition rates (k) for all five compartments (DPM, RPM, BIO, HUM, and IOM), the DPM/RPM ratio (DR), and the evaporation coefficient (pE). Standard errors were obtained by dividing the standard deviation of posterior distributions by the number of parameter sets considered/02/.

Parameter	k.DPM	k.RPM	k.BIO	k.HUM	k.IOM	DR	pE
Estimate	9.495	0.169	0.548	0.014	4.060	0.581	1.278
SE	0.117	0.001	0.005	0.00007	0.064	0.007	0.004

After calibrating and estimating parameters, PP has used the estimates to simulate soil organic carbon (SOC) dynamics for the 10 sampling sites. The goal was to compare predicted values with observed SOC values. The results indicated a 98% precision rate, meaning the modelled values closely matched the empirical SOC values. This suggests that the calibration procedure produced parameter estimates that accurately reproduced SOC values for all 10 sites/02//4.6/.

VVB confirms that the model calibration approach is in line with appendix 4 of VM0042 v2.0/B02/and valid and acceptable.

Verification	
Means of verification	Desk-review on-site inspection/interviews
Findings	NA
Conclusion	As described above.

5.10.1 Criteria and procedures for quantification

Validation	
Means of project Validation	Desk-review on-site inspection/interviews
Findings	NA
Conclusion	Based on the review of ICR MR/02/, VVB has ascertained the following on baseline emissions monitoring:

	1. **Data Collection and Baseline Establishment**: The use of the Global Soil Organic Carbon map for Italy provides a solid foundation for establishing the baseline emissions. The dataset is extensive, spanning a significant period from 1990 to 2013, and covers 6748 sampled points, enhancing the representativeness of the baseline. The correction of soil organic carbon (SOC) values and the inclusion of bulk density further strengthen the accuracy of the baseline estimation. 2. **Mapping Methodology**: The employment of sophisticated interpolation techniques like neural networks and Generalized Linear Models (GLM) demonstrates a commitment to accuracy in the mapping process. The validation using statistical metrics like Mean Absolute Error (MAE) and Root Mean Squared Error (RMSE) adds credibility to the mapped outcomes. 3. **Temporal Coverage and Modeling Approach**: The decision to use the RothC model for modeling data between 2013 and 2021 is logical, considering the temporal coverage of available data and the alignment with the point sample collection period. Leveraging inputs associated with land use history and data from Fantappie et al. (2018) ensures a robust approach to capturing carbon dynamics over time. 4. **Integration of Environmental Variables**: The incorporation of environmental variables obtained from the Google Earth Engine platform, such as CHIRPS Rainfall, MODIS Temperature, and evapotranspiration, adds depth to the analysis and enables a comprehensive understanding of carbon dynamics from 2014 to 2023. 5. **Carbon Input Adjustments**: The adjustment of carbon inputs based on agricultural practices allows for a nuanced representation of carbon dynamics over time, reflecting real-world scenarios and enhancing the accuracy of the emissions assessment. RothC is a model for the turnover of organic carbon in non-waterlogged top-soils that allows for the effects of soil type, temperature, moisture content and plant cover on the turnover process. It uses a monthly time step to calculate total organic carbon. Data required to run the model are rainfall , evaporation, temperature, Clay content of the soil, DPM/RPM ratio[70], soil cover, input of plant residues, input of farmyard manure (FYM) and depth of soil layer sampled. VVB confirms that the approach to assess baseline emissions is methodologically sound and well-supported by scientific literature and data sources. The use of advanced techniques for mapping and modeling, along with thorough validation and incorporation of environmental variables, contributes to the reliability and credibility of the assessment.
Verification	
Means of verification	Desk-review on-site inspection/interviews
Findings	NA

[70] An estimate of the decomposability of the incoming plant material

Conclusion	VVB has reviewed the peer reviewed literature/13/ applied to incorporate RothC model for the assessment of SOC in the project region and has further reviewed the tabulated result of soil samples taken in the field and measured in the laboratory(.xlsx)/17/ and confirms that the SOC estimation for the first project instance as valid and acceptable.

5.10.1.1 Baseline emissions

Validation	
Means of project Validation	Desk-review on-site inspection/interviews
Findings	CL 01 of verification.
Conclusion	VVB has interviewed the MRV personnel on 10/04/2024 (via Microsoft teams meeting platform); to investigate how RothC model has been utilized the spatial data of environmental conditions/ climate factors and different decomposition rates in simulation of organic carbon turnover in non-waterlogged topsoil. - PP has provided information on data sources, including soil maps, climate datasets, and soil profile analyses, ensuring the reliability of carbon stock calculations and environmental modelling. Due to confidentiality issue the R scripts followed for RothC model application remain with the project proponent/participant. However, PP has transparently clarified the approach followed and data input applied during SOC modelling and is acceptable for the VVB. VVB has ascertained following particulars on SOC modelling carried out by PP by applying RothC model: • The RothC model is a process-based model that simulates the turnover of soil organic carbon in agricultural and natural ecosystems. • **Modelling scripts (soilR -scripts) were used for:** Climate dataset, Soil data input, carbon input, LULC/cover data and SOC Modelling, these scripts are the key feature for running simulations. Additional scripts were for organized climate data, model results, mean Carbon, credits. - Climate datasets such as temperature, precipitation, evapotranspiration rate etc. were retrieved using satellite data from MODIS, pertinent to Farmer's ID (Plot ID, GPS coordinates) and simulated over monthly temporal scale of 10 years for all polygons modeled. - Soil data included soil type, texture (especially clay content %), topsoil depth (0- 30 cm), and initial SOC content (t C/ha). Carbon input (shape files pertinent to soil data) has been obtained from soil maps/statistical models in the host country of Italy (500-meter grid of Derived Soil Profiles (DSP) for Italy - SuoliCella500 from 1990 to 2013)/02/. These peer reviewed data were considered the baseline. - Land use/land cover data includes details of cropping systems, vegetation types, and land management practices. - Satellite data provided additional information for calibration/validation of the model or for spatial analysis. • Literature reference utilized by PP as data input for constant value such as evapotranspiration rate and decomposition rates have been detailed under section 7 of the ICR MR/01//18/. • **Decay rates taken into consideration per RothC model:** Decomposable Plant Material (DPM), Resistant Plant Material (RPM), Microbial Biomass (BIO), Humified Organic Matter (HUM). • **Running the model:** Run simulations using the provided climate data, soil properties, and land use/cover information. PP has used the monthly temporal scale (per year).

	• The baseline SOC stock is an average between 1990 to 2013 (Fantappie et al. (2018)), then after the simulation model was used for 2014 to 2020 based on historical LUC data for respective farms. Further environmental factors/climate variables and peer reviewed data (LIFE- C Farms/B02/) for respective agricultural practice employed/planned to be employed (Google earth engine based) have been used for 2021 to 2023 to obtain final SOC values. • A total of 1013 polygons were used during this process. • The final output has been calculated as difference between the initial SOC stock and final SOC stocks for the respective plot IDs. The maximum mean SOC has been obtained was 13.56 tCO_2/ha/year for plot ID: 1000000264 and lowest means SOC value of 01173 tCO_2/ha/year for plot ID: 1000000312 Further based on the independent web search[71,72,73] on application of RothC model, VVB confirms that the procedures employed by MRV personnel is valid and acceptable.
Verification	
Means of verification	Desk-review on-site inspection/interviews
Findings	NA
Conclusion	As described above.

5.10.1.2 Project emissions

Validation	
Means of project Validation	Desk-review on-site inspection/interviews
Findings	NA
Conclusion	Described in preceding section 5.8.1.2 of this report.
Verification	
Means of verification	Desk-review on-site inspection/interviews
Findings	NA
Conclusion	Described in preceding section 5.8.1.2 of this report.

5.10.1.3 Leakage

Validation	
Means of project Validation	Desk-review on-site inspection/interviews
Findings	NA
Conclusion	Described in preceding section 5.8.1.3 of this report.
Verification	
Means of verification	Desk-review on-site inspection/interviews
Findings	NA
Conclusion	Described in preceding section 5.8.1.3 of this report.

[71] Rothamsted Carbon Model (RothC): Understanding Soil Carbon Dynamics
[72] ROTHC-26 (rothamsted.ac.uk)
[73] Technical Manual Global Soil Organic Carbon Sequestration Potential Map GSOCseq (Published by FAO, 25/11/2020)

5.10.2 Quantification of Net-GHG emissions and/or removals

Validation	
Means of project Validation	Desk-review on-site inspection/interviews
Findings	NA
Conclusion	Described in preceding section 5.8.2 of this report.
Verification	
Means of verification	Desk-review on-site inspection/interviews
Findings	NA
Conclusion	Described in preceding section 5.8.2 of this report.

5.10.3 Risk assessment for permanence

Validation	
Means of project Validation	Desk-review on-site inspection/interviews
Findings	NA
Conclusion	Detailed under section 5.8.3 of this report.
Verification	
Means of verification	Desk-review onsite inspection-interviews
Findings	NA
Conclusion	Detailed under section 5.8.3 of this report.

5.11 Management of data quality

Validation	
Means of project Validation	Desk-review onsite inspection-interviews
Findings	No issues were raised
Conclusion	Following the ISO 14064-2 guidance/B01/, PP has employed the data management system as described below: **Data collection and storage:** • All client data and resources are stored on a secure cloud-based storage system. • Primary data collected from the farms and the accuracy/credibility of on-farm measurements and records are evaluated for their reliability according to their source material. • Input data is benchmarked against industry data and global standards; if data falls outside the expected benchmark range, further information and validation are requested from farmer. • ALBERAMI will assess the quality and reliability of input data and apply the determined uncertainty factor to the outcome of each GHG emission source and sink. The impact of the uncertainty is then discussed with the project participant to determine if they wish to initiate additional efforts to source more reliable data. • ALBERAMI will conduct annual site visits to participating farms to provide data storage/reporting training and ensure the project activities are correctly implemented.

	• ALBERAMI will remain in contact with Project Implementation Partners throughout the year and will assist with data collection and provide technical guidance. **Soil sampling:** • All soil samples should be taken in compliance with ALBERAMI's internal protocol, and analysis must be performed by an accredited laboratory. • Copies of the original lab report should be stored, along with evidence of sample location. • Evaluation of the quality of SOC data according to several criteria, including variation (standard error) between samples and the number of soil samples taken will be done. **Quality assurance and control:** The ALBERAMI team and its partners consist of experts in the fields of soil fertility, agricultural science, sustainable agriculture, agronomists, carbon accounting, and environmental science. All members of the scientific team possess no less than a master's degree in their respective field and minimum of 5-years' experience. Annual GHG assessments are internally reviewed against rigorous criteria before the farm input data collection form, GHG emission/removal calculations, and detailed report is audited by a third-party. The process of recording data and system maintenance as described in section 9 of the ICR PDD/01/ has found to be in place during the on-site inspection/interviews/4.6//4.7/. The project proponent will keep the record directly on automatically stored on cloud-based data storage system. VVB confirms that the data management practices described in the ICR PDD/01/ demonstrate a comprehensive approach to ensuring the quality, reliability, and integrity of data used in GHG assessments. The combination of standardized procedures, expert personnel, and external validation processes positions the project well for accurate and credible reporting of greenhouse gas emissions and removals.
Verification	
Means of verification	Desk-review onsite inspection-interviews
Findings	None
Conclusion	Based on the review of ICR MR/02/, VVB confirms that PP's data management approach demonstrates a comprehensive understanding of industry standards, a commitment to quality assurance, and a proactive approach to addressing potential challenges. The auditor would likely commend the client for their thoroughness, adherence to procedures, and dedication to continuous improvement in data management quality. During on-site inspection/interviews/4.6/4.7/, it is confirmed that all measures described in the PDD/01/ regarding management of data quality have been implemented, hence, data retrieved for GHG emissions calculation is reliable and is in line with section 4.9 of the ICR requirement document v.4.0/B01/.

6 Independent Review

6.1 Validation

The internal technical reviewer has independently assessed the project documentation to ascertain compliance with applicable GHG program requirements and adherence to internal procedures in forming the validation opinion.
The technical review of the project documentation has been carried out by independent reviewer who was not involved in the validation activity of the subject project. Upon completion of final validation report the report is submitted for the technical review. At this stage, any outstanding issues are either addressed or new findings are identified for resolution by the assessment team and/or project proponents.
The technical reviewer, acting on behalf of Carbon Check (India) Private Limited, serves as the decision-maker. A positive opinion is granted if all findings are satisfactorily resolved; otherwise, a negative opinion is issued, unless the contract is terminated prior to final assessment.
The technical reviewer has confirmed that the project particulars have been described in accordance with the applicable ICR requirements and ISO 14064-3 guideline.

6.2 Verification

The project documentation undergoes thorough review by an internal technical expert to ensure compliance with GHG program requirements and adherence to internal procedures.
The technical reviewer has the authority to accept or reject the validation and verification opinions, providing clear reasons for their decision. Any unresolved issues are addressed by the assessment team and project proponents. The technical reviewer, representing Carbon Check (India) Private Limited, issues a positive opinion if all findings are resolved satisfactorily; otherwise, a negative opinion is issued, unless the contract is terminated prematurely.
Technical reviewer has confirmed that project has been implemented in accordance with pertinent ICR guidelines and ISO 14064-3: 2019 requirements.

7 Opinion

7.1 Validation Opinion

Alberami S.R.L., the project proponent for subject project, has commissioned the VVB i.e., Carbon Check (India) Private Limited to perform an independent joint validation-verification of the ICR Grouped Project: AgroEcology_Italy "Reducing GHG Emissions and Increasing Carbon Sequestration in Italian Agriculture". This report summarizes the findings from the validation and verification of the project and their resolutions, performed based on ICR criteria, as well as criteria given to provide for consistent project operations, monitoring, and reporting.

The validation assessment has been conducted to indicate the reasonableness of assumptions, limitations, and methods supporting the statement made by project proponent regarding the ex-ante i.e., constant values for the relevant data and parameters. Based on the review of the ICR PDD/01/, ex-ante carbon calculation spreadsheets/03/, and relevant supporting evidence (i.e., peer review literature/18/, IPCC default values, region specific research studies), VVB confirms that all the assumptions and statements made by PP area valid and appropriate with the possible reasonableness. Further, VVB has assessed the relevant data and parameters in section 3.3.8 of this report.

The validation process has been performed based on all guidance and criteria as provided in ICR requirement document v4.0, ISO 14064-2, 14064-3, ISO 14065/B01/. The selected baseline and monitoring methodologies are/B02/:

1. LIFE C-Farms: "Carbon farming certification scheme standard" (Approved by European Union),
2. VERRA's VM0042: Methodology for Improved Agricultural Land Management Version 2.01)
3. CDM's AR-AMS007: A/R Small-scale Methodology "Afforestation and reforestation project activities implemented on lands other than wetlands" v3.1,

VVB, upon thorough review of project description and the proposed agronomic practice under the subject grouped project confirms that the selected methodologies are applicable to the project and have been correctly applied for project monitoring and reporting.

VVB, based on the desk review/01-18/, as well as on-site inspection/interviews/4.6//4.7/, confirms that the ICR grouped project has been designed to generate GHG emission mitigations and/or removals through implementation of sustainable agricultural land management practices (enlisted under section 1 and 3.1 of this report) in the designated project region and by facilitating participation of local farmer community to adopt regenerative carbon farming practices.

During the validation of the project a total of 21 findings have been raised by VVB, including 10 CARs, 11 CLs, and 00 FAR and upon the receipt of request clarification and/or supporting evidence all the findings have been satisfactorily closed.

VVB has followed a risk-based assessment approach based on review of the project description/01/, to evaluate correctness, completeness, and consistency of the data reported. An evidence-gathering plan has been developed to assess and mitigate any risk associated with description and justification for the project particulars. VVB has also evaluated and cross-checked the uncertainty analysis performed by the PP for addressing any sample errors, measurement error of model inputs and model prediction error, and estimation of project area.

The validation has been performed using a risk- based approach, as described above. The total estimated GHG emission mitigations and/or removals from the first project instance are 45,773,018 tCO_2e over the crediting period of 45 years (first crediting period 15 years: 01/01/2022 to 31/12/2036; 2 times renewal) with an annual average of 1,017,178 tCO_2e. VVB has carried out the additionality check of the project activity (detailed under section 5.5 of this report) and confirms that the project activity is not a common practice in the region and the net GHG emission mitigations generated from the project are additional to what would have been the business as usual in the project region.

Carbon Check (India) Private Ltd concludes the validation with a positive opinion that the ICR Project Activity AgroEcology_Italy "Reducing GHG Emissions and Increasing Carbon Sequestration in Italian Agriculture", as described in the latest revised version of ICR PDD/01/ (v1.0 dated: 11/04/2024), meets all the applicable ICR requirements, including those specified in the Project Standard, relevant methodology, tools, and guidelines. Carbon Check (India) Private Ltd. therefore requests the registration of the project as a ICR grouped project activity.

7.2 Verification Opinion

Carbon Check (India) Private Limited, has performed independent verification of the proposed ICR Grouped Project: AgroEcology_Italy "Reducing GHG Emissions and Increasing Carbon Sequestration in Italian Agriculture". Alberami S.R.L., as project proponent, is responsible for the implementation of the ICR project and all the relevant information.

The project verification has been conducted to provide a reasonable level of assurance of conformance against the defined audit criteria and materiality thresholds within the audit scope. Based on the audit findings, a positive evaluation statement reasonably assures that the project GHG assertion is materially correct and is a fair representation of the GHG data and information.
During the verification of the project total of 02 findings have been raised by VVB, including 01 CARs, 01 CLs, and 00 FAR and upon the receipt of request clarification and/or supporting evidence all the findings have been satisfactorily closed.

The documents reviewed are ICR PDD/01/, monitoring report/02/, carbon calculation spreadsheet/03/, and supplementary evidential documentation as listed under Appendix I of this report. VVB has performed physical inspection of the project site during 13/12/2023 to 15/12/2023. VVB confirms that during the reported monitoring period 01/01/2022 to 31/12/2023, project has reasonably achieved the estimated GHG emission mitigations through implementation of sustainable agricultural practices in the 7,159.67 region of Italy.

VVB confirms that the first project instance has been implemented in compliance with the ICR requirement and the guideline of ISO 14064-2: 2019, and the project activities employed, are in line with the baseline methodology i.e., LIFE C-Farms/B02/. The monitoring report/02/ provide evident and complete project information in consistence with the ICR-PDD/01/ and on-ground execution of the project is as described in the project documentation/01//02/.

The net GHG mitigations resulted from first project instance during reported monitoring period (with 11 % deduction), are detailed in the table below:

Year	Baseline emissions/removals (tCO_2e)	No. of hectares	Estimated ER total	GHG Increase	Leakage	Buffer = (AFOLU + CDR)	Total ICCs (tCO_2e)
			Agroecology Project			11 %	
2022	0	1114.06	1899.03	-	-	208,99	1690.14
2023	0	1449.16	6145.53	-	-	676,00	5469.52
Total Buffer						884,90	8044.57
Total Estimated Net Carbon Removal (tCO_2e)							**7159.67**
Total Crediting Years							**2**

Appendix

I. Documents reviewed or referenced in the report.

No.	Title	Version	Provider	Validation/ verification/ both
/01/	**ICR PDD** ALBERAMI Italy eCO2Gaia PDD - Vers_Post-Submission_Reviewed post VVB Findings updated_Track changes 11 April 2024	a. V1.0, On 11/04/2024	a. Mr. Moonis*	Validation
/02/	**ICR MR** ICR MR ID 48 PERIOD(01.01.2022- 31.12.2023) Version - 1.1 (.docx and .pdf)	V1.0 on 11/04/2024	Dr. Edivando**	Verification
/03/	**Ex-ante Carbon Calculation Sheet** AgroEcology_Italy - Ex Ante Credit Generation Estimation tCO2e	20/03/2024	Dr. Edivando	Validation
	Ex-post Carbon Calculation Sheet ER in first verification: ESTIMATIONS (3)	20/03/2024	Dr. Edivando	Verification
/04/	AgroEcology_Italy by Alberami - Project Presentation V4.pdf	04/10/2023		Validation
/05/	**Permanence Risk/ NPR Risk calculation** a. VCS-Risk-Report-Calculation-Tool-v4.0 b. VCS-Risk-Report-Calculation-Tool-v4.0_robson_evaluation.xls	a. 20/03/2024 b. 04/10/2023	Dr. Edivando	Both
/06/	**SDG impacts during the monitoring period** a. Complete Fee Schedule & Earnings for Farmers b. Farmers_ Feedback - Re SDGs c. Participant Evaluation Questionnaire for the AgroEcology Project by Alberami d. Summary of survey responses on SDGs	20/03/2024	Dr. Edivando	Both
/07/	Double counting declaration letter	20/03/204	Dr. Edivando	Validation
/08/	**EU Regulations on Organic Farming** a. AP3.1 REGULATION (EU) 2018841 b. AP3.2 REGULATION (EU) 20211119 c. AP3.3 EU Nature Directives	20/03/204	Dr. Edivando	Validation

	d. AP3.4 EU Forest Strategy for 2030			
/09/	**Funding Letter:** Contratto di finanziamento ALBERAMI SRL	20/03/204	Dr. Edivando	Both
/10/	**Instance 1 Data:** AgroEcology-Project_Who-Is-Doing-What__FINAL (1)	20/03/204	Dr. Edivando	Verification
/11/	**Project location/KML Files** a. KML File First Instance b. KML File of Italy c. KML Files of Farmers (Total of 91 farms)	20/03/204 to 12/04/2024	Dr. Edivando	
/12/	MRV Personnel (.docx)/organizational structure	20/03/204	Dr. Edivando	
/13/	**Roth C Model/ model for the quantification of carbon in soil** **Roth C Model Peer Reviewed Studies** a. bg-14-3253-2017 b. fenvs-06-00144 c. francaviglia2012 d. mondini2012 e. Peer reviewed studies to support appropriateness of the applied method. f. sustainability-14-00569 **Roth C model Standard Operating Procedure** a. Roth C Model Standard Operating Procedure	20/03/204	Dr. Edivando	
/14/	**Stakeholders Consultation** a. Photographs Consultation Meetings Photographs **b.** AP4 Report of Stakeholder Consultation Events for the Agroecology Project c. Complete Fee Schedule & Earnings for Farmers d. Farmers_ Feedback - Re SDGs e. Participant Evaluation Questionnaire for the AgroEcology Project by Alberami **f.** Summary of survey responses on SDGs	20/03/204	Dr. Edivando	
/15/	**T1 Forms for Baseline Information and enrollment** Including farm and/or farmer specific details such as species of interest, farm area, Variety/cultivar, farm management application, date of interview of farmer, etc.)	20/03/204	Dr. Edivando	

/16/	**Contract agreement between PP and Farmer sample**	20/03/204	Dr. Edivando	
/17/	**Appendix Section Supporting Information** **a. AP5 Tabulated result of soil samples**: AP5 Tabulated result of soil samples taken in the field and measured in the laboratory(.xlsx) **b. soil reports by independent laboratories: Including details of soil physical and chemical parameters based on laboratory analysis.** **c. EU Regulations on Organic Farming** d. AP3.5 (a) Occupational Health and Safety Act (D.Lgs. 81_2008) - DECRETO LEGISLATIVO 9 aprile 2008 , n. 81 e. AP3.6 (b) Fair Labor Standards Act (D.Lgs. 66_2003) - DECRETO LEGISLATIVO 8 aprile 2003 , n. 66 f. AP3.7 (c) Civil Rights Act of 1964 (Legge n. 903_1977) - LEGGE 9 dicembre 1977 , n. 903 g. AP3.8 (c) Civil Rights Act of 1964 (Legge n. 903_1977) h. AP3.9 (d) Italian Law on Disability Discrimination - DECRETO LEGISLATIVO 9 luglio 2003 , n. 215 i. AP3.10 (d) Italian Law on Disability Discrimination - DECRETO LEGISLATIVO 9 luglio 2003 , n. 216 j. AP3.11 (e) Environmental Impact Assessment (D.Lgs. 152_2006) - DECRETO LEGISLATIVO 3 aprile 2006 , n. 152 k. AP3.12 (f) Water Pollution Control Act (D.Lgs. 152_2006) - DECRETO LEGISLATIVO 3 aprile 2006 , n. 152 (1) l. AP3.13 (g) Land Use Planning Act (D.Lgs. 42_2004) - DECRETO LEGISLATIVO 22 gennaio 2004 , n. 42 m. AP3.14 (h) Food Security Act (D.Lgs. 193_2007) - Decreto Legislativo 6 novembre 2007, n. 193 n. AP4 Report of Stakeholder Consultation Events for the Agroecology Project o. AP6 Temperature TerraClimate Monthly (.xlsx) p. AP7 Precipitation TerraClimate Monthly (.xlsx) q. AP8 MODIS Evapotranpitation TerraClimate Monthly (.xlsx)	20/03/204	Dr. Edivando	

	r. AP9 practices inputs RothC (.xlsx) s. AP10 C_baseline Global Soil Organic Carbon map (.xlsx) t. AP11 inputs_time_series (.xlsx) u. AP12 RothC result outputs (.xlsx) **v.** AP13 Data Quality Management Document (DQMD) for the AgroEcology_Italy Project			
/18/	**Reference/Source/Links** 1. Capodarca, M., Pernetta, J. C., & Marino, M. (2015). Agroforestry: An overview of the benefits and limitations of an integrated approach to land use management. Environmental Science & Policy, 49, 1-9. 2. Carbon sequestration in agroecosystems. (2018, October). Retrieved from https://www.sciencedirect.com/science/article/pii/S2212094718300520 3. Carstensen, J., et al. (2018). "Nitrogen deposition and eutrophication." Environmental Pollution, 234, 469-478. 4. Circular Economy in the Agri-food Sector. (2017, October). Retrieved from https://ec.europa.eu/info/publications/circular-economy-agri-food-sector_en 5. Eurostat (2021). Farm structure. Retrieved from: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Farm_structure&oldid=495910 6. FAO (2021). Olive oil - Production (Tons). Retrieved from: http://www.fao.org/faostat/en/#data/QC 7. Foster, D.R., et al. (2018). "Cover cropping for soil health." Agronomy Journal, 110(4), 1499-1510. 8. G. Marino, G., et al. (2020): "Impact of different organic farming systems on soil physical, chemical and biological properties". 9. Galloway, J.N., et al. (2004). "Nitrogen cycles: past, present, and future." Biogeochemistry, 70(1), 153-226. 10. Garré, P. et al. (2019). Carbon sequestration in Mediterranean soils under different land-use and management practices: A review. Science of The Total Environment, 652, 1256-1266. 11. Gullino ML, Bacciu N, Masi F, Minnocci A. Regenerative agriculture practices reduce the spread of Xylella fastidiosa by reducing populations of insect vectors. Agric Ecosyst Environ. 2021 Mar 15;310:107124. doi: 10.1016/j.agee.2021.107124. Epub 2020 Nov 19. PMID: 33367927. 12. ISMEA (2021). Statistiche delle produzioni vegetali in Italia. Retrieved from: https://www.ismea.it/statistiche-delle-produzioni-vegetali-in-italia/ 13. ISTAT. (2021). Statistiche agricole - Colture. Retrieved from https://www.istat.it/it/archivio/241147?start=10 14. ISTAT. (2021). Statistiche agricole. Retrieved from https://www.istat.it/it/archivio/241147 15. Lal, R. (2018). "Carbon sequestration in dryland soils." Environmental Science & Policy, 7(4), 261-269. 16. Lattanzi, M., et al. (2020): "Assessment of the environmental and economic sustainability of a diversified organic farm in Italy". 17. Lattanzi, M., et al. (2021): "Evaluating the environmental and economic sustainability of organic and conventional viticulture in Italy". 18. Maestrini, B., Pecchioni, N., Maestrini, S., & Lorenzini, G. (2019). Agroforestry systems in fruit orchards: impact on soil properties and pesticide use. Agroforestry Systems, 93(1), 99-111. 19. Magkos, F., Arvaniti, F., and Zampelas, A., (2003) "Sustainability and quality in organic and conventional food products: A systematic review" American Journal of Clinical Nutrition 20. Maillard, É., & Angers, D. A. (2014). Animal manure application and soil organic carbon stocks: a meta-analysis. Agriculture, Ecosystems & Environment, 187, 36-47. 21. Marino, M., Mancuso, S., Bianchi, F., & Gioli, B. (2017). The role of agroforestry systems in mitigating climate change. Environmental Science & Policy, 73, 11-20. 22. Masi F, Bacciu N, Minnocci A, Gullino ML. Regenerative agriculture practices enhance olive tree resistance to Xylella fastidiosa. Front Plant Sci. 2020 Aug 10;11:1081. doi: 10.3389/fpls.2020.01081. PMID: 32826798; PMCID: PMC7417986.			

23. Minnocci A, Masi F, Bacciu N, Gullino ML. Impact of regenerative agriculture practices on Xylella fastidiosa infection and olive tree performance in Southern Puglia, Italy. Sustainability. 2022 Mar 18;14(6):3342. doi: 10.3390/su14063342. PMID: 35594429.

24. Mullen, R., et al. (2016). "Erosion control and water conservation benefits of reduced tillage for dryland grain production." Agronomy Journal, 108(2), 815-
25. O'Donoghue, T.; Minasny, B.; McBratney, A. Regenerative Agriculture and Its Potential to Improve Farmscape Function. Sustainability 2022, 14, 5815.
26. Orlandi, F; Rojo, Jesús; Picornell,A; Oteros, J; Pérez-Badia, R; Fornaciari, M. Impact of Climate Change on Olive Crop Production in Italy. Aviable at < https://www.mdpi.com/734596 >

27. Perazzoli, M., Caligari, P. D. S., D'Antraccoli, F., & Xiloyannis, C. (2019). Changes in soil organic matter and greenhouse gas emissions in olive groves after conversion to organic agriculture. Agriculture, Ecosystems & Environment, 275, 1-8.
28. Servili, M., Esposto, S., Taticchi, A., Urbani, S., Di Maio, I., Sordini , B. and Selvaggini, R. (2014). The effect of diverse agricultural and technological factors on olive oil quality and yield.
29. Smith, P. et al. (2018). Greenhouse gas mitigation in agriculture. Philosophical Transactions of the Royal Society B: Biological Sciences, 373(1752), 20170276.
30. Smith, P., et al. (2016). "Agriculture, forestry and other land use emissions." In Climate Change 2014: Mitigation of Climate Change (Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change). Cambridge University Press.
31. Smith, P., et al. (2018). "Agriculture, forestry and other land use (AFOLU)." In Climate Change: The Physical Science Basis (Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change). Cambridge University Press.
32. Spano D., Mereu V., Bacciu V., Marras S., Trabucco A., Adinolfi M., Barbato G., Bosello F., Breil M., Coppini G., Essenfelder A., Galluccio G., Lovato T., Marzi S., Masina S., Mercogliano P., Mysiak J., Noce S., Pal J., Reder A., Rianna G., Rizzo A., Santini M., Sini E., Staccione A., Villani V., Zavatarelli M., 2020. "Risk Analysis. Climate Change in Italy". <DOI: 10.25424/cmcc/analisi_del_rischio>
33. Sustainable Agriculture and Climate Change. (n.d.). Retrieved from https://www.fao.org/climate-change/mitigation/en/
34. Tittarelli R. and Vittuari G. (2019) - "Sustainable agriculture in Italy: a review".
35. World Bank. (s.d.). Worldwide Governance Indicators. Recuperado de https://databank.worldbank.org/source/worldwide-governance-indicators.

36. Xiloyannis C., Mininni A.N., Lardo E., Miccoli A., Fausto C. Good agricultural practices in the management of the Olive Quick Decline Syndrome. In : D'Onghia A.M. (ed.), Brunel S. (ed.), Valentini F. (ed.). Xylella fastidiosa & the Olive Quick Decline Syndrome (OQDS). A serious worldwide challenge for the safeguard of olive trees. Bari : CIHEAM, 2017. p. 83-85 (Options Méditerranéennes : Série A. Séminaires Méditerranéens; n. 121)

Peer reviewed literature followed for SOC modelling using RothC Model:

37. F Mondini, Claudio, et al. "Soil C storage potential of exogenous organic matter at regional level (Italy) under climate change simulated by RothC model modified for amended soils." Frontiers in Environmental Science 6 (2018): 144. (https://doi.org/10.3389/fenvs.2018.00144)

38. Francaviglia, Rosa, et al. "Changes in soil organic carbon and climate change–Application of the RothC model in agro-silvo-pastoral Mediterranean systems." Agricultural Systems 112 (2012): 48-54. (https://doi.org/10.1016/j.agsy.2012.07.001)

39. Fantin, Valentina, et al. "The RothC Model to Complement Life Cycle Analyses: A Case Study of an Italian Olive Grove." Sustainability 14.1 (2022): 569. (https://doi.org/10.3390/su14010569)

40. Mondini, C., K. Coleman, and A. P. Whitmore. "Spatially explicit modelling of changes in soil organic C in agricultural soils in Italy, 2001–2100: Potential for compost amendment."

	Agriculture, ecosystems & environment 153 (2012): 24-32. (https://doi.org/10.1016/j.agee.2012.02.020) 41. Mondini, Claudio, et al. "Modification of the RothC model to simulate soil C mineralization of exogenous organic matter." Biogeosciences 14.13 (2017): 3253-3274. (https://doi.org/10.5194/bg-14-3253-2017)			
/B01/	**ICR and ISO requirements/guidelines** **a)** ICR-Definitions-v1.0.pdf **b)** *ICR-Requirement-Document-v4.0.pdf **c)** ICR-Process-Requirements-v4.0.pdf **d)** ISO 14064 2 2019.pdf **e)** ISO 14064 3 2019.pdf **f)** ISO 14065-2020.pdf **g)** AFOLU Non-Permanence Risk Tool (v4.0, dated 19/09/2019)			
/B02/	**Methodology Applied** 1. CARBON FARMING CERTIFICATION SCHEME STANDARD: https://c-farms.eu/wp-content/uploads/2023/04/STANDARD-CARBON-FARMING-STORAGE-Public-Consultation-ENG.pdf 2. VM0042 v2.0 verra.org/wp-content/uploads/2023/05/VM0042-Improved-ALM-v2.0.pdf 3. AR_AMS0007 v3.1 untitled (unfccc.int) **Tools applied** VMD0053 v2.0			
/B03/	**a) Other GHG programs:** **CDM:** CDM: Project Activities (unfccc.int) **GCC:** GCC PROJECTS PORTAL (globalcarboncouncil.com) **GSF:** GSF Registry (goldstandard.org) **Plan Vivo:** Projects | Plan Vivo Foundation **b) ICR project page:** AgroEcology_Italy (carbonregistry.com)			
/B04/	**VVB Research** a) Italy and Sustainable Agriculture Overview, Global Agricultural Information network, USDA Foreign Agricultural Service b) Italy's farms act on climate change, NEWS ARTICLE28 September 2022, European Climate, Infrastructure and Environment Executive Agency c) LAND DESERTIFICATION IN EUROPE: CASE STUDIES OF ITALY AND GREECE			

* Md. Moonis, ** Dr. Edivando Vitor do Couto, MRV Manager

II. Site visits

No.	Site ID	Location	Type	Audit team member(s)

/1/	01	Ostuni, Puglia (Italy)	Joint Validation and Verification inspection/ interviews	Vikash Kumar Singh

III. Non-Conformities

Validation

CL from this validation

Non-conformity ID:	Ref.no 01	**Reference to criteria:**	Section 1.2, ICR PDD filling requirement	**Date:**	15/12/2023
Requirement:	As per section 1.2 of the ICR PDD, project falls under Sectoral Scope 14: Agriculture, Forestry, and Other Land Use (AFOLU).				
Observation:	As per "AgroEcology_Italy by Alberami - Project Presentation V4.pdf", the project falls under the sectoral scope of 14 – Afforestation and reforestation and 15- Agriculture.				
Non-conformity:	PP is requested to address this inconsistency and provide information on project applicable sectoral scope in line with ICR guideline (Carbonregistry.com). While doing so, PP shall demonstrate project eligibility under the identified sectoral scope.				
Response from project proponent:	The Project Type is Hybrid because it has both avoidance and removal components. The project activity involves both afforestation and reforestation and agricultural interventions. Therefore, the project falls in scope of 14 of ICR - Afforestation and Reforestation and Scope 15- Agriculture. The Project Proponent has rectified the section 1.2 of the PDD.				
Referenced documentation:	1. PDD				
Verifier assessment on corrective actions:	The project activity involves avoidance and removals and therefore the Project type is identified as Hybrid which has been appropriately documented in section 1.2 of PDD. As outlined in the ICR Program concept, Sectoral Scope 14 pertains to Afforestation and Reforestation, while Sectoral Scope 15 is designated for Agriculture.[74] However, the sectoral scope mentioned in section 1.2 is not in line with the sectoral scopes identified by ICR. Sectoral scope 14 is given for agriculture and 15 is given for Afforestation and Reforestation in the PDD. PP is requested to correct the discrepancy.				
Status:	**Open**				
	Round 2				
Response from project proponent:	The PP has rectified the error. The PP has updated the section 1.2 of the PDD. Now, sectoral scope 14 is mentioned as "Afforestation and Reforestation" and sectoral scope 15 as "Agriculture".				
Referenced documentation:	1. PDD				
Verifier assessment on corrective actions:	The ICR PDD has been updated to reflect correct sectoral scope aligning with ICR guideline. Thereby, the finding is closed.				
Status:	Closed.				

[74] Sectors (carbonregistry.com)

Non-conformity ID:	Ref.no**02**	**Reference to criteria:**	Ref. section 5.1 of the ICR requirement, version 04.0	**Date:**	15/12/2023
Requirement:	As per section 5.1 of the ICR requirement, version 04.0: The project proponent shall use the ICR project design description template for submitting a grouped project to ICR. The project design description shall provide details of all project activities included in the grouping and its GHG emissions mitigations, including schematics, specifications, and how the project mitigates GHG emissions. The project proponent shall follow the instructions provided in the template.				
Observation:	As per the review of ICR PDD, VVB has noticed that the under various sections of the PDD the term first batch of the project instances has been mentioned, which is misleading.				
Non-conformity:	PP is requested to clarify on this terminology, while complying with ICR standard glossary and terminology.				
Response from project proponent:	The term first batch of the project has been replaced with the Project instance throughout revised project document. Project instance is the correct term as per the ICR Guidelines Requirements				
Referenced documentation:	1. Project Design Document				
Verifier assessment on corrective actions:	It has been observed that PP has replaced the term “First batch” with “Project instances” which is in compliance with the ICR requirement.				
Status:	**Closed**				

Non-conformity ID:	Ref.no **03**	**Reference to criteria:**	ICR PDD filling guideline	**Date:**	15/12/2023
Requirement:	ICR template instructions, PP is requested to provide information on the machinery/equipment relevant to the specific practice.				
Observation:	It has been stated, under section 1.5 “Technology applied: Practice 1: Capillary promotion of organic agriculture management (certified and non-certified). The protocol for joining Alberami includes the application of sustainable agriculture. This approach will be valid whether the farm has organic certification issued by a MIPAAF-authorized body or not.”				
Non-conformity:	PP is requested to clarify the above-underlined statement. Furthermore, complying with the ICR template instructions, PP is requested to provide information on the machinery/equipment relevant to the specific practice.				
Response from project proponent:	The terminology “Capillary Promotion adopted by the Project Proponent basically involves organic farming practice and involvement of organic agriculture management (certified and non-certified).” The basic practice involved herein includes organic farming practices as per				

	the European Union Regulations, either in isolation or in combination of organic farming practices. The PP has updated the section 1.5 of the revised PDD
Referenced documentation:	1. PDD 2. EU Regulations on Organic Farming
Verifier assessment on corrective actions:	VVB, based on the review of the ICR PDD description and on-site inspection of the project site, confirms that the proposed project practice namely "Capillary promotion of organic agriculture management (certified and non-certified)" aligns with organic farming practices as per European Union Regulations[75].
Status:	**Closed**

Non-conformity ID:	Ref.no 04	**Reference to criteria:**	section 1.1 of the ICR PDD , section 4.1 of ICR requirement, version 04.0	**Date:**	15/12/2023
Requirement:	As per section 4.1 of ICR requirement, version 04.0 For submission of projects to ICR for the purpose of registration, project proponents shall design the project according to the requirements of ISO 14064-2, the requirements herein, and, where applicable, the requirements of the applied methodology.				
Observation:	In section 1.1 of the ICR PDD, it has been stated; "In order for farmers to join the ALBERAMI program, they will need to implement at least 3 (three) new agronomic practices. To note that the sustainable practices should not have been used before the contact and signing of the contract with Alberami and should be additional to the business as usual of the farmers".				
Non-conformity:	PP shall clarify how PP ensure that farmers will implement at least 3 regenerative practices and will continue their management over the technical life/project length of project activity.				
Response from project proponent:	The PP has signed the contract agreement with each enrolling farmers, where the regenerative practices have been clearly mentioned. In the future project activity instances as well, the PP will sign the similar agreement with each farmer in which terms would be clearly described. Same has been elaborated under section 1.1 of the revised PDD.				
Referenced documentation:	1. Contract agreement 2. PDD				
erifier assessment on corrective actions:	After conducting on-site inspections and interviews, VVB confirms that the project proponent has committed to ensuring that project beneficiaries/farmers adhere to regenerative farming practices outlined in the ICR grouped project design to participate in the initiative. Upon reviewing the supporting document for the agreement between the project proponent and designated farmers ("Contract Agreement between PP and Farmer Sample"), it's apparent that the terms delineate the conditions for ALBERAMI SRL to receive grant funding from Puglia Sviluppo for specified purposes, contingent upon certain conditions and eligibility criteria. It must be ensured that the designated farmers will consistently implement and sustain regenerative farming practices throughout the 45-year technical lifespan. This needs to be				

[75] https://agriculture.ec.europa.eu/farming/organic-farming/organic-production-and-products_en

	assessed during the subsequent periodic verifications as well, during the crediting period of the project.
Status:	**Closed**

Non-conformity ID:	Ref.no5	**Reference to criteria:**	section 4.3 of ICR requirement, version 04.0	**Date:**	15/12/2023
Requirement:	As per section 4.3 of ICR requirement, version 04.0 The project proponent shall describe, identify, and assess relevant GHG SSRs to the project and the baseline scenario and determine if they are controlled, related, or affected by the project (leakage), and if they shall be included or excluded. Any grounds for exclusion shall be demonstrated and justified. The project proponent may follow a methodology to determine the project boundary.				
Observation:	Activity shifting leakage has not been addressed adequately.				
Non-conformity:	As per Section 1.1 of the PDD: PP is requested clarify how activity shifting leakage will be addressed/assessed due to conversion of annual cropland to vineyard plantations. As per Section 1.5 of PDD: • "Practice 10: Optimal recycling of organic matter: Eligibility condition: This practice is considered only when plant biomass from which organic amendment (OA) derives, was cultivated on the same farm it is applied. Alternatively, purchased OA applied to farmland may still be considered eligible when it is produced within the regional boundaries or within a range of 5-100 kilometres and when the seller/OA producer does not benefit from certified carbon removals." PP shall demonstrate how the leakage emissions will be assessed in case of import of organic amendment/organic matter in the project area from outside the project boundary. • Practice 12: Cropland or conversion of cropland with annual crops to grassland/pastureland or permanent crops. PP is requested to clarify how will address the activity shifting leakage due to change in grazing regime within/outside the project boundary due to implementation of above-mention practice in the region.				
Response from project proponent:	Provisions for Shifting leakage has now been added under Section 1.1 of the revised PDD. Section 1.5 has been revised as follows:				

	Practice 10: Preference will be given to the organic amendment prepared within the project boundary. It will be cost-effective for the enrolling farmers as well because where raw materials for organic amendments will be available to . The raw materials for organic amendments from the range of 5-100 kilometers will be only when the seller has no use of the materials and does not benefit from the carbon credits. Moreover, the PP is only considering the waste materials for organic amendments such as agro-industrial wastes. So, the PP will ensure that the raw materials procured outside the project boundary for organic amendment has not prior commercial value to ensure there is now. So, there will not be any scope of activity shifting in this case. The PP has added the following statement in the PDD – "The organic wastes will be waste with no commercial value, which has no other than being treated as waste.". **Practice 12**: In the project scenario, the project proponent will ensure the grazing management plan put in place to avoid any activity shift leakage. The statement has been added in the PDD as well.
Referenced documentation:	PDD
Verifier assessment on corrective actions:	PP's justification indicates that preference will be given to organic amendment prepared within the project boundary. As the justification states and has been verified during on-site inspection/interviews, the predominantly utilization of agro-industrial residues (produced within/nearby project boundary) has been considered as source of organic amendments, previously deemed as waste without commercial value. The justification provided is valid and acceptable to VVB. The revised ICR PDD information indicates the inclusion of a project area specific grazing management plan. This plan aims to prevent displacement of grazing activities outside the designated project area and to address any potential activity shifting leakage resulting from the implementation of proposed practice.
Status:	**Closed**

Non-conformity ID:	Ref.no 06	**Reference to criteria:**	section 4.3 of ICR requirement**, version 04.0**	**Date:**	15/12/2023
Requirement:	As per section 4.3 of ICR requirement, version 04.0 "Project proponents shall identify the project's negative environmental and socio-economic impacts and engage with local stakeholders during the project design and implementation of the activities. The project shall minimize and, where possible, avoid negative environmental and social impacts. If present, the project proponent shall address all negative environmental and socio-economic impacts arising from the project activities and input received during a consultation with local stakeholders and ongoing communications."				
Observation:	Refer below.				
Non-conformity:	In compliance with section 4.2.1 of the ICR requirement document v4.0, PP is requested to provide 1. Peer reviewed literature/reference for the regional or national studies and/or host country dataset to demonstrate that the proposed best agricultural practices (BAUs) under the ICR project, will leads to net positive impact in the region.				

	2. Information on the measures in place or planned to be employed to mitigate the potential risks, as described under section 3.6 of the ICR PDD. 3. Literature source referred to account value of "Mean Δ (tCO2/ha/yr)", as stated in the section 1.5 of the ICR PDD.
Response from project proponent:	1. The peer reviewed literatures are now described in the PDD in Table 1 of the ICR PDD, where PP has described the potential benefits of the best agricultural practices and the references to support the identified benefits. 2. There is no potential direct risk identified in the project activity. The indirect risk could be competition in supply of agricultural products from other Mediterranean countries. Therefore, to deal with the regional competition, the PP has provison of value addition to agricultural products such olives. The PP has described the same in the section 3.6 of the ICR PDD. 3. The literature source has been given against each Mean Δ (tCO2/ha/yr) in each best agricultural practice.
Referenced documentation:	1. Project Design Document
Verifier assessment on corrective actions:	1. PP has provided peer-reviewed literature as requested, which have been now outlined in Table 1 of the ICR PDD. The inclusion of this information demonstrates compliance with the requirement to provide evidence of net positive impacts through referenced literature. 2. The ICR PDD has been updated to reflect details on direct/indirect risks associated with project implementation along with mitigation measures. 3. PP has provided sources/reference of default value identified for parameter "Mean Δ (tCO2/ha/yr" for each farming practice stated in Section 1.5 of the ICR PDD. PP has provided requisite information along with revision in the respective section of ICR PDD, demonstrating compliance with the specified requirements of the ICR requirement document v4.0.
Status:	**Closed**

Non-conformity ID:	Ref.no 07	**Reference to criteria:**	4.8.2 Non-Permanence ICR requirement, version 04.0	**Date:**	15/12/2023
Requirement:	As per section 4.8.2 Non-Permanence ICR requirement, version 04.0 "Project proponent implementing AFOLU projects and CDR subject to a risk of reversal shall deposit non-tradable buffer credits to cover unforeseen losses in carbon stocks."				
Observation:	Refer below				
Non-conformity:	As per the section 8.3 of the ICR PDD and the NPR report (excel), the total permanence risk score has been calculated to be 28. However, in the section 1.6 and 8.2 of the buffer pools excluded from net GHG ERRS, are only 11%. PP is requested to clarify in this inconsistency.				

Response from project proponent:	The error has been rectified by the Project Proponent. The calculated non permanence risk score is 10%. However, as per section 4.8.2 of the ICR guidelines irrespective of the risk assessment, the project proponents shall never deposit less than 10% of issued ICCs in the AFOLU buffer adjustment account and 1% in the CDR (non-AFOLU) buffer adjustment account. This value of provided is 11%, which is divided in two different accounts: 10% of issued ICCs in the AFOLU buffer adjustment account (calculated through non permanence risk assessment tool). 1% of issued ICCs in the CDR (non-AFOLU) buffer adjustment Account.
Referenced documentation:	1. Non permanence risk assessment sheet 2. Project Design Document
Verifier assessment on corrective actions:	VVB, based on the review of revised ICR PDD confirms that the requisite corrections have been made in the ICR PDD to align with the requirements outlined in section 4.8.2 ICR requirement document v4.0 and is acceptable to the VVB. It must be ensured that the designated farmers will consistently implement and sustain regenerative farming practices throughout the 45-year technical lifespan. This needs to be assessed during the subsequent periodic verifications as well, during the crediting period of the project and/or project longevity of 45 years. (Please refer NPR Risks>External Risk>Project Longevity).
Status:	**Closed**

Non-conformity ID:	Ref.no 08	**Reference to criteria:**	Ref. section 4.2.1 of ICR requirement document v4.0, and section 3.3 of ICR PDD template v3.0,	**Date:**	15/12/2023
Requirement:	As per section 4.2.1 Non-Permanence ICR requirement, version 04.0 “Project proponents shall identify the project's negative environmental and socio-economic impacts and engage with local stakeholders during the project design and implementation of the activities. All projects shall undergo a 30-day public comment period. The project proponent shall respond to all comments received and demonstrate actions implemented to the VVB. The project proponent shall implement a process of continuous communication with local stakeholders.”				
Observation:	Local Stakeholder consultation has not been dealt as per the requirement in section 3.3 of the PDD.				
Non-conformity:	As per section 4.2.1 of ICR requirement document v4.0, and section 3.3 of ICR PDD template v3.0, PP is requested to provided evidence for local stakeholder consultation or stakeholder engagement along with evidence indicating that all stakeholders relevant to project activity were consulted prior to project implementation.				
Response from project proponent:	Stakeholder consultations meetings details are now provided under section 3.3 of the revised PDD. The PP has also provided the basic chronology of the meetings and field demonstration				

	along with other related details in the section 3.3 of the revised PDD. The initial kickoff meeting was started from Puglia region followed by Bari and Sicily regions as well. The PP will continue such events in the future as well for building long term association with the farmers/growers, which is key to the success of the project activity.
Referenced documentation:	1. Stakeholders' consultation meetings report 2. PDD
Verifier assessment on corrective actions:	VVB, confirms that section 3.3 of the ICR PDD has been updated to indicate requested information on stakeholder consultation. Further, PP has provided supporting document "AP4 Report of Stakeholder Consultation Events for the Agroecology Project" demonstrating efforts to engage with relevant stakeholders. However, VVB has observed that section 3.3.1 "Stakeholders and Consultation" is missing in the ICR PDD document. Aligning with the requirement of ICR PDD template instruction (section 3.3.1), PP is requested to provide information on respective specifics.
Status:	**Open**
	Round 2
Response from project proponent:	**Response:** The PP has now added the section 3.3.1 "Stakeholders and Consultation" in the ICR PDD document. The PP has added tables describing information regarding stakeholders' consultation aligned with the ICR PDD template instruction.
Referenced documentation:	ICR PDD (dated 10/04/2024).
Verifier assessment on corrective actions:	VVB confirms that the requisite information has been provided under section 3.3.1 of the ICR PDD reflecting the pertinent information of stakeholder consultation for respective location where consultation meetings were held within the designated project boundary.
Status:	Closed.

Non-conformity ID:	Ref.no **09**	**Reference to criteria:**	Section 1.10 of joint PD/MR template	**Date:**	15/12/2023
Requirement:	As per the section 1.10 of the filling requirement of joint PD/MR: "Public funding received, if any, provide information on the sources of the public financing. Provide a summary of funding of the project and supplement information for fulfillment in an Appendix."				

Observation:	1. As per section 3.2 of the ICR PDD: "Farmers may experience some financial challenges in the early years of the project due to the upfront costs of adopting new practices and potential changes to yield. However, these potential economic impacts are expected to be minimal and temporary". Indicating investment barrier. 2. As per the section 1.10 of the ICR PDD, "Alberami has received public funding from the European Regional Development Fund (ERDF), amounting to €280,000. This funding is part of a project development application totalling €350,000. More specifically, the funding comprises a €180,000 grant and a €100,000 interest-free loan, in addition to €70,000 from the startup's own funds. These funds will be utilized for the development of the necessary technological infrastructure, which aims to enhance transparency in carbon credit transactions through the implementation of blockchain technology. Additionally, they will cover essential technical consultancy services, staff salaries, operational expenses, marketing initiatives, and support the overall development of the startup, contributing to its successful launch. Beyond this public funding, the project developer relies on carbon funding in the form of a percentage of carbon credit sales for its survival".
Non-conformity:	PP is requested to clarify whether farmers/growers have received any financial assistance during the reported verification period for the practices that have been implemented. If not how PP ensure that the practices have been enrolled appropriately aligning with the project's principles and goals. PP is requested to provide supporting evidence substantiating the above-mentioned statement on the use of the public funding received by the project proponent and/or organization and any diversion of ODA in lieu of carbon credit generated from the project.
Response from project proponent:	The PP clarifies that farmers/growers have not received any financial assistance as such. The funding provided by European Regional Development Fund (ERDF) has directed only to the Project Proponent for covering infrastructure and management costs associated with registering a carbon finance project. The Project Proponent has shared Fund releasing letter given by European Regional Development Fund (ERDF) in which it has been clearly mentioned funds utilization under designated heads. Same has been revised in section 1.10 of the revised PDD
Referenced documentation:	1. Contract letter released by European Regional Development Fund (ERDF)
Verifier assessment on corrective actions:	The ERDF funding has been intended for project specific purposes such as infrastructure development, management costs, and supporting project initiation. VVB has reviewed the Fund releasing letter "Contratto di finanziamento ALBERAMI SRL" and confirms that the justification provided is valid and acceptable. During on-site inspection interviews, and through review of the contract signed between farmers and PP, it has been confirmed that ALberami SRL, the project proponent, has entered into agreements with designated beneficiaries/farmers participating in the project. These agreements aim to safeguard the rights and benefits of the beneficiaries following the project's implementation. The farmers anticipate receiving incentive through the sale of

	carbon credits generated from project activity. Thereby the project has been implemented in accordance with ICR guidelines.
Status:	**Closed**

Non-conformity ID:	Ref.no **10**	**Reference to criteria:**	Ref. to ICR requirement/ ISO 14064-2	**Date:**	15/12/2023
Requirement:	ICR requirement document v4.0, section 4.8; ICR PDD template v3.0, section 1.6, 8, & 10. ICR requirement document v4.0, section 3.4.1; ICR PDD template v3.0, section 2.1 ICR requirement document v4.0, section 3.4.2; ICR PDD template v3.0, section 2.3 ICR requirement document v4.0, section 4.4; ICR PDD template v3.0, section 6 ICR requirement document v4.0, section 4.8.2; VCS AFOLU NPR Tool v4.0. guideline. VM0042 v2.0 VMD0053 v2.0. ICR requirement v4.0 section 3.8, 3.9 and ICR template requirement section 1.12, 1.13.				
Observation:	PP is requested to provide abovementioned supporting documents substantiating the information/details of project description.				

Non-conformity:

Following documents are not provided to the VVB for review:

Documents	Requirement (Standard/Methodology/ICR template)
Ex-ante projections for each monitoring period and for the total projections for the GHG emission mitigations for the crediting period, along with the following information: • **Ex-ante carbon calculation spreadsheet** • **Formulas/equations used for calculation and/or ex-ante projection over the crediting period and their source.** • **Data/parameter fixed for the reported crediting period; value applied.** • **SOC calculation spreadsheet** • **SOC laboratory analysis reports for the baseline identified (as per ICR PDD), from an authorized independent expert.** • **Supporting document for carbon calculations including all the assumptions, raw sampling records, default values, literature review, equations used.**	ICR requirement document v4.0, section 4.8; ICR PDD template v3.0, section 1.6, 8, & 10.
Supporting document indicating project start date as stated in the	ICR requirement document v4.0, section 3.4.1; ICR PDD template v3.0, section 2.1

section 2.1 of the ICR PDD i.e., 01/01/2022.	
Evidence for "Project crediting period" to indicating how PP ensure that project activities will continue over project's technical life.	ICR requirement document v4.0, section 3.4.2; ICR PDD template v3.0, section 2.3
Historical land use and/or baseline studies conducted in the region to indicate the condition prior to project implementation. **Supporting document for identified baseline scenario for the first project instance**	ICR requirement document v4.0, section 4.4; ICR PDD template v3.0, section 6
NPR analysis i.e., Non-Permanence Risk Report (word document) and associated evidence/supporting documents/information, along with the Risk Report Calculation Tool (excel sheet).	ICR requirement document v4.0, section 4.8.2; VCS AFOLU NPR Tool v4.0. guideline.
Geotagged shapefile and/or the KML file delineating extent of project area specifying the project area that have been covered at the time of project's physical inspection.	ICR requirement document v4.0, section 4.2; ICR PDD template v3.0, section 1.3;
Reports/records for baseline and project scenario on the following: 1. **Fertilizer application/ type used in the project region.** 2. **Fossil fuel use and emissions (if applicable)** 3. **Organic amendment introduced and source.** 4. **N2O emission from use of N2 fertilizers and use of N2 fixing species (if applicable)** 5. **SOC stock in the project region.** **Evidence to demonstrate that the decrease in fertilizer application rate has been achieved under the first project instance (if applicable for first periodic verification)**	VM0042 v2.0
Model applied for the SOC estimation; PP shall provide	VM0042 v2.0, VMD0053 v2.0.

	supporting documentation for the following: 1. **Model applied.** 2. **Peer reviewed studies to support appropriateness of the applied method.** 3. **Standard procedure (SOP) for modelling method followed.** 4. **Model Validation Report (MVR) issued by an independent body present in the host country.**	
	On-ground organizational structure along with evidence for competency of MRV personnel	-
	Declarations on the following: 1. **Other certification** 2. **Participation under other GHG Programs** 3. **Double counting/claiming of GHG removals**	ICR requirement v4.0 section 3.8, 3.9 and ICR template requirement section 1.12, 1.13.
	Documents pertaining to land title and carbon waiver rights on double counting: **1. Proof of land title of each of the project instances (96) at the time of validation.** **2. Agreements between the project proponent and farmers of all 96 project instances which must specifies the period of contract as well as right of carbon credit generated from the project.**	--
Response from project proponent:	Ex-ante ER Estimations spreadsheet has been provided by the Project Proponent. Equations used in the Ex-ante projections for each monitoring period and for the total projections for the GHG emission mitigations for the crediting period, along with the following information has now been provided in Section 8: • Ex-ante carbon calculation spreadsheet • Formulas/equations used for calculation and/or ex-ante projection over the crediting period and their source. • Data/parameter fixed for the reported crediting period; value applied. • SOC calculation spreadsheet	

Supporting documents:

1. Ex ante ER Estimation sheet
2. PDD

Evidence for "Project crediting period" to indicating how PP ensure that project activities will continue over project's technical life.
Response: The Project Proponent has shared the copies of the agreements between the Project Proponent and the farmers, where lifetime in 15 years. According to the section 3.4 of ICR guidelines "Regarding project activities involving CDR, the crediting period is a conservative estimate of the technical lifetime of the installed technologies or implemented measures and associated impacts, with a maximum of 15 years. The crediting period may be renewed at a maximum of twice."
Supporting documents – Agreement between Project Proponent and farmers/growers.

Supporting document indicating project start date as stated in the section 2.1 of the ICR PDD i.e., 01/01/2022.
Response: The agreement between the Project Proponent and the farmer/grower on 01/01/2022 is the project start date

---

NPR analysis i.e., Non-Permanence Risk Report (word document) and associated evidence/supporting documents/information, along with the Risk Report Calculation Tool (excel sheet).
Response: NPR calculation sheet, associated supporting documents and NPR word document has npw been provided.

Geotagged shapefile and/or the KML file delineating extent of project area specifying the project area that have been covered at the time of project's physical inspection.
Response: KML file has now been provided of all the land parcels involved in the project activity.

Reports/records for baseline and project scenario on the following:

1. Fertilizer application/ type used in the project region.
2. Fossil fuel use and emissions (if applicable)
3. Organic amendment introduced and source.
4. N2O emission from use of N2 fertilizers and use of N2 fixing species (if applicable)
5. SOC stock in the project region.

Response: A farmer plan (called the T1 form - included in the Appendix for reference) describe the original condition of the project site including details of the vegetation cover, soil type and their carbon content ad will measure, starting from the baseline, changes in the carbon stock at the site for the duration of the project in the absence of the project activities (i.e. business as usual). This baseline data will serve as a reference point for measuring changes in carbon stock at the site over the duration of the project in the absence of project

activities. By comparing the baseline scenario with the project scenario, we can determine the additional carbon sequestration and emissions reductions achieved through the implementation of the 13 sustainable practices.

Model applied for the SOC estimation; PP shall provide supporting documentation for the following:

1. Model applied.
2. Peer reviewed studies to support appropriateness of the applied method.
3. Standard procedure (SOP) for modelling method followed.
4. Model Validation Report (MVR) issued by an independent body present in the host country.

1. Model applied is – Roth C Model
2. Peer reviewed studies to support appropriateness of the applied method, that is is Roth C model has been provided.
3. The Standard Operating Procedure of Roth C model is provided
4. Model Validation Report (MVR) issued by an independent body present in the host country – This is the requirement of VM0042 methodology. The Project Proponent has not applied VM0042 Methodology.

On-ground organizational structure along with evidence for competency of MRV personnel
Response: The project proponent has now provided the On-ground organization structure along with their competence of the MRV personnel.

Declarations on the following:

1. Other certification
2. Participation under other GHG Programs
3. Double counting/claiming of GHG removals

Response: The Project proponent has now provided a declaration letter where it has declared that they have not participated in any other GHG mitigation program and therefore claiming no double counting of GHG emission mitigations/removals.

Historical land use and/or baseline studies conducted in the region to indicate the condition prior to project implementation.

Supporting document for identified baseline scenario for the first project instance
Response:
A farmer plan (called the T1 form - included in the Appendix for reference) describe the original condition of the project site including details of the vegetation cover, soil type and their carbon content ad will measure, starting from the baseline, changes in the carbon stock at the site for the duration of the project in the absence of the project activities (i.e. business as usual). This baseline data will serve as a reference point for measuring changes in carbon stock at the site over the duration of the project in the absence of project activities. By comparing the baseline scenario with the project scenario, we can determine the additional

	carbon sequestration and emissions reductions achieved through the implementation of the 13 sustainable practices. Documents pertaining to land title and carbon waiver rights on double counting: 1. Proof of land title of each of the project instances (96) at the time of validation. 2. Agreements between the project proponent and farmers of all 96 project instances which must specifies the period of contract as well as right of carbon credit generated from the project. Response: 1. Proof of land title of the project instances (96) at the time of validation has been now provided by the Project Proponent. 2. Contractual agreements between the project proponent and farmers of all 96 project instances have now been provided by the project proponent.
Referenced documentation:	1. Double counting declaration letter 2. Land title proofs 3. Agreements between the farmers/growers and the project proponent of all 96 farmers/growers 4. Project Start Date evidence – the agreement between the farmer/grower and the Project Proponent 5. Peer reviewed studies to support appropriateness of the applied method, that is is Roth C model 6. The Standard Operating Procedure of Roth C model is provided
Verifier assessment on corrective actions:	After reviewing the revised project PDD and accompanying evidence provided by PP, VVB confirms that all necessary supplementary documentation has been provided. Further the project design and its adherence to ICR guidelines, along with the applied methodology, have been thoroughly justified and deemed satisfactory by VVB.
Status:	**Closed**

Table 2. CAR from this validation

Non-conformity ID:	Ref.no **11**	**Reference to criteria:**	Ref. to section 1.1 of the ICR joint PD/MR filling guideline	**Date:**	15/12/2023
Requirement:	Section 1.1 of the joint PD/MR requires the following to be provided: Provide a summary and a general description of the project in order to provide an understanding of the nature of the project, including: -Project title. -Conditions prior to initiation of the project. -Technologies/measures to be utilized and/or implemented -Project boundary -Baseline scenario for each of the proposed interventions. -Estimate of annual average and total GHG emission mitigation				

Observation:	During the review of ICR PDD (dated: 04/10/2023), it has been observed that the project title given in the ICR PDD differ from the title stated in the letter of engagement signed between PP and VVB. Project title in following documents: • ICR PDD (Title page; section 1.2): AgroEcology_Italy - Enhancing Carbon Sequestration and Mitigating Greenhouse Gas Emissions in Italian Agricultural Practices". • Letter of Engagement/contract and section 1.1 of ICR PDD: AgroEcology_Italy "Reducing GHG Emissions and Increasing Carbon Sequestration in Italian Agriculture". Furthermore, VVB has cross-checked the project page on ICR registry "AgroEcology_Italy (carbonregistry.com)" which consists of project title as: AgroEcology_Italy.
Non-conformity:	PP is requested to address this discrepancy followed by providing consistent project title throughout the project documentations.
Response from project proponent:	• The PP updated the name of the project activity as - AgroEcology_Italy. However, PP will request the ICR to change the name of the project from AgroEcology_Italy to AgroEcology_Italy - Enhancing Carbon Sequestration and Mitigating Greenhouse Gas Emissions in Italian Agricultural Practices".
Referenced documentation:	PDD
Verifier assessment on corrective actions:	PP has made requisite correction in the ICR PDD reflecting consistent information on project title.
Status:	**Closed**

Non-conformity ID:	Ref.no 12	**Reference to criteria:**	Section 5.1 of the IICR requirement document v4.0, section 4.2	**Date:**	15/12/2023
Requirement:	As per section 5.1 of the ICR requirement document v4.0 The project proponent shall use the ICR project design description template for submitting a grouped project to ICR. The project design description shall provide details of all project activities included in the grouping and its GHG emissions mitigations, including schematics, specifications, and how the project mitigates GHG emissions. The project proponent shall follow the instructions provided in the template.				
Observation:	1. During the desk review of the ICR PDD document, VVB has ascertained that the document provided by PP does not indicate the template version used (i.e., the header mentioned is: "AgroEcology_Italy). This may become misleading for the reviewer. Project proponent is requested to provide the project description details using the latest ICR PDD template version available at the time of project's pre-registration under ICR program.				

	2. On the project title page: • In line with ICR PDD template requirement, Project ID is missing. • PP is requested to provide name of the methodology applied along with the source of methodology (preferably as a footnote). • PP has provided information of only the years of MRV cycle (i.e., 5-years cycle). PP is requested provide date/month/year of the start date and end date of the reported MRV cycle. 3. It has been observed that numbering of some of the section and/or sub-sections (including sub-sections under section 5 “Additionality” and section 10 “Monitoring”) of the ICR PDD template have been altered. PP shall adhere to the template format and instructions and revise the report, accordingly.
Non-conformity:	Project proponent is requested to adhere the ICR joint PD/MR filling requirements. Furthermore, in line with ICR PDD template v3.0 instruction, the following information is missing in section 1.1 of the ICR PDD/MR: 1. “Condition prior to initiation of the project” and “baseline scenario” 2. Geographical location/region in the host country where first project instance has been established. 3. Species (horticultural/agroforestry/cover crop etc.) included under first project instance Agronomic practices (out of 13 proposed activities) that have been established in the region at the time of projects first periodic verification along with the timeline during which regenerative practices have been implemented in the project region. (at least months of the calendar year). Additional NCs either editorial or non-compliance of ICR PD/MR filling guidelines: 1. Following the rules of International Code of Botanical Nomenclature (ICBN) and International Code of Zoological Nomenclature (ICZN), the scientific names of plant species/pests in the PDD shall be italicized. 2. In section 1.3 of the ICR PDD, PP has used the unit for area for project instances as "acres", which is not consistent with other sections where the area has been denoted by “hectare”. PP shall refer to standard unit for the relevant parameters, consistent throughout the ICR PDD documents. i.e., ha 3. In line with section 3.4 of the ICR requirement v4.0, PP is requested to provide vintage wise breakup of GHG mitigation contributions of the project activity under section 1.6 and 8.2 of the ICR PDD. 4. Considering the calendar year of 365 days, PP is requested to correct/revise the end date for the first crediting period under section 2.2 or other relevant section of the ICR PDD. i.e., 30.12.2036 to 31.12.2036. 5. As per the section 3.4.2 of ICR requirement document v4.0: “For project activities involving CDR, a crediting period of a maximum of 15 years or a conservative estimate of the technical lifetime of the installed technologies or

	implemented measures and associated impacts. The crediting period is renewable a maximum of twice". However, per section 2.2 of the ICR PDD: "This is aligned with ICR requirements that require a minimum of 10 years for CDR projects". PP is requested to address and correct the same. 6. PP's statement in the section 2.1 ICR PDD: "However, more and more farmers are expected to enroll in the program. Therefore, the exact start date of each field will depend on the enrollment date and the sustainable practices implementation. As farmers start to enroll in the program, the project proponent will record and store the exact date of initiation of sustainable practice activities". This indicates that the date of farmer's enrolment under first project instance has been identified as the project's start date i.e., 01.01.2022."The above statement is anecdotal and PP shall provide start date of the project with evidence, in line with section 3.4.1 of the ICR requirement document, v4.0. 7. Under section 1.6 of the ICR PD/MR filling guideline and in line with ICR PDD template v3.0 instruction, the value calculated for the annual average of emission reductions and removals for both "the first project instance" and "the proposed grouped project" over the reported crediting period of 45 years are missing. The same shall be reflected in relevant sections of the ICR PDD. 8. Furthermore, in line with requirement of section 3.4 of ICR requirement document v4.0, the vintage wise breakup of reported data i.e., Year A (DD-Month-YYYY-- DD-Month-YYYY), in the tables (section 1.6, ICR PDD) are missing.
Response from project proponent:	1. The Project Proponent has rectified the template and used the latest version of the ICR PDD Template. The header containing the title of project activity has been removed. 2. Project ID has been added. 3. The methodology title and link has been provided. 4. MRV cycle start date and end date has been added. 5. The PP has rectified the numbering of Additionality and Monitoring section Responses to Non-conformity: 0. Following the rules of International Code of Botanical Nomenclature (ICBN) and International Code of Zoological Nomenclature (ICZN), the scientific names of plant species/pests in the PDD shall be italicized. Response: botanical name has been added against the common name. 1. In section 1.3 of the ICR PDD, PP has used the unit for area for project instances as "acres", which is not consistent with other sections where the area has been denoted by "hectare". PP shall refer to standard unit for the relevant parameters, consistent throughout the ICR PDD documents. i.e., ha Response: hectare unit as "ha" been added in the through the PDD.

2. In line with section 3.4 of the ICR requirement v4.0, PP is requested to provide vintage wise breakup of GHG mitigation contributions of the project activity under section 1.6 and 8.2 of the ICR PDD.

   Response: PP has now provided the vintage wise breakup of GHG mitigation contributions of the project activity under section 1.6 and section 8.2 of the ICR PDD.

3. Considering the calendar year of 365 days, PP is requested to correct/revise the end date for the first crediting period under section 2.2 or other relevant section of the ICR PDD. i.e., 30.12.2036 to 31.12.2036.
   Response: The PP has corrected the end date of the first crediting period under section 2.2

4. As per the section 3.4.2 of ICR requirement document v4.0:

   "For project activities involving CDR, a crediting period of a maximum of 15 years or a conservative estimate of the technical lifetime of the installed technologies or implemented measures and associated impacts. The crediting period is renewable a maximum of twice".

   However, per section 2.2 of the ICR PDD: "This is aligned with ICR requirements that require a minimum of 10 years for CDR projects".
   PP is requested to address and correct the same.

   Response: This statement in the ICR PDD has been corrected under section 2.2.

5. PP's statement in the section 2.1 ICR PDD:
   "However, more and more farmers are expected to enroll in the program. Therefore, the exact start date of each field will depend on the enrollment date and the sustainable practices implementation. As farmers start to enroll in the program, the project proponent will record and store the exact date of initiation of sustainable practice activities".

   This indicates that the date of farmer's enrolment under first project instance has been identified as the project's start date i.e., 01.01.2022."The above statement is anecdotal and PP shall provide start date of the project with evidence, in line with section 3.4.1 of the ICR requirement document, v4.0.

   Response: This section has been revised and clarified about the project start date.

6. Under section 1.6 of the ICR PD/MR filling guideline and in line with ICR PDD template v3.0 instruction, the value calculated for the annual average of emission reductions and removals for both "the first project instance" and "the proposed grouped project" over the reported crediting period of 45 years are missing. The same shall be reflected in relevant sections of the ICR PDD.
   Response: The value for annual average for both project activity instance and grouped project is now provided.

7. Furthermore, in line with requirement of section 3.4 of ICR requirement document v4.0, the vintage wise breakup of reported data i.e., Year A (DD-Month-YYYY-- DD-Month-YYYY), in the tables (section 1.6, ICR PDD) are missing.

	Response: The vintage wise breakup is now provided in the section 3.4.
Referenced documentation:	1. PDD
Verifier assessment on corrective actions:	After a comprehensive review of the project description document, VVB confirms that all typographical errors have been corrected. Furthermore, PP has supplied a revised ICR PDD document that adheres to the ICR template guidelines and has diligently followed all protocol filling instructions as per request. Further following corrections/revisions have been addressed by PP: • The botanical/scientific names have been added alongside the common names, adhering to the rules of the ICBN/ICZN. • The unit for area has been made consistent with "hectare" (ha) throughout the document. • The end date of crediting period has been rectified. • The statement regarding the crediting period for CDR projects has been corrected to align with the requirements specified in the ICR PDD. • The section regarding the project start date has been revised and PP has provided evidence in line with the ICR requirement. • The value for annual average of emission reductions and removals over the crediting period of 45 years have been provided. 8. The vintage wise breakup of GHG mitigation contributions of the project activity is missing in section 1.6 (table 2) and 7.4 (table 8) of the ICR PDD, however it is provided in the ex-post MR.
Status:	**Closed**

Non-conformity ID:	Ref.no **13**	**Reference to criteria:**	Section 4.3 of ICR requirement version 4.0	**Date:**	15/12/2023
Requirement:	As per section 4.3 of ICR requirements version 4.0: "The project proponent shall describe, identify, and assess relevant GHG SSRs to the project and the baseline scenario and determine if they are controlled, related, or affected by the project (leakage), and if they shall be included or excluded. Any grounds for exclusion shall be demonstrated and justified. The project proponent may follow a methodology to determine the project boundary."				
Observation:	VVB has observed that the project boundary in the section 7 of the ICR PDD does not enlists the GHG emission sources: i.e., Fossil fuel, manure deposition and use of N2 fertilizer missing in project boundary.				
Non-conformity:	This is not in compliance with the applied methodology LIFE C-Farms (Section 3.3), which states that if the GHG sources are not part of project boundary, PP shall provide justification for the exclusion.				
Response from project proponent:	The Project Proponent has added a new table in the section 7 of the ICR PDD, where it has described GHG sources and applicability of the GHG sources in the project activity as per the applied methodology LIFE-C Farms (section 3.3 of the methodology).				
Referenced documentation:	1. Project Design Document				
Verifier assessment on corrective actions:	The ICR PDD has been revised to reflect the requisite information on inclusion/exclusion of GHG sources and carbon pools in the project boundary. VVB confirms that the details				

	provided is in accordance with the applied methodology and applicable for the project activity.
Status:	**Closed**

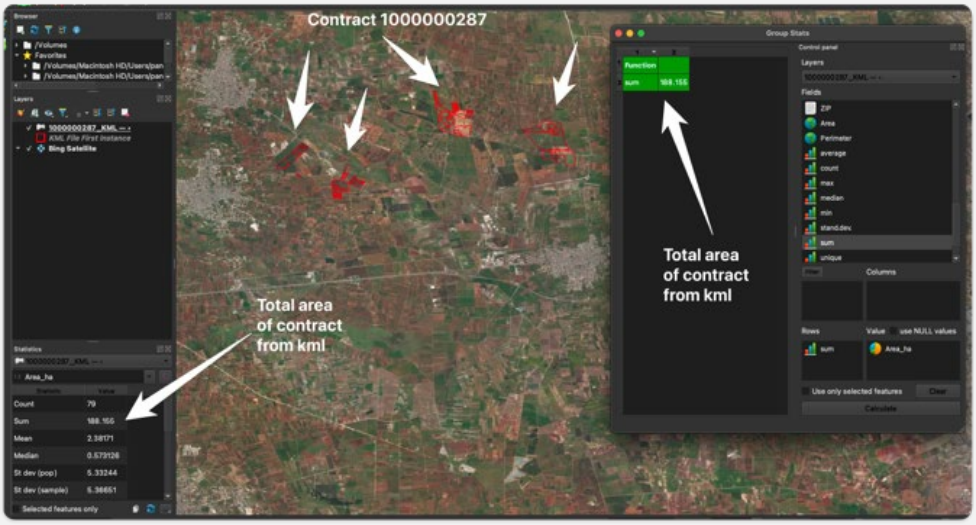
Non-conformity ID:	Ref.no **14**	**Reference to criteria:**	section 4.1 & 4.2 of ICR PD/MR filling guidelines	**Date:**	15/12/2023
Requirement:	As per section 4.1 of ICR PD/MR filling guidelines, the following is required to be provided in tabular form: Title, version, and reference number) of: - Selected methodology. - Any other methodologies or methodological tools to which the selected methodology refers to. - Link to the applicable website to referenced methodologies and methodological tools. Furthermore, as per section 4.2 of the ICR PD/MR filling requirement: Justify the selected methodology's applicability by demonstrating that the project activity meets the applicability conditions of the methodology. Explanation of documentation used for the justification and provide references or include documentation in Appendix.				
Observation:	The desk review of the ICR PDD reveals that the project has applied following the methodology • "CARBON FARMING CERTIFICATION SCHEME STANDARD from C-Farms", • VCS methodology VM0042 v2.0 • CDM methodology AR-AMS0007 v3.1				
Non-conformity:	However, as per section 4.1 of 4.2 of the ICR PDD/MR, the project's eligibility has been demonstrated only for methodology "CARBON FARMING CERTIFICATION SCHEME STANDARD" only. PP is requested to demonstrate project's eligibility under the methodology LIFE C-Farms section 3.2, VM0042 v2.0 and AR-AMS0007 v3.1, as well as for associated tools applied.				
Response from project proponent:	The PP has applied the CARBON FARMING CERTIFICATION SCHEME STANDARD from C-Farm mainly, which covers all the aspects of activities covered under the project activity. The PP has incorporated only the calculation formulae for quantifying the carbon removals/reductions from the other two methodologies viz. VM0042 and AR-AMS0007. The PP has clarified this in the section 4.3 of the ICR PDD.				
Referenced documentation:	1. PDD				
Verifier assessment on corrective actions:	The latest revision of section 4.3 in the ICR PDD outlines the quantification methodology employed for carbon calculations during project monitoring. It is confirmed in the PDD, that only the calculation formulae (for quantifying the carbon removals/reductions) the other two methodologies have been referred and thus addressed the concern raised.				
Status:	closed				

Non-conformity ID:	Ref.no **15**	**Reference to criteria:**	Section 5.1 of ICR requirements, version 04.0	**Date:**	15/12/2023
Requirement:	As per Section 5.1 of ICR requirements, version 04.0:				

	"Grouped projects may incorporate multiple project activities. Where a grouped project includes multiple project activities, the project design description shall indicate which project activities may occur in each geographic area."
Observation:	As per section 1.1 of the ICR PDD it has been stated that: "The first batch of Project verification instances encompasses 67 farmers with a combined agricultural land surface of 1,093 ha which have adopted our regenerative practices between 2022 and 2023". Whereas, as per the section 1.6 of the ICR PDD the area that has been covered under the first batch of Project instances is 1,835 ha. Furthermore, as per section 1.3 of the ICR PDD, "The total area of the initial project instances is 7,235.7 acres".
Non-conformity:	PP is requested address this discrepancy and provide consistent value for the project area using one standard unit throughout the project documentation. While doing so, PP shall provide evidence in the form of KML shapefiles for each land parcel.
Response from project proponent:	The area is 1474.89 hectares under the project activity. The PP has provided the KML file and also updated the PDD as well.
Referenced documentation:	1. PDD 2. KML File
Verifier assessment on corrective actions:	Based on kml provided by PP, VVB confirm that the kml files are partially in compliance with the ICR v4.0 requirement section 1.3 & 5.1; e.g. the PD section 1.3, the total area to regulate the application of set of practices for the contract 1000000287 are 156.70 ha vs 188.55 ha from kml (1000000287_KML.kml), see first figure below for reference.

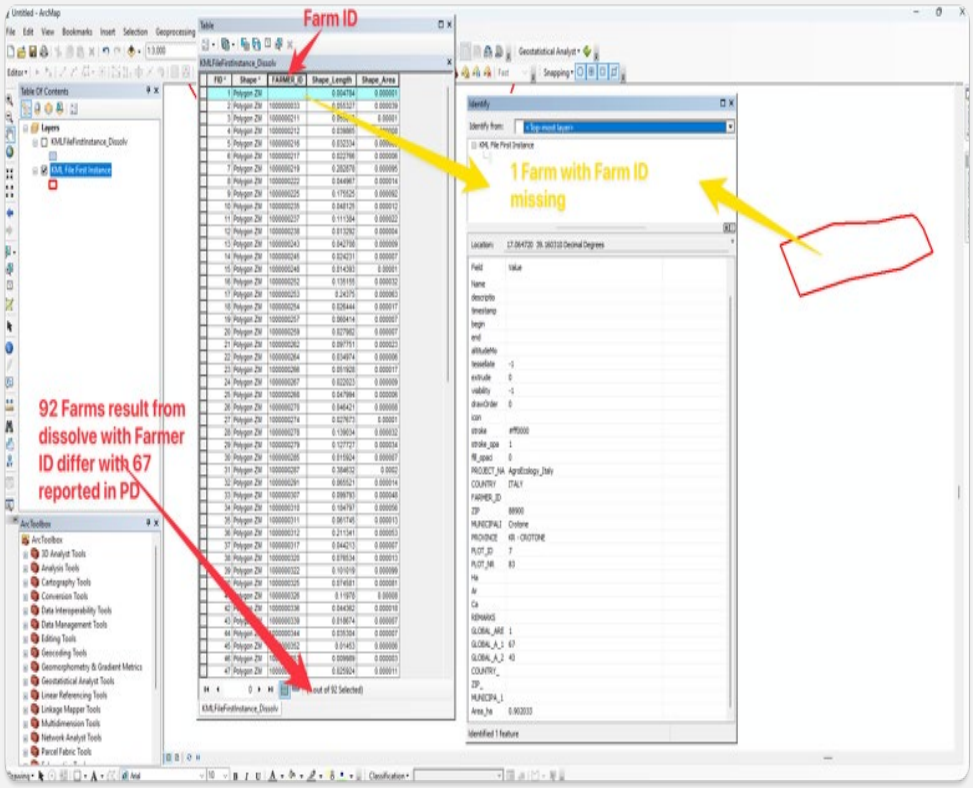
Some areas of the polygon of each one farm are missing area reported in the attribute of the kml files (see second figure below for reference),

The difference in total area reported exhibit inconsistency of the total area reported in ICR



PDD 1474.16, ICR MR 1449.16 ha vs calculated in kml (2405.78 ha).

The total number of farms reported in PD is 67 compared to the 92 farms present in the KML according to unique farm ID, in addition there is 1 farm with missing farm ID (see figure below for reference).



PP should provide a KML areas coherent with areas reported in PD, incompliance with the ICR requirements.

Status:	CL still Open
	Round 2
Response from project proponent:	Response: Response: In response to the requirements highlighted based on the KML files provided and subsequent validation, the Project Proponent has undertaken a thorough review and correction process. The Project Proponent identified an issue of polygon duplication within both the KML and Shapefile formats, which has now been resolved. Following these corrections, the Project Proponent confirms that all documentation has been updated to accurately reflect the required specifications. The corrected files now correctly represent a total of 67 farm IDs, encompassing 1143 features, with the total area precisely calculated at 1474.89 hectares. These updates ensure full compliance with the ICR version 4.0 requirements, specifically sections 1.3 and 5.1 as noted in your assessment. The Project Proponent appreciates the VVB's patience and understanding as the Project Proponent has worked to rectify these discrepancies and can assure that the provided KML areas are now coherent with the areas reported in the Project Description (PD), ICR MR fully aligning with ICR standards and requirements.
Referenced documentation:	Individual KML file and shapefiles of each farmer covering the total area 1474.89 hectares.

Verifier assessment on corrective actions:	Based on kml provided by PP, VVB confirms that the kml files are in compliance with the ICR v4.0 requirements (section 1.3 & 5.1), furthermore, the total area under the project activity presented in PD is according to area calculated from kml files.
Status:	Closed.

Non-conformity ID:	Ref.no 16	**Reference to criteria:**	Section 4.4 of ICR requirements, version 04.0	**Date:**	15/12/2023
Requirement:	As per Section 4.4 of ICR requirements, version 04.0 Project proponents shall demonstrate the project's additionality and at a minimum conform to levels 1, 2, and 3. However, the project may demonstrate if it conforms to supplementary additionality levels. When applying a methodology, the project proponent should follow additionality testing guidelines. For additionality testing, project proponents may apply the latest version of: CDM Tool for demonstration and assessment of additionality; Combined tool to identify the baseline scenario and demonstrate additionality; Positive lists of technologies; or other tools from a recognized origin. For policy additionality, the project proponent shall rely on and refer to the host country's current NDC. Projects are labeled with their additionality levels in the ICR registry platform.				
Observation:	Joint PD/MR provides details of additionality including description on level 1 to 5. However, the information in neither inline with template filling requirements not with the Section 4.4 of ICR requirements, version 04.0				
Non-conformity:	Demonstration of additionality in section 5 of the ICR PD/MR is anecdotal and not follows the process of ICR joint PD MR template as well the requirement quoted above. Furthermore, the information for level 3 demonstration is generic/anecdotal and does not demonstrate specific barrier to the project which would have prevented the implementation of the groped project. Adding further level 2 b is only applicable if project is required by any law, statute, or other regulatory framework, agreements, settlements, or other legally binding mandates requiring implementation and operation or requiring implementation of similar measures that would result in the same levels of GHG emission mitigations in the host country, which contradicts with the on-site interviews with the project proponent who confirms that implementation of the project is not a statutory requirement of the host country and it goes Furthermore, the step 4 is anecdotal demonstration and does not follow the requirements of CDM tool on financial additionality. Step 5 demonstration appears only a view of the project proponent and not convincing.				
Response from project proponent:	The PP has thoroughly changed the Additionality section (Section 5) of the ICR PDD by the applying the requirements of ICR Guidelines 4.0. As per ICR Guidelines, the Project proponents shall demonstrate the project's additionality and, at a minimum, meet level 1, and either 2a or 2b. They, shall also meet one additional level from 3, 4 or 5. In this project activity, the Project Proponent has applied Level 1, Level 2a and Level 3 for establishing the additionality. Briefly, it is as following:				

	In the Level 1, the PP has described the GHG emissions additionality as pe the section A.3.3 of ISO 14064-2. In the Level 2, which is about statutory additionality, the Project Proponent has mentioned that organic farming including the best agricultural practices described in Table 1 of the PDD, are not mandated by any law or regulations. Finally in Level 3, the PP has described the Common Practice Additionality, where it has been mentioned that there are no agriculture-based carbon projects registered in Italy. In addition, the organic farming holdings in Italy is less than the conventional farm holdings (as per EU data, 11% farm holdings in Italy area organic). The PP also provided supporting documents as well for each Level.
Referenced documentation:	1. PDD 2. ISO 14064-2 3. Public Consultation Document on National Action Plan to promote organic farming in Italy (in Italian). Link to this document is provided in section 5 of the PDD 4. European Commission Fact Sheet on Organic Farming
Verifier assessment on corrective actions:	Based on the review of the project description and on-site inspection interviews on baseline assessment and additionality, VVB confirms that the project design description represents a net environmental benefit and real mitigation of GHG emissions more than the baseline scenario. Furthermore, the Additionality section (Section 5) of the ICR PDD in accordance with ICR Guidelines provides information on Level 1 additionality demonstration. For, Level 2, which is about statutory additionality, the Project Proponent has demonstrated that organic farming including the best agricultural practices described in Table 1 of the PDD, are not mandated by any law or regulations; this is checked and confirmed by the VVB. For, Level 3, the PP has described the Common Practice, where it has been mentioned that there are no agriculture-based carbon projects registered in Italy. In addition, the organic farming holdings in Italy is less than the conventional farm holdings (as per EU data, 11% farm holdings in Italy area organic). VVB confirms that the project is not the baseline scenario and additional.
Status:	**Closed**

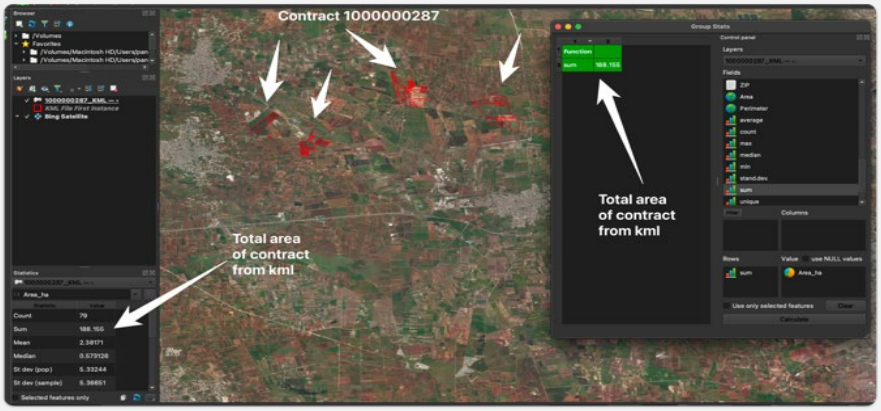
Non-conformity ID:	Ref.no 17	**Reference to criteria:**	**section 4.7 of the ICR requirements, version 04.0**	**Date:**	15/12/2023
Requirement:	As per section 4.7 of the ICR requirements, version 04.0: “Project proponents shall follow a methodology to quantify GHG emissions mitigations or establish criteria and procedures for the quantification. The quantification shall include all GHG SSRs identified and all GHGs and shall be reported in tCO2-e. The project proponent shall estimate GHG emissions mitigations for selected GHG SSRs separately for: 1. each relevant GHG for each GHG SSR relevant for the project; 2. each GHG SSR relevant for the baseline scenario.				

	Net GHG emissions and/or removals generated by the project activities shall be quantified and reported.
Observation:	Project proponent has not provided detailed quantification on the baseline emissions, project emissions, leakage assessment, and net GHG mitigation from the project in irrelevant sections of the joint PD/MR.
Non-conformity:	PP is requested to provide elaborated information/process employed for GHG accounting for baseline emissions, project emissions, leakage assessment, and net GHG mitigation from the project. Including the following: 1. Methodology and/or quantification approach referred. 2. Formula/equations used. 3. Value applied. 4. Results 5. Reference of literature reviewed/study in case default values have been referred.
Response from project proponent:	Project proponent has now provided detailed quantification and net GHG mitigation from the project in irrelevant sections of the joint PD/MR in the section 8 of the PDD, where the Project Proponent has mentioned the following: 1. Approach used for ex ante estimation under the grouped project 2. Formula and model applied 3. Ex ante estimation sheet 4. Emission reduction under first instance sheet along results in the PDD in section 8 5. Reference of literature reviewed/study in case default values have been referred.
Referenced documentation:	1. PDD 2. Ex ante sheet 3. Estimation on ER in first instance
Verifier assessment on corrective actions:	VVB based on the review of the revised project document and supplementary information provided, confirms that the requisite corrections have been employed by PP by providing details on quantification approach, formula and/or equations applied, SOC model framework, references/links of source of fixed values applied etc.
Status:	**Closed**

Non-conformity ID:	Ref.no **18**	**Reference to criteria:**	section 4.10 of ICR requirement version 4.0	**Date:**	15/12/2023
Requirement:	As per the requirement of section 4.10 of ICR requirement version 4.0: The impacts of project activities on identified GHG SSRs shall be monitored in order to determine the net GHG emission mitigations and for the purpose of issuing and/or activating already issued ICCs. The monitoring plan shall include parameters, GHG SSR identified and according to section 4.6 and/or be in line with the applied methodology and the requirements of ISO 14064-2. All data and information related to the monitoring of the GHG project shall be recorded and documented following procedures established according to section 4.10.				
Observation:	See below				
Non-conformity:	PP is requested to provide information on values applied for the data/parameters remain constant and/or to be monitored under section 10.2 and 10.3 of the ICR PDD and				

	Furthermore, accounting method under the relevant sections/subsections to demonstrate GHG quantification process and resulted value.
Response from project proponent:	The PP has provided the value applied for each parameter in the section 10.2 and 10.3 of the ICR PDD.
Referenced documentation:	1. ICR PDD
Verifier assessment on corrective actions:	Section 10.2 and 10.3 have been updated to provide the requested information. VVB confirms that the information provided on data/parameter monitored is satisfactory with adequate details on value applied and input source for respective data/parameter.
Status:	**Closed**

Non-conformity ID:	Ref.no **19**	**Reference to criteria:**	section 1.3 of the ICR requirement 4.0	**Date:**	15/12/2023
Requirement:	As per section 1.3 of the ICR requirement 4.0, "Location Project location, including organizational, geographic, and physical location information, allowing for the unique identification and delineation of the specific extent of the project, including physical address (host country, region/state/province, city/town/community, street name and number, and geographic coordinates, link to an aerial photo of the location). For grouped projects, identify each specifically. KML or CSV files may be submitted separately".				
Observation:	--				
Non-conformity:	PP is requested to provide information on the geographical location KML file and Furthermore, Map for the first project instance along with GPS co-ordinates and extent of project area.				
Response from project proponent:	1. The PP has provided the geographical location KML file and map of the first project activity instance.				
Referenced documentation:	1. KML file				
Verifier assessment on corrective actions:	Based on kml provided by PP, VVB confirm that the kml files are partially in compliance with the ICR v4.0 requirement section 1.3 & 5.1; e.g. the PD section 1.3, the total area to regulate the application of set of practices for the contract 1000000287 are 156.70 ha vs 188.55 ha from kml (1000000287_KML.kml), see first figure below for reference. Some areas of the polygon of each one farm are missing area reported in the attribute of the kml files (see second figure below for reference),				

	  The difference in total area reported exhibit inconsistency of the total area reported in ICR PDD 1474.16, ICR MR 1449.16 ha vs calculated in kml (2405.78 ha). PP should provide a KML areas coherent with areas reported in PD, incompliance with the ICR requirements.
Status:	CL still Open
	Round 2
Response from project proponent:	Response: In response to the requirements highlighted based on the KML files provided and subsequent validation, the Project Proponent has undertaken a thorough review and correction process. The Project Proponent identified an issue of polygon duplication within both the KML and Shapefile formats, which has now been resolved. Following these corrections, the Project Proponent confirms that all documentation has been updated to accurately reflect the required specifications. The corrected files now correctly represent a total of 67 farm IDs, encompassing 1143 features, with the total area precisely calculated at 1474.89 hectares. These updates ensure full compliance with the ICR version 4.0 requirements, specifically sections 1.3 and 5.1 as noted in your assessment. The Project Proponent appreciates the VVB's patience and understanding as the Project Proponent has worked to rectify these discrepancies and can assure that the provided KML areas are now coherent with the areas reported in the Project Description (PD), ICR MR fully aligning with ICR standards and requirements.
Referenced documentation:	Documents provided: 1. KML file of each individual farmer 2. ICR PDD
Verifier assessment on corrective actions:	Based on kml provided by PP, VVB confirms that the kml files are in compliance with the ICR v4.0 requirements (section 1.3 & 5.1), furthermore, the total area under the project activity presented in PD is according to area calculated from kml files.
Status:	Closed.

Non-conformity ID:	Ref.no 20	Reference to criteria:	As per section 5.1 of the ICR requirement document v4.0	Date:	15/12/2023
Requirement:	As per section 5.1 of the ICR requirement document v4.0, "Grouped projects may incorporate multiple project activities. Where a grouped project includes multiple project activities, the project design description shall indicate which project activities may occur in each geographic area".				
Observation:	See below				
Non-conformity:	PP is requested to provide the above-mentioned details for the project. Furthermore, in section 1.9 of the ICR PDD, reference of eligibility criteria of grouped project has not been adequately provided.				
Response from project proponent:	The eligibility criteria for the inclusion of project activity instance under the grouped project has been described in the last para of section 1.9 of the PDD				
Referenced documentation:	PDD				
Verifier assessment on corrective actions:	The ICR PDD has been revised to reflect requisite information on eligibility criteria for inclusion of project instances and/or project activities under proposed grouped project. The information provide in section 1.9 of the ICR PDD is in accordance with the ICR guideline and is acceptable to VVB.				
Status:	**Closed**				

Non-conformity ID:	Ref.no **21**	Reference to criteria:	section 4.8.2 of ICR requirement, version 04.0	Date:	15/12/2023
Requirement:	As per section 4.8.2 of ICR requirement, version 04.0 "A reversal risk assessment shall address the risk of non-permanence, including both general and project-specific risk factors. General risk factors include financial, technical, management, rising land opportunity costs, regulatory and social instability, and natural disturbances. Project-specific risk factors may vary by project type. Project proponents may use a relevant current good practice guidance risk assessment tool or rely on ISO 31000 to assess the non-permanence risk."				
Observation:	Project proponent has prepared a non- permanence risk report, however it does not follow the industry practices and associations, similar projects, benchmarking, GHG program tools, or others that are fit for the purpose of risk assessment. The specific findings are as below.				
Non-conformity:	INTERNAL RISK 1. Project Management: a. PP shall provide information regarding the new species that have been introduced and/or planned to be planted under the implementation of proposed project activity. Furthermore, justification on whether the species selected are native or not. In case non-native species have been included in the project, PP shall provide evidence demonstrating that there will be no negative impacts on native ecosystem.				

b. PP is requested to provide evidence supporting competency of MRV personnel involved in project on field operation, monitoring, and reporting.

2. Financial Viability: PP is requested to provide evidential documentation, supporting the mitigation statement selected by PP that "Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven". PP shall Furthermore, provide justification on how it ensures that the project will remain financially viable over the length of project crediting period.
3. Opportunity cost: PP shall provide justification for the selection of mitigation score along with the evidence and/or contractual agreements which assures that the project implementation and management practices will be continued over the period of whole crediting period (i.e., technical life of the project).
4. Project Longevity: PP shall provide justification for selection of risk score along with justification and supporting documentation to confirm project longevity as stated in the NPR report to be 45 years.

EXTERNAL RISK

5. Ownership:
   a. PP shall describe the project ownership indicating the land ownership along with evidence for the same.
   b. Furthermore, as per the section 1.11 of the ICR PDD "there are some of the growers who do not have ownership of land but have access to them through other agreements with the legal landowner must provide attestation of their right to manage the land and participate in the program".
   Considering the above statement, PP shall clarify on the selection "ownership and resource access/use rights are being held by the same entity" (as stated in NPR report).

   Furthermore, PP is requested to provide justification and evidence of the land ownership and the right of carbon credits generated from the project in the section 1.11 of the ICR PDD and NPR report.

   c. VVB has observed that no mitigation score has been selected for land tenure and community engagement, whereas review of section 1 (opportunity cost and project longevity), reflected that the project does have legally binding agreements ensuring continuation of project management over the length of project crediting period.
   PP shall address the same along with the justification for the selection.

6. NATURAL RISK
   a. PP shall provide literature review and/or region-specific studies relevant to occurrence of fire, incidence of pest attack, and extreme weather events in the project region.

PP is requested to provide justification regarding the selection of mitigation score for each risk factor under natural risk and how the mitigation strategies/prevention measures (if applicable) adopted are fit for containing the occurrence of natural risk within and/or around the designated project boundary.

Response from project proponent:	1. Project Management: 2. PP shall provide information regarding the new species that have been introduced and/or planned to be planted under the implementation of proposed project activity. Furthermore, justification on whether the species selected are native or not. In case non-native species have been included in the project, PP shall provide evidence demonstrating that there will be no negative impacts on native ecosystem Response: There is no news species introduction in the project activity. All the species are indigenous to Italy and Mediterranean region (where Italy is located). The introduction of the species will be done on the basis of climate suitability and local needs. The majority of woody perennial include in the project activity is olive tree (Olea europaea), which is a native of Italian peninsula and Mediterranean Basin where this project activity is located (Besnard, et al. 2018). Reference: Besnard, Guillaume, Jean-Frédéric Terral, and Amandine Cornille. "On the origins and domestication of the olive: a review and perspectives." Annals of botany 121.3 (2018): 385-403. Document provided: Reference paper b. PP is requested to provide evidence supporting competency of MRV personnel involved in project on field operation, monitoring, and reporting. Response: the PP has provided an Organogram of resource personnels to be involved in the project activity. The PP has provided the list of resource persons involved in the MRV and implementation of the project activity. The list also mentions the core competency of each staff involved in the project activity. 3. Financial Viability: PP is requested to provide evidential documentation, supporting the mitigation statement selected by PP that “Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven”. PP shall Furthermore, provide justification on how it ensures that the project will remain financially viable over the length of project crediting period. Response: The PP has received the funding for project registration and issuance of carbon credits. It involves all the all cost to be incurred in the project registration and preparation of monitoring report followed by verification. Furthermore, the PP has provided the cash flow document (confidential) to the VVB as an evidence of cash flow for initial period of the project activity. 4. Opportunity cost: PP shall provide justification for the selection of mitigation score along with the evidence and/or contractual agreements which assures that the project implementation and management practices will be continued over the period of whole crediting period (i.e., technical life of the project). Response: The PP has entered into a contractual agreement with each enrolling grower/farmer who are willing to participate in the project activity. The agreement continues for the entire crediting period of the project activity. Supporting document: Contractual agreement sample.

5. Project Longevity: PP shall provide justification for selection of risk score along with justification and supporting documentation to confirm project longevity as stated in the NPR report to be 45 years.

   Response: The project crediting period is 15 years which will be renewed twice making the whole crediting period of 45 years (15 + 15 + 15 = 45 years). The PP has entered into a contractual agreement with each farmer/grower.

   EXTERNAL RISK

7. Ownership:
   d. PP shall describe the project ownership indicating the land ownership along with evidence for the same.

Response: The Project Ownership is with the PP whereas the land ownership with the respective individual owner/grower.

1. NATURAL RISK

   b. PP shall provide literature review and/or region-specific studies relevant to occurrence of fire, incidence of pest attack, and extreme weather events in the project region.

(i) Geological Risk: Italy has been divided into four seismic zones. The southern and central part and island of Sicily fall under zone 1 and zone 2 of seismic zone. Earthquakes can and do affect agricultural practices, the extent and nature of the impact can vary widely. Direct impacts might include damage to infrastructure (like irrigation systems or storage facilities) and changes in land topography. However, agricultural lands, especially those not near urban centers or major fault lines, might experience less immediate or severe damage from seismic events compared to built environments. Majority of the agricultural lands are located away from the built structures. Therefore, the is minimal opportunity of loss as a result of any earthquake events.
Reference: Pagliacci, Francesco, et al. "The socioeconomic impact of seismic events on animal breeding. A questionnaire-based survey from central Italy." International Journal of Disaster Risk Reduction 56 (2021): 102124.

(ii) Extreme weather - Italy has observed extreme weather events in the form of heatwaves, and floods (flash floods) in recent years in the range of 25-50 years. Major extreme events observed in Italy is related to floods in 1998 and 2002.

Reference: Kron, Wolfgang, Petra Löw, and Zbigniew W. Kundzewicz. "Changes in risk of extreme weather events in Europe." Environmental Science & Policy 100 (2019): 74-83.
(iii) Pests and disease outbreaks: pests are common in Italian agricultural systems which can affect the crops if not managed. In the project activity, the PP is applying integrated pest management, reduced pesticide application to control pests and disease outbreaks wherever, it is part of the Best Agricultural Practices (BAPs).
Reference: Gargani, Elisabetta, et al. "A survey on pests and diseases of Italian Hop crops." Italus Hortus 24.2 (2017): 1-17.
Fire risk – Fire risk are minimal in the project activity as biomass burning is prohibited by the applied methodology LIFE C-Farms.

Referenced documentation:	1. Non-Permanence Risk Report included in the PDD
Verifier assessment on corrective actions:	PP is requested to address following: 1. The justification provided for each risk factor shall be incorporated in the ICR PDD section 8.3 (ICR PDD template v4.0) and/or in the NPR assessment report (.xlsx) provided.
Status:	**Open**
	Round 2
Response from project proponent:	**Response:** The Project Proponent has described the justification under each Risk type: (I) Internal Risk, (II) External Risk and (III) Natural Risk. Within section 8.3 in the last paragraph, the Project Proponent has also described how the project will ensure the longevity and enrollment of the farmers throughout the project crediting period.
Referenced documentation:	**Supporting document:** ICR PDD
Verifier assessment on corrective actions:	VVB based on the review of the revised ICR PDD, confirms that the requisite information has been provided along with justification for selection of risk score under respective risk factors identified. The description provided for permanence risk analysis and the outcome of the assessment has been found valid and acceptable by VVB.
Status:	Closed.

Verification

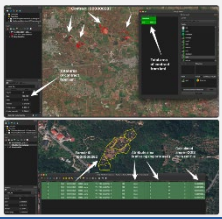
Table 3. CARs & CL from this verification

Non-conformity ID:	Ref.no **01**	**Reference to criteria:**	ICR requirement document v4.0, section 4.8;	**Date:**	15/12/2023
Requirement:	As per section 3.2 of the ICR requirement document v4.0 "The project proponent planning to issue and/or activate ICCs for GHG emission mitigations achieved by the implemented registered project activity shall prepare, for each monitoring period, a monitoring report using the most recent version of the Monitoring report template and have verified by an approved VVB. When completing the monitoring report, the project proponents shall provide all necessary information and documentation to demonstrate the conformity of the implemented registered project activity and monitored GHG emission mitigations to all applicable requirements herein and ISO 14064-2. When completing the project design description or monitoring report, the project proponent shall follow the instructions outlined in the templates." Furthermore, as per section 3.2 of the ICR requirement document v4.0 The project proponent shall provide ex-post calculation of GHG emission mitigations for each monitoring period.				
Observation:	Section 9 & 10 of the Joint PD/MR does not comply with the requirement.				
Non-conformity:	PP has contracted the VVB for joint validation and verification. However, following documents have not been provided to VVB for review: 1. monitoring information in section 9 & 10 of the Joint PD/MR 2. Ex-post carbon calculation spreadsheet including • Formulas/equations used for calculation and their source. • Data/parameter monitored for the reported monitoring period, value applied, and reference/source used.				

	• SOC calculation spreadsheet • SOC laboratory analysis reports after project start date, from an authorized independent expert. • Uncertainty analysis performed for the reported monitoring period. • Leakage assessment 3. Data records and/or evidence to confirm that expected SDG contributions have been achieved by first project instance. Along with the documentation/reports as mentioned in the section 1.14 of the submitted ICR PDD. For example: Employment generation, male/female recipients, crop productivity data etc. 4. Project Implementation Schedule and/or status compared to the project description given in the joint PD/MR.
Response from project proponent:	1. Monitoring report is now provided 2. Ex-post carbon calculation spreadsheet using Roth C Model 3. Data records and/or evidence to confirm that expected SDG contributions have been achieved by first project instance in the context of the project activity is now provided.
Referenced documentation:	1. Monitoring report is now provided 2. Ex-post carbon calculation spreadsheet using Roth C Model 3. Data records and/or evidence to confirm that expected SDG contributions
Verifier assessment on corrective actions:	The ex-post carbon calculation as provided in the MR and Ex-post ER sheet is not traceable and re-producible. This needs to be further explained by the PP, while doing so, the results of Roth C Model and its appropriateness need to be justified. This finding is subject to closure of finding 2 as well.
Status:	**Open**
	Round 2
Response from project proponent:	**Response:** Addressing the concerns raised about the traceability and reproducibility of the ex-post carbon calculations provided in the Monitoring Report (MR) and the Ex-post Emission Reduction (ER) sheet, the Project Proponent would like to emphasize the commitment to transparency and scientific rigor in all aspects of our project documentation and analysis. During the meeting held with the Validation/Verification Body (VVB) on April 10, 2024, the Project Proponent presented a comprehensive overview of the methodological tool framework. This included a detailed walkthrough of all scripts in R used for the RothC model, all model inputs, equations, and results, showcasing the process for running the model and its calibration. This initiative underscores our adherence to robust scientific methodologies, aiming for a thorough understanding of soil carbon dynamics and their role in climate change mitigation. The RothC model, a cornerstone of our analysis, simulates the turnover of organic carbon in non-waterlogged topsoil, distinguishing between various carbon pools with differing rates of decomposition. These pools include decomposable plant material (DPM), resistant plant material (RPM), microbial biomass, humified organic matter, and inert organic matter. The model operates on a monthly time step and accounts for the influence of soil type, temperature, moisture, and plant cover on the decomposition rates of these carbon pools. Key variables for prediction include the amounts of organic carbon inputs to the soil, the decomposition rate constants for each carbon pool, and factors modifying these rates based on environmental conditions. To further elucidate the model's application within our project's context, the Project Proponent would like to describe the following: (a) Baseline Scenario: Before implementing regenerative agricultural practices, conventional methods led to a gradual decline in soil carbon levels. Our baseline scenario analysis, drawing on research by Fantappiè et al. (2018) and detailed soil surveys, establishes a clear picture of soil carbon stocks before the project's initiation. This historical perspective is crucial for appreciating the incremental benefits of our interventions.

	(b) Census Survey and Data Collection: Through meticulously designed forms and surveys, we gathered foundational data on land use, vegetation, soil types, and initial carbon stocks for each plot. This granular data collection process, illustrated by our engagement with properties across Puglia, informs our understanding of baseline conditions and guides the application of regenerative practices. (c) Environmental Modeling and Soil Carbon Dynamics: Leveraging the RothC model and additional tools like TerraClimate and MODIS data, we've constructed a sophisticated model of soil carbon dynamics. This model incorporates detailed environmental variables and management practices, allowing us to simulate soil carbon turnover accurately and assess the impact of our regenerative agriculture practices. (d) Project Outcomes and Monitoring: Our project has achieved significant reductions in greenhouse gas emissions, with a total mitigation of 8,044.58 tCO2e observed. This achievement underscores the effectiveness of our management practices and the reliability of our monitoring methodologies, including soil carbon stock measurements and climate data analysis accordingly to the report. (e) Data Sources and Methodologies: Our approach is supported by an extensive array of data sources, including soil maps, climate datasets, and detailed soil profile analyses. These resources provide a robust foundation for our carbon stock calculations and environmental modeling efforts all this information is described in the report. In conclusion, our rigorous approach to documenting and analyzing soil carbon dynamics, underpinned by the RothC model and a comprehensive suite of environmental data, ensures that our project's contributions to climate change mitigation are both impactful and verifiable. We remain dedicated to advancing our understanding of soil carbon sequestration and to sharing our findings and methodologies transparently with the community. In further detailing the integrity and transparency of our methodological approach, it's crucial to underscore that our model operates on a robust platform built within the R programming language. Spanning over 800 lines of code, this model encapsulates the complexity and rigor of our carbon calculation processes. It has been meticulously developed to ensure not only the accuracy of our carbon sequestration estimations but also the reproducibility of our results. This aspect of our work is vital, as it allows for the independent verification and validation of our methodologies and outcomes. The Project Proponent would like to emphasize that this comprehensive body of code can be made accessible for review upon request by any technical team seeking to understand or validate the processes we have employed. This open-door policy for our methodology is a testament to our commitment to transparency and scientific rigor. However, it is important to note that while we are prepared to share our methods for validation purposes, the codes and scripts developed are the intellectual property of Alberami (the Project Proponent). This distinction ensures that while our work can be scrutinized and validated for accuracy and compliance, the proprietary nature of our technological and methodological innovations is preserved. This strategic decision to protect our intellectual property does not detract from our commitment to transparency and scientific integrity. Instead, it reinforces our role as innovators in the field, willing to lead by example in showcasing how rigorous analysis and transparent methodologies can drive meaningful change in climate change mitigation efforts. Our approach underscores a balance between open scientific collaboration and the safeguarding of intellectual contributions that drive the industry forward.
Referenced documentation:	Supporting documents: ICR MR (Section 7)
Verifier assessment on corrective actions:	VVB has reviewed the ICR PDD and ICR MR report and confirms that the PP's response is valid and acceptable. To address the finding issue PP has ensure that following details are reflected in the project documentation: - Overview of methodological framework applied, tools used, a brief description on how RothC model and its scripts have been utilized for SOC modelling along with model inputs, equations, and results, showcasing the process for running the model and its calibration.

	- A detailed description on how RothC model utilizes the spatial data of environmental conditions/ climate factors and different decomposition rates in simulation of organic carbon turnover in non-waterlogged topsoil. - The revised project documentation gives clear description on how RothC model was applied within the project's context, including establishing baseline scenarios, data collection through surveys, environmental modelling, and monitoring project outcomes. - PP has provided information on data sources, including soil maps, climate datasets, and soil profile analyses, ensuring the reliability of carbon stock calculations and environmental modelling. - Due to confidentially issue the R scripts followed for RothC model application remains with the project proponent/participant. However, PP has transparently clarified the approach followed and data input applied during SOC modelling and is acceptable for the VVB.
Status:	Closed

Non-conformity ID:	Ref.no **02**	**Reference to criteria:**	Section 1.3 of the ICR requirement 4.0	**Date:**	15/12/2023
Requirement:	As per Section 1.3 of the ICR requirement 4.0 "Location Project location, including organizational, geographic, and physical location information, allowing for the unique identification and delineation of the specific extent of the project, including physical address (host country, region/state/province, city/town/community, street name and number, and geographic coordinates, link to an aerial photo of the location). For grouped projects, identify each specifically. KML or CSV files may be submitted separately".				
Observation:	The requirement has not been complied as PP has not provided the KML or CSV				
Non-conformity:	PP is requested to provide information on the geographical location KML file (with geodetic polygons) and Furthermore, Map for the first project instance along with GPS co-ordinates and extent of project area.				
Response from project proponent:	The KML File for the first activity instance has been provided for each farmer enrolled in the first project activity instance. For the entire grouped project activity, the entire geographical of Italy has been covered. Each project location under the first instance has been given a unique ID. The map of Italy has already been provided in section 1.3 of the PDD.				
Referenced documentation:	1. KML file containing all the land parcels of the first project activity instance 2. Map of the first project activity instance 3. KML of Italy (for the entire group project activity)				
Verifier assessment on corrective actions:	Based on kml provided by PP, VVB confirm that the kml files are partially in compliance with the ICR v4.0 requirement section 1.3 & 5.1; e.g. the PD section 1.3, the total area to regulate the application of set of practices for the contract 1000000287 are 156.70 ha vs 188.55 ha from kml (1000000287_KML.kml), see first figure below for reference. Some areas of the polygon of each one farm are missing area reported in the attribute of the kml files (see second figure below for reference),  The difference in total area reported exhibit inconsistency of the total area reported in ICR PDD 1474.16, ICR MR 1449.16 ha vs calculated in kml (2405.78 ha). PP should provide a KML areas coherent with areas reported in PD, incompliance with the ICR requirements.				
Status:	CAR still Open				
Round 2					

Response from project proponent:	Response: In response to the requirements highlighted based on the KML files provided and subsequent validation, the Project Proponent has undertaken a thorough review and correction process. The Project Proponent identified an issue of polygon duplication within both the KML and Shapefile formats, which has now been resolved. Following these corrections, the Project Proponent confirms that all documentation has been updated to accurately reflect the required specifications. The corrected files now correctly represent a total of 67 farm IDs, encompassing 1143 features, with the total area precisely calculated at 1474.89 hectares. These updates ensure full compliance with the ICR version 4.0 requirements, specifically sections 1.3 and 5.1 as noted in your assessment. The Project Proponent appreciates the VVB's patience and understanding as the Project Proponent has worked to rectify these discrepancies and can assure that the provided KML areas are now coherent with the areas reported in the Project Description (PD), ICR MR fully aligning with ICR standards and requirements.
Referenced documentation:	Documents provided: 1. KML file of each individual farmer 2. ICR MR
Verifier assessment on corrective actions:	Based on kml provided by PP, VVB confirms that the kml files are in compliance with the ICR v4.0 requirements (section 1.3 & 5.1), furthermore, the total area under the project activity presented in PD is according to area calculated from kml files.
Status:	Closed.

IV. Abbreviations

AGB	Above Ground Biomass
ALM	Agricultural Land Management
AR	Adoption Rate
BE	Baseline Emission
BGB	Below Ground Biomass
CAR	Corrective Action Request
CCIPL	Carbon Check (India) Private Limited
CL	Clarification Request
CO_2e	Carbon Di-oxide Equivalent
DR	Document Review
DVR	Draft Validation and Verification Report
ERRs	Emission Reduction and/or Removals
EIA	Environmental Impact Assessment
EU	European Union
FA	Final Approval
FAR	Forward Action Report
FFC	Fossil Fuel Consumption
FVR	Final Validation and Verification Report
GHG	Green House Gas(es)
GIS	Geographical Information System
ICCs	International Carbon Credit
ICM	Improved Cropland Management
ICR	International Carbon Registry
IPCC	Intergovernmental Panel on climate Change
IR	Internal Resource
ISO	International Organization for Standardization
KML	Keyhole Markup Language
LE	Leakage Emission
LULUCF	Land Use, Land Use Change and Forestry
MP	Monitoring Plan
MR	Monitoring Report
NC	Nitrogen Content
N_2O	Nitrogen Di Oxide
OF	Organic Fertilizer
PDD	Project Design Description
PP	Project Proponent
PRA	Participatory Rural Appraisal
QC/QA	Quality Control/ Quality Assurance
SDGs	Sustainable Development Goals
SF	Synthetic Fertilizer
SOC	Soil Organic Carbon
tCO_2e	Tons of Carbon di Oxide Equivalent
TR	Technical review/ Technical Reviewer
VVB	Validation and Verification Body

V. Certificates of Competence

Carbon CHECK

Carbon Check (India) Private Limited

Certificate of Competency

Ms. Isha Kapoor

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☐ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☐ Plastic Waste Expert
☐ CCB Expert	☐ Legal Expert	☐ Financial Expert	☐ Environmental, Health and Safety financial matters
☐ SDG+	☐ Social no-harm(S+)	☐ Environment no-harm(E+)	
☒ Local Expert for India			

in the following Technical Areas:

☐ TA 1.1	☐ TA 1.2	☐ TA 2.1	☐ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☐ TA 13.1	☐ TA 13.2
☒ TA 14.1	☐ TA 15.1	☐ TA 16.1		

Issue Date

5th December 2023

Expiry Date

31st December 2024

Priya Suman

Ms. Priya Suman
Compliance Officer

Sanjay Agarwalla

Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

Revision date	Summary of changes
2022	Initial Adoption
Jan 2023	Annual revision
Dec 2023	Change in the template due to revision in TA and function

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

[1] Please refer to previous version of FM 7.9 for the revision history

Carbon Check (India) Private Limited

Certificate of Competency

Mr. Vikash Kumar Singh

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☒ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☒ Plastic Waste Expert
☒ CCB Expert	☐ Legal Expert	☒ Financial Expert	☒ Environmental, Health and Safety financial matters
☒ SDG+	☒ Social no-harm(S+)	☒ Environment no-harm(E+)	

☒ Local Expert for India/RSA and Spanish speaking countries

in the following Technical Areas:

☒ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☒ TA 4.1
☒ TA 4. n	☐ TA 5.1	☐ TA 5.2	☒ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☒ TA 13.1	☒ TA 13.2
☒ TA 14.1	☒ TA 15.1	☐ TA 16.1		

Issue Date

5th December 2023

Expiry Date

31st December 2024

Ms. Priya Suman
Compliance Officer

Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

Revision date	Summary of changes
2022[1]	Annual revision
Jan 2023	Annual revision
Dec 2023	Change in the template due to revision in TA and function

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

[1] Please refer to previous version of FM 7.9 for the revision history

Carbon CHECK

Carbon Check (India) Private Limited

Certificate of Competency

Mr. Amit Anand

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☒ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☒ Plastic Waste Expert
☒ CCB Expert	☐ Legal Expert	☒ Financial Expert	☐ Environmental, Health and Safety financial matters
☒ SDG+	☒ Social no-harm(S+)	☒ Environment no-harm(E+)	
☒ Local Expert for India and RSA			

in the following Technical Areas:

☒ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☒ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☒ TA 13.1	☒ TA 13.2
☒ TA 14.1	☒ TA 15.1	☐ TA 16.1		

Issue Date

5th December 2023

Expiry Date

31st December 2024

Priya Suman

Ms. Priya Suman
Compliance Officer

Sanjay Agarwalla

Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

Revision date	Summary of changes
2022[1]	Annual revision
Jan 2023	Annual revision
Dec 2023	Change in the template due to revision in TA and function

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

[1] Please refer to previous version of FM 7.9 for the revision history