



*Regenerating soils for climate and farmers*

**July, 2022**

# **D6.3 PROMOTE mid-term report**



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101004282.

The content of this publication exclusively reflects the author's view and the Research Executive Agency and the Commission are not responsible for any use that may be made of the information it contains.



## Document control page

|                                |  |
|--------------------------------|--|
| <b>Project</b>                 | AgriCaptureCO2   |
| <b>Project, full title</b>     | Developing EO-powered services to promote soil carbon sequestration through regenerative agriculture |
| <b>Project number</b>          | 101004282  |
| <b>Project start</b>           | 1 January 2021   |
| <b>Deliverable</b>             | D6.3   |
| <b>Work Package</b>            | WP6 LAUNCH: Promotion, uptake and commercial transition  |
| <b>Document title</b>          | Market Analysis  |
| <b>Version</b>                 | Final version  |
| <b>Responsible author</b>      | Tadeo Vazquez Sanchez (One Carbon World)   |
| <b>Contributors</b>            | Andrew Bowen (One Carbon World), Celia Nyssens (EEB), Igor Milosavljevic (GILab)                     |
| <b>Date of delivery</b>        | 8 July 2022  |
| <b>Due date of deliverable</b> | 30 June 2022   |
| <b>Type</b>                    | Report   |
| <b>Language</b>                | English  |
| <b>Rights</b>                  | Copyright "AgriCapture consortium"   |
| <b>Dissemination level</b>     | Public   |

| <b>Version history</b> |                       |              |                              |
|------------------------|-----------------------|--------------|------------------------------|
| <b>Version</b>         | <b>Implemented by</b> | <b>Date</b>  | <b>Description</b>           |
| V1                     | OCW                   | 04 June 2022 | First draft                  |
| V2                     | OCW                   | 28 June 2022 | Final version for submission |
| V2.1                   | GILAB                 | 08 July 2022 | Revised for submission       |



## Table of contents

|  |           |
|--|-----------|
| TABLE OF CONTENTS .....  | 3         |
| EXECUTIVE SUMMARY .....  | 4         |
| TABLE OF TABLES .....  | 5         |
| TABLE OF FIGURES .....   | 5         |
| LIST OF ABBREVIATIONS.....   | 6         |
| <b>1 INTRODUCTION .....</b>  | <b>7</b>  |
| <b>2 COMMUNICATION AND DISSEMINATION .....</b>   | <b>9</b>  |
| <b>3 EXPLOITATION.....</b>   | <b>5</b>  |
| 3.1 USING AGRICAPTURECO2 RESULTS TO STREAMLINE THE PROCESS TO CERTIFY CARBON CREDITS FROM CARBON SEQUESTRATION IN AGRICULTURAL SOILS ..... | 6         |
| 3.1.1 <i>Legal arrangements</i> .....  | 13        |
| 3.1.2 <i>Next steps</i> .....  | 13        |
| 3.2 EXPLOITATION ACTIVITIES RELATING TO USE CASES.....   | 14        |
| 3.2.1 <i>Use case #1: Greece</i> .....   | 15        |
| 3.2.2 <i>Use case #2: Poland</i> .....   | 15        |
| 3.2.3 <i>Use case #3: UK (LEAF)</i> .....  | 16        |
| 3.2.4 <i>Use case #4: UK (Lancashire)</i> .....  | 17        |
| 3.2.5 <i>Use case #5: Serbia</i> .....   | 18        |
| <b>4 CONCLUSION .....</b>  | <b>19</b> |



## Executive summary

The AgriCaptureCO<sub>2</sub> project seeks to make it easier and more profitable for farmers to adopt regenerative farming practices. We bring together pioneering farmers, agronomists, soil scientists, public bodies, and technology experts working in 6 pilot sites across Europe and Africa to co-develop a suite of valuable services powered by satellite data. At the same time, we are developing and promoting a European Regenerative Agriculture Community to facilitate engagement and knowledge transfer.

This document takes stock of the work and achievements of Work Package 6 PROMOTE in the first half of the AgriCaptureCO<sub>2</sub> project.

It reviews key activities delivered under all the tasks of Work Package 6 (which have started and are ongoing), and measures success against key performance indicators established in the Communications, Dissemination and Exploitation Strategy drawn up for this Work Package.

Overall, the work and impact achieved in the first half of the project is very satisfactory, especially given specific challenges experienced as a consequence of the COVID-19 pandemic. All deliverables were submitted on time, and strong progress has been made against key performance indicators.



## Table of tables

|   |   |
|---|---|
| Table 1. WP6 milestones and deliverables due in the first 18 months.....                          | 7 |
| Table 2. Progress against the relevant KPIs .....   | 9 |
| Table 3. Progress against the different communication and dissemination activities from D6.1..... | 1 |

## Table of figures

|  |    |
|--|----|
| Figure 1. Online questionnaire - Expressions of interest. ....                   | 9  |
| Figure 2. Online application form - National projects.....                       | 10 |
| Figure 3. One-page demo of the info pack for farmers and national projects. .... | 11 |
| Figure 4. Revenue formula for exploitation pathway 1 .....                       | 12 |
| Figure 5. Revenue formula for exploitation pathway 2.2.....                      | 12 |
| Figure 6. Total farmer revenue for the African scenario. ....                    | 13 |



## List of abbreviations

|       |  |
|-------|--|
| COP26 | 26 <sup>th</sup> United Nations Climate Change Conference (2021) |
| D     | Deliverable  |
| EO    | Earth Observation  |
| KPIs  | Key Performance Indicators                                       |
| M     | Month  |
| MRV   | Monitoring, Reporting and Verification                           |
| T     | Task   |
| UK    | United Kingdom   |
| UKAS  | United Kingdom Accreditation Service                             |
| WP    | Work Package   |



## 1 Introduction

The overall objective of Work Package (WP) 6 is to maximise the impact of the project and enable post-project sustainability of key project results. Specific objectives outlined in the Grant Agreement include:

- To raise awareness and interest in the project, encouraging engagement and participation.
- To disseminate key insights and conclusions to targeted stakeholders.
- To develop a detailed business plan and sustainability plan to exploit project results.
- To support transition to post-project commercial exploitation with strategic project activities.

Overall, WP6 has made large progress in relation to the specific objectives. The project has delivered all key deliverables and milestones due in the first half of the project (Table 1).

**Table 1. WP6 milestones and deliverables due in the first 18 months.**

| Milestone / deliverable                                   | Due date | Partner responsible | Status |
|---|----------|---------------------|--------|
| MS1 Project kick-off                                      | Month 1  | GILab               | Done   |
| D6.1 Communication, dissemination & exploitation strategy | Month 6  | EEB                 | Done   |
| D6.2 AgriCapture website                                  | Month 4  | EEB                 | Done   |
| D6.3 PROMOTE mid-term report                              | Month 18 | OCW                 | Done   |

This document provides an overview of the various activities and results in WP6, split across two sections, the first one relating to communication and dissemination (T6.1) and the second one relating to exploitation (T6.2). The activities to be performed under T6.3 *Marketing, demo days & launch events* are not covered in this document as the task is set to begin in M32. Nonetheless, the project might move the schedule up for certain marketing activities, if needed, given the fast pace of progress seen in exploitation.



Finally, the present deliverable has significant practical overlap in terms of its content with the yearly ENGAGE report (D2.4-2.6) and the business plans (D6.8-6.10). For the former, the majority of communication and dissemination has either the direct aim of generating engagement or the consequence, i.e. the tools and channels for communication/dissemination are linked with efforts for engagement, particularly those with the highest intensity. Similarly, the business plans (in a similar fashion to this document) present the results of exploitation activities, the rationale leading these activities, and the next steps.

As such, there is an unavoidable degree of overlap between these deliverables. Nonetheless, we have made the current document a top-down overview as much as possible, where greater details can be found in the corresponding documents, to be updated once again by the end of the current year.





## 2 Communication and dissemination

Over its first 18 months, AgriCaptureCO<sub>2</sub> has built a strong online presence, through webinars, social media, and tailored mailings. Partners have been actively communicating about AgriCaptureCO<sub>2</sub> and disseminating the outputs and policy recommendations of the project, especially by promoting the project at external events, which allow us to reach very broad audiences and tap into existing networks and fora.

To guide the activities and track the progress of Work Package (WP) 6, the Communication, Dissemination and Exploitation Strategy (D6.1, further referred to as “Communication Strategy”) built on the list of Key Performance Indicators (KPIs) included in the Grant Agreement. Table 2, below, presents the progress up to the end of June 2022 against those KPIs.

**Table 2. Progress against the relevant KPIs**

|    | KPI   | Mid-term target | Achievement at M18 |
|----|---|-----------------|--------------------|
| 1  | Number of external events at which AgriCaptureCO <sub>2</sub> is promoted                 | 25              | 33                 |
| 2  | Number of farmer-oriented external events at which AgriCaptureCO <sub>2</sub> is promoted | 15              | 17                 |
| 3  | Number of visits to the AgriCaptureCO <sub>2</sub> website                                | 5,000           | 5,377              |
| 4  | Number of social media posts  | 40              | 95                 |
| 5  | Number of followers on Twitter  | 350             | 435                |
| 6  | Number of newsletter subscribers  | 250             | 593                |
| 7  | Number of scientific papers published about AgriCaptureCO <sub>2</sub> 's work            | n/a             | 1                  |
| 8  | Number of launch and demo day events  | n/a             | /                  |
| 9  | Number of farmers attending demo days   | n/a             | /                  |
| 10 | Number of attendees of the launch event   | n/a             | /                  |



Overall, this shows clearly that communications and dissemination activities for the project are progressing well. While the quality of communication and dissemination cannot be entirely judged based on these quantitative KPIs, some of these metrics do give an indication of the level of engagement with the project which has been achieved, such as the high and growing number of newsletter subscribers or Twitter followers. In addition, participation in webinars and subscriptions to our newsletter have led to a couple instances of one-on-one discussions with members of the consortium on potential collaboration, indeed with relevance to exploitation opportunities.

As an additional set of criteria to judge progress against, D6.1 set out a rough timeline for communications activities, according to three broad phases to the project: inception, implementation, and launch. The progress made for each of those activities is presented below. A more detailed analysis of engagement activities (which are closely linked to communications and dissemination) will be done in D2.5 ENGAGE year 2 report.

**Table 3. Progress against the different communication and dissemination activities from D6.1.**

|  | <b>Task</b> | <b>Activities / deliverables</b>                           | <b>Progress</b>          | <b>Explanation</b>  |
|--|-------------|--|--------------------------|---|
| <b>Inception phase<br/>(M1 - M9)</b>         | T6.1        | Visual identity  | Done                     |   |
|  | T6.1        | Templates for project outputs                              | Done                     |   |
|  | T6.1        | Setting up a record sheet to track activities and progress | Done                     |   |
|  | T6.1        | Setting up social media accounts                           | Done                     |   |
|  | T6.1        | Setting up website   | Done                     |   |
|  | T6.1        | Communications strategy                                    | Done                     |   |
|  | T6.1        | Promotional materials                                      | Done                     |   |
| <b>Throughout the project<br/>(M5 - M36)</b> | T6.1        | Social media content                                       | Ongoing - Mixed progress | Activity on twitter has not been very regular due to limited content in the first year of the project and lack of communications staff in the EEB in the first half of 2022. Still, several partners have regularly tagged AgriCaptureCO2 and the activity around the project events has gathered a good following. |
|  | T6.1        | AgriCapture blog   | Ongoing - Mixed          | Two blog posts were uploaded in 2021, however views are low (65 views each). Writing high quality blog posts  |



|      |   |  |                          |  |
|------|---|--|--------------------------|--|
|      |   |  | progress                 | requires new content to share, so this has not been a focus for our activities until now. We have found that communicating through events (incl. presenting the project at external events) was a more effective form of promotion for a young project, whereas blog posts may become more relevant as we have more results to showcase.   |
| T6.1 | News mailings                           |  | Ongoing - Good progress  | 3 newsletters have been sent, and ad hoc mailings have gone out to promote specific events in a targeted way. As the project reaches maturity and gears up towards its final launch, we will increase the intensity of mailings to build momentum and promote the outputs of the project.  |
| T6.1 | Dissemination of policy recommendations |  | Ongoing - Good progress  | EEB and GWCT have been actively engaging with policy-makers through bilateral meetings, participation in stakeholder groups, and speaking in policy webinars to communicate the policy recommendations developed by AgriCaptureCO <sub>2</sub> . These activities have also reached a wide group of policy stakeholders (other NGOs, industry groups, think tanks, etc), and the EEB has also actively engaged its network of national NGO policy experts to promote the recommendations and build their capacity to work on carbon farming. |
| T2.3 | On-farm farmer-led climate panels       |  | Ongoing - Mixed progress | In-person events were limited by the pandemic (see D2.4), but we held our first on-farm climate panel in April 2022, which however had rather low attendance.  |
| T2.3 | Online engagement (webinars etc)        |  | Ongoing - Good progress  | 7 webinars or online workshops have been organised to date, with very good participation (see D2.4).   |



|                                 |      |  |                         |  |
|---------------------------------|------|--|-------------------------|--|
|                                 | T2.4 | Annual Reg Agri Network web-conference | Ongoing - Good progress | The first such event was held in November 2021 and very well attended (see D2.4) |
| End of project phase (M31 - 36) | T6.3 | AgriCapture high-level platform launch | n/a                     |  |
|                                 | T6.3 | Demo-days (promotion)                  | n/a                     |  |
|                                 | T6.3 | Farmers video testimonials             | n/a                     |  |

Table 3 gives a generally positive picture, although highlighting some more challenging areas. The main obstacles to more active communications and dissemination activities presented above included:

- Changes in communications staffing in the EEB (main partner responsible for communications): a new communications officer who started in July 2021 had to be trained, but then left the project at the end of 2021, with delays in recruitment leading to a lack of dedicated communications capacity in the EEB. This gap has been filled to some extent by EEB policy staff, but considerably reduced the organisation's ability to deliver proactive communications. This issue will hopefully be solved by September 2022, allowing for a new communications expert to actively promote the project in its crucial final year.
- Limited content due to the early stages of the project: communications require content generation, however in the first half of the project as much work was still in early phases with limited results, partners were not able to provide much new and engaging content for AgriCaptureCO2 communications. This barrier will solve itself as the project matures, but also through proactive internal coordination led by the new EEB communications expert, once they are in post.



## 3 Exploitation

During the first year, the focus of this project was to develop multiple exploitation pathways in order to understand the potential of AgriCaptureCO<sub>2</sub> as a set of solutions for farmers and other stakeholders in the food value chains, as well as policymakers and local, national, and regional governments. In this sense, all exploitation pathways were allocated roughly the same amount of time, and this enabled the consortium to develop different activities and consultative processes to determine the nature of each pathway. The pathways were presented in the first business plan and are briefly reviewed here for reference:

- Direct support to farmers' adoption of regenerative practices
- Measuring, reporting and verification (MRV) for soil-carbon sequestration
- Quantification of soil carbon at a large scale

However, as the project moves into a discovery and creation phase (and, in other words, from the theory to the practice), the attention has been necessarily focused on some exploitation pathways over others. Some pathways are not only developing faster (in part thanks to the interest from external stakeholders and a high demand for comprehensive solutions in the sector) but are also interconnecting and creating synergy with other pathways. As a result, this creates a really interesting scenario where the benefits and advantages of our services can be strengthened when combined.

This review will focus on the six months since the last reporting period. As suggested, it will highlight the fast development of exploitation pathways **2.2** (*Tool integrated into the methodology for the release of carbon credits and/or subsidies/economic support*) and **1** (*Direct provision of services to farmers or farmer associations*). When integrated, these two pathways have shown to offer their best potential and accommodate exceptionally well to the market demands, creating remarkable business opportunities.

Given these opportunities, the business team involved in AgriCaptureCO<sub>2</sub>'s exploitation set out a simple roadmap in order to understand the aims and objectives for these months. This included a process of peer review among the consortium partners to understand the needs for each pathway. It was then followed by an external audit to test our approach and methodology in the practice. This also highlighted the need for streamlining the process for farmers and those interested in developing national projects, as well as counting on legal arrangements to be ready for a project rollout. Simultaneously, the team also tested the financial revenue formulas using real figures coming from client enquiries.



All this helped to create a framework not only useful for these two pathways but for the whole Business and Sustainability Plan structure and development.

It should also be noted that exploitation is a cross-consortium activity that is coordinated but decentralised. There is a business team that is leading the bulk of this effort (members of OCW and GILAB, responsible for T6.2 and drafting the business plans), but individual partners are also exploring and pursuing exploitation opportunities, particularly those involved in the use cases, independent of the effort of the business team. Nonetheless, there is a large degree of coordination vis-à-vis the coordinator, who is in regular contact with all parties involved, and helps to link and bridge synergistic efforts between partners which is otherwise happening organically as well to some degree). For example, the choice of LCC to use biochar in their trials and the new effort from GWCT to include biochar trials on their experimental farm has led to discussions on cooperation between the two on the former's use case.

Overall, the situation creates an unprecedented opportunity for this project to be a pioneer in the mitigation of climate change and its effects from the perspective of agriculture and land use more generally. The use of Monitoring, Reporting and Verification (MRV) and EO-precision farming to measure and track soil carbon sequestration can be a catalyst for a new approach to regenerative agriculture and a game-changer for farmers, governments, and the general public.

### **3.1 Using AgriCaptureCO<sub>2</sub> results to streamline the process to certify carbon credits from carbon sequestration in agricultural soils**

The most advanced progress has been noted in the application of AgriCaptureCO<sub>2</sub> algorithms for the purpose of improving carbon credit certification from carbon sequestration in soil. As such, this example is discussed in greater detail herein.

During this period, high-quality discussions were carried out amongst scientists and academics in our consortium about the integrity, transparency, and additionality this project needs (from technology and scientific conceptualisation to policy, expert opinions, and methodology). These conversations were underpinned by the belief that the market requires a set of solutions that are based on effectiveness and credibility.





As research progressed, WP4 studied multiple frameworks to follow best practices and found that VERRA is the best-positioned framework for this project. As set out in D4.1 (*Suitability Assessment for Legal & Voluntary Schemes*), AgriCaptureCO<sub>2</sub> regenerative practices align closely with the VERRA methodology, which provides the means of assessing the impact of combining or grouping practices. In addition, both have clear steps in place to address the double-counting issue using a dedicated registry, in which each carbon credit has a unique serial number and can only be held in individual accounts - and this is done while strengthening our standards in light of the Paris Rulebook outcomes of COP26.

The VERRA framework and associated methodology are more suited for use under AgriCaptureCO<sub>2</sub> as they present fewer barriers to project implementation and our research meets the requirements for additionality. Overall, this results in a remarkable opportunity to build integrity, increase scalability, strengthen credibility and confidence, and help ensure net environmental benefits for the development of carbon credits through soil carbon sequestration, not only under AgriCaptureCO<sub>2</sub> but also other projects across Europe and the world.

As we moved into a practical phase in the last six months, we decided it was vital to test these exploitation pathways in order to understand their strength, and we did so for our UK case study. This process included a comprehensive assessment by independent validators and third-party verifiers (e.g. Earthhood) in line with the VERRA methodology. The preliminary results of the testing and validation carried out by Earthhood are already very promising, and there were only a few comments and details to close off regarding evidence and data integrity. Overall, their feedback has been very positive and has confirmed our model based on EO-technology to monitor and track soil carbon sequestration for the generation of carbon credits. These complementary steps taken by consortium members mean that this project will likely be the first VERRA-validated project in Europe to generate carbon credits for farmers.

Due to the advanced stages of the testing for these solutions, the business team involved in the exploitation of AgriCaptureCO<sub>2</sub> started building commercial relationships with multiple stakeholders in the last few months, as well as planning resources for the next stages of the exploitation of this project. As highlighted by some consortium partners, the exploitation of these pathways will follow a comprehensive and ethical approach. Therefore, it has been suggested that the sale of carbon credits should only be allowed to organisations that have credible emission reduction plans and targets based on climate science. This is further highlighted under our research and findings from D4.3.



Although the initial expectations of the project as expressed in the Description of Action were not to create a carbon credit project within the scope of the project's activities but rather to have a highly theoretical approach to prepare for this post-project, a remarkable interest and high demand for comprehensive solutions across Europe have driven some consortium partners to further develop practical steps toward establishing national projects to certify carbon credits.

The steps that we will showcase here came as a real need to pursue this project's highest potential, and to take advantage of the current circumstances to seek commercial opportunities that benefit farmers, consumers, and our environment, as well as help improve the health of our soils for us and the generations to come.

The business team has facilitated enquiries and contacts with external stakeholders, farmer associations, and organisations from countries inside and outside the European Union, including France, Israel, Bulgaria, the Netherlands, South Africa, Germany, the UK, and Singapore. The first category of enquiries was related to the purchase of carbon credits generated from this project. This served as a "thermometer" to test the market's interest in AgriCaptureCO<sub>2</sub>, and is helping us shape the Business and Sustainability Plan document. For instance, we have received an offer from a German company to buy carbon credits at €30 per carbon credit, a price that is already three times higher than the 10€ estimated for all scenarios last year.

We have developed an online questionnaire to capture expressions of interest and understand indicative offers, needs, and feedback on our project. This will be reflected in the second draft of the Business and Sustainability Plan (D6.9), due in December 2022.

**GREAT BRITISH SUSTAINABLE FARMING PROJECT**

### The Great British Sustainable Farming Project - Expressions of Interest

Thank you for your interest in the Great British Sustainable Farming Project!

We have passed your information on to the project managers for their consideration.

In the meantime, we want to hear your feedback and get you know better so we can support the information presented to the project holders. Please fill this quick survey and let us know your thoughts.

Thank you again for your commitment to supporting our farmers and climate heroes!

[Switch accounts](#)

**\*Required**

**Email \***

Your email address



## *Figure 1. Online questionnaire - Expressions of interest.*

Secondly, we have received queries from farmers and farmer associations, who are looking to join initiatives that help them apply regenerative agriculture practices and reward them with financial incentives at the same time. This has been valuable in order to understand the needs of this sector, adapting our materials and approach, and refining our exploitation pathways.

Lastly, we have also started to develop our rolling-out potential and test the resilience of our exploitation pathways with national projects across Europe and the world. For instance, OCW was contacted by the Ministry of Agriculture of the Republic of Lithuania to explore the possibility of developing a regenerative agriculture framework for this country. Discussions with representatives of the Ministry have been very favourable, and we have shared the positive results of the validation process. This kind of rollout could be key to adapting our approach to different countries, contexts, and geographies, in order to deliver an efficient and resilient set of solutions.

Additional steps were taken toward resource planning for these prospective national projects. In order to capture and register interest, an online application form has been developed. This will ensure full visibility of the opportunities for commercial exploitation and an understanding of the needs and demands of the market. Moreover, an info pack has been created with the aim of harmonising all of the positive elements of this project and showcasing the benefits that carbon sequestration through regenerative agriculture has for farmers and the environment.



Please complete the grant application form below:

**Online Grant Application Form**

To apply, please take the time to fill out the information below

Country \*

Contact first name \*                      Contact Last Name \*

Contact email address \*

Contact phone number \*

Full address \*

In a few words, tell us a bit about the national project you have in mind \*

*Figure 2. Online application form - National projects.*

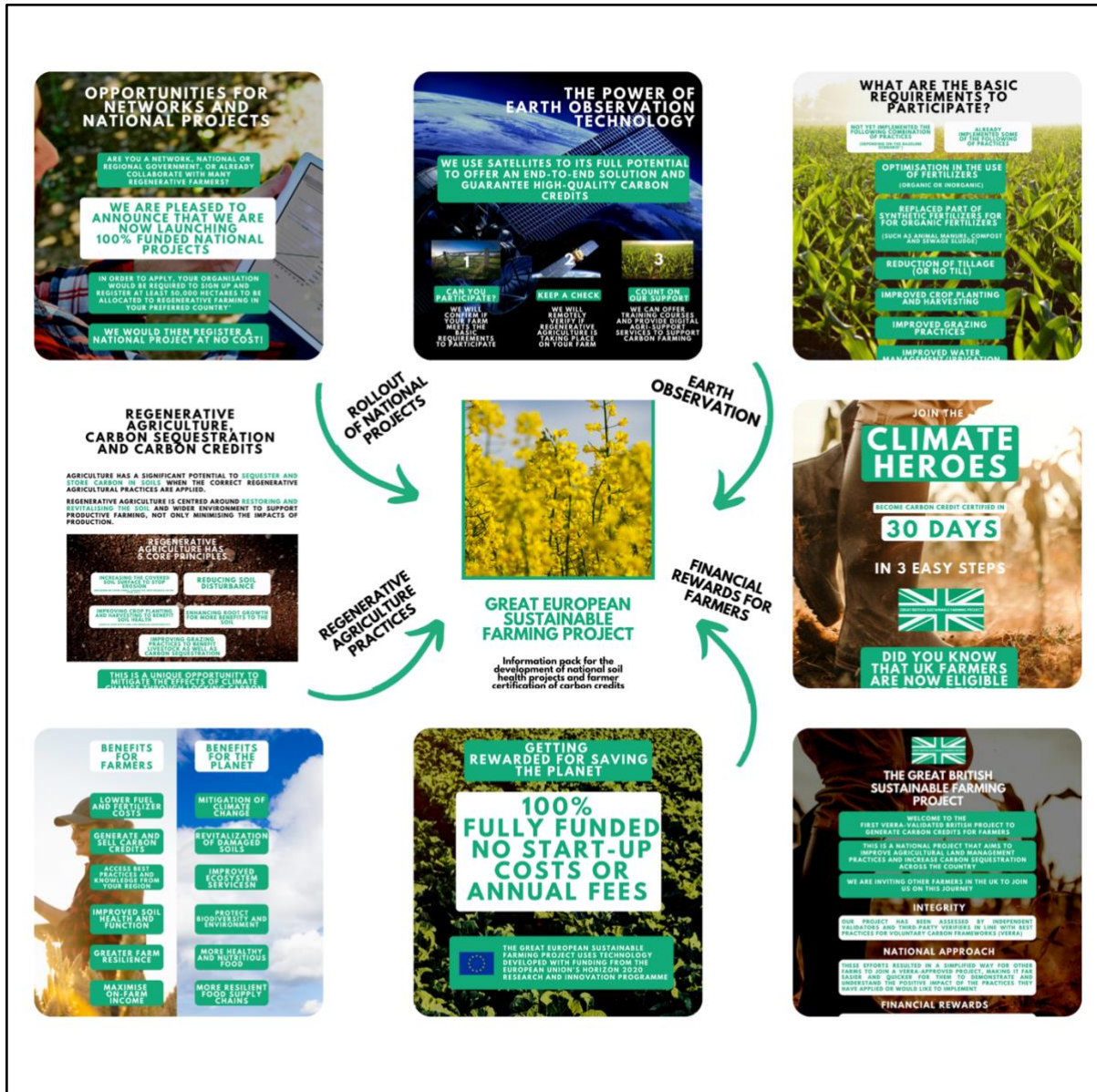


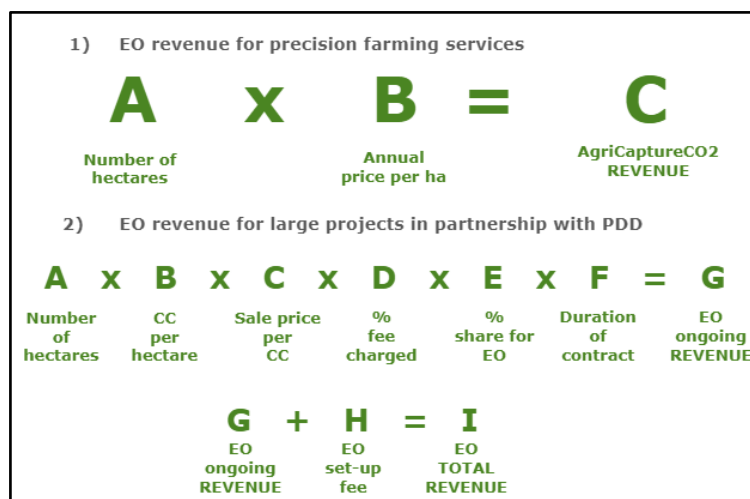
Figure 3. One-page demo of the info pack for farmers and national projects.

Simultaneously, in the last six months, and in light of these expressions of interest, the team has worked towards refining and perfecting the Financial Model in an effort to present tangible and real financial estimations, rather than assumptions. In this sense, multiple financial revenue formulas have been created for each exploitation pathway, and the figures are showing exceptional results for farmers (these will be fully introduced in D6.9). For instance, if we apply our formulas to an expression of interest for the development of carbon credit projects in Africa (under exploitation pathway 2.2) we get an estimated total farmer revenue of almost €3 billion over a period of 30 years for farmers in South Africa,

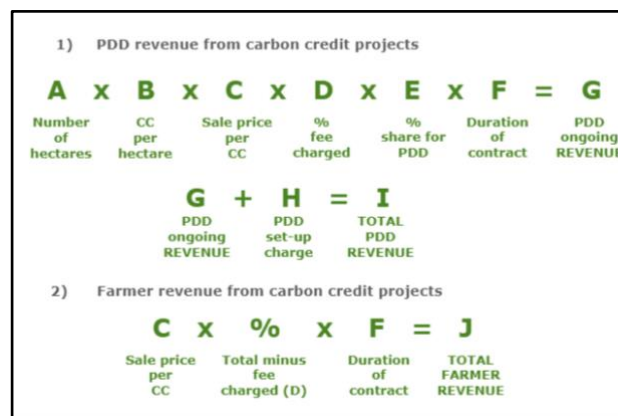


Nigeria, Ghana, and Burkina Faso (2.41 million hectares in total). This, coupled with the net environmental benefits involved, puts carbon sequestration through regenerative farming at the top of the comprehensive solutions for our planet.

Moreover, open discussions were held around different models, from a fixed-fee model to a transactional fee scheme (as used by VISA or PayPal) for national projects. A full update and detailed details of these discussions will be provided in the next draft of the Business and Sustainability Plan.



**Figure 4. Revenue formula for exploitation pathway 1**



**Figure 5. Revenue formula for exploitation pathway 2.2**



| <b>J<br/>(TOTAL FARMER<br/>REVENUE)</b> |
|---|
| €275,400,000                            |
| €1,468,800,000                          |
| €1,101,600,000                          |
| €102,816,000                            |
| <b>€2,948,616,000</b>                   |

**Figure 6. Total farmer revenue for the African scenario.**

### 3.1.1 Legal arrangements

Since transparency, credibility, and additionality are key aspects of this project, the team involved in exploitation has also organised multiple sessions with Arthur's Legal to start exploring and adapting the legal arrangements for the rollout of these national projects, as well as the legal path for farmers to join. In this sense, the focus of these conversations has been twofold.

Firstly, as rightly identified by the audit validators, there should be legal assurances that the farmers that join these projects and apply regenerative agriculture practices are in fact owners of the carbon credits generated. Arthur's Legal is therefore working to develop the necessary legal agreements and document templates to ensure that there is a clear path for the financial rewards for these farmers.

Secondly, these agreements will also include any transactional fees charged for the development of the projects. This will ensure certainty and coherence to exploit these services commercially. More detailed information and updates will be provided in D6.9.

### 3.1.2 Next steps

In the next months, the team will focus on the development of a *customer journey* plan, in order to standardise the way in which potential projects are dealt with (i.e.: creating and sending an information pack, ensuring the legal agreements are signed, answering queries, and, ultimately, selling the carbon credits generated to the market). In other words, this business development and planning process will set out the steps to manage



the relationships with the farmers, those interested in starting national projects, and those willing to purchase carbon credits and support regenerative agriculture.

Another essential step toward the successful exploitation of these projects would be to ensure the technical resilience of our approach to improving carbon sequestration and soil health, as set out in the previous section about technical resilience. For this, training and support for farmers using visual materials and digital assets will be vital, as well as introducing the EO precision farming platform to monitor the implementation of these practices. One of the main challenges here will be to encourage and support farmers to carry out cost-effective soil samples, and this is currently being discussed with partners in order to achieve a common approach and action plan.

Among some of the risks that we have identified, there is the one related to sudden changes in national and international legislation and frameworks (especially those of the EU and UN, who are tasked with rolling out newer frameworks and standards as part of the COP26 commitments). Therefore, this is one of our highest priorities and we are constantly checking the compatibility of our work with the new standards.

Taking these risks and challenges into account, we will continue to develop these and the rest of the exploitation pathways using the experience and knowledge we have gathered so far. Although pathways 2.2 and 1 are now leading the way, this does not mean that the rest of the exploitation paths cannot achieve similar results and revenue. We will therefore look at applying and replicating our current framework to the other pathways and continue their development, in order to continue boosting our already solid financial revenue model that will ultimately benefit farmers and the environment, as well as European taxpayers and local and regional governments.

## **3.2 Exploitation activities relating to use cases**

As mentioned above, use case partners also implemented a range of activities to contribute to defining how to make use of expected results after the end of the project, and, where relevant, how certain activities can continue post-project. This section aims to provide an overview of these activities, which will be detailed in the next PILOT report for 2022, D5.4.

A large part of the exploitation activities aim to “apply” and “tailor” current technological results to ensure they deliver value to the value chains in which the use case occurring. As the farming contexts are significantly different, the applications are also significant different.





It should be noted that the activities described at this point are still explorative, and that final decisions on developing additional features, platforms and customisation is to be taken depending on the (mutual) interest of technological and use case partners, as relevant.

### *3.2.1 Use case #1: Greece*

The AgriCaptureCO<sub>2</sub> project has helped increase the local capacity for in situ monitoring of soil and weather parameters, and of integrating this data in a geospatial application to advise farmers on the timing of certain regenerative field operations. It is necessary to finalise how this information will be delivered to farmers and to describe the set-up required to have this work operationally – preferably by the end of the project.

No progress has been made with regards to the branding of a low-emissions olive oil, which has remained a lesser priority at this point. Nonetheless, the carbon auditing provided by OCW is a key step in this regard and provides a baseline.

OCW has assessed the suitability of a carbon credit programme for the use case context. Unfortunately, the conditions are not suitable: arid soils with low natural potential to sequester carbon, small field size, small holding size of farmers. It is unlikely that proceeds from registering and selling carbon credits will be sufficiently large to provide a significant financial incentive to individual farmers. Nonetheless, OCW has been exploring through interactions with the UN to possibility to certify “green assets” which would allow it to certify carbon stock changes in Crete towards insetting internal emissions of the olive oil value chain, contributing to the low emission certification sought by the use case.

### *3.2.2 Use case #2: Poland*

SatAgro has established a strong relationship with BNP Paribas and other partners that are supporting carbon farming initiative in Poland. This partnership is synergistic for the likely implementation of a carbon farming project in Poland, where it will magnify reach and provide a sales channel (BNP Paribas corporate customers). As a part of these activities, SatAgro contributed to an application initiated by BNP Paribas to estimate potential carbon sequestration on a given field/farm, thus calculating potential benefits from carbon farming. Although in principle this is similar to the Explore service developed within AgriCaptureCO<sub>2</sub>, the module developed is more complex and should yield more accurate results.



New features developed in the AgriCaptureCO<sub>2</sub> project are increasingly tailoring the SatAgro platform to support inclusion of regenerative practices. This includes several modules. For example, SatAgro has also worked on a module for optimal soil sampling that is aligned with regulations in Poland (i.e. minimum one sample every 4 ha), leveraging their relationship with a soil sampling company to this end. They are still testing the module but have a direct channel to exploit via partnership with a soil sampling company.

There are also potential spill overs from opportunities being explored in the other use cases, which could potentially also be used in Poland.

### *3.2.3 Use case #3: UK (LEAF)*

LEAF was engaged more intensely in the context of the project to explore how exactly AgriCaptureCO<sub>2</sub> results can be used by their farmers and their value chain.

A discussion was arranged with LEAF Marque, the certification organisation affiliated with LEAF. The AgriCaptureCO<sub>2</sub> team made a pitch for the use of satellite data to simplify the certification process, in effect moving some of the control points away from the obligations of the farmer. Through these discussions and additional desk research, we explored their assurance model in detail as well as the mechanisms through which this assurance model changes overtime to seek opportunities to integrate AgriCaptureCO<sub>2</sub> services. It was found that our proposal was a significant departure from current practices, i.e. a risk-based assurance model, which is not aligned with the current practice of LEAF Marque. Changing this approach did not find a particularly enthusiastic reaction from LEAF Marque, and would entail a significant long-term process involving: experimenting with the alternative assurance model to ensure it works well, gathering significant evidence overtime to prove *beyond a doubt* that the model results in a more accurate and robust approach, and submitting the evidence to United Kingdom Accreditation Service (UKAS) to approve the changes. Given the lack of support from LEAF Marque and the long timeline involved, it was considered that this is not feasible.

As such, an alternative was proposed following up on this idea. The use case has recognised that document management is a significant pain point for farmers. AgriCaptureCO<sub>2</sub> results can be used to help a farmer prepare documentation for a farm audit:

- Detection algorithms to detect field/farm features for mapping documents;



- Help make calculations including water use efficiency, nitrogen efficiency, etc. based on input data and field journals;
- Help record field operations and timings with field journals.

At the same time, the same platform can be also used to deliver “advice” with regards to timing of field operations to optimise soil management. The constant interaction between a farmer and the platform, e.g. correcting algorithm detections of a hedgerow, also provide a highly-valuable feedback mechanism which can help improve our algorithms overtime via machine learning techniques.

This platform is still proposed, and discussions with LEAF Marque have been paused as our point of contact hands over to her replacement. We have discussed organising a workshop with LEAF farmers and the certifying bodies that are registered to act as third-party auditors for LEAF Marque farm audits.

### *3.2.4 Use case #4: UK (Lancashire)*

Lancashire County is dedicated to using biochar and compost additions to publicly managed land to increase soil carbon stocks, thus contributing to their overarching aim of leveraging public lands to offset unavoidably emissions of the county.

They have encountered significant challenges particularly relating to the use of biochar. There are regulatory issues as biochar that is produced on the basis of waste is treated as waste and can therefore not be applied on agricultural fields. There was a fear from another department within LCC that applying biochar could increase fire risk on the fields, for which the consortium prepared a review of scientific opinion to address. In addition, locating sufficient supplies of biochar and finding supplies at a good value for money.

However, the biggest challenge is that the effects of biochar on soil biology, carbon stocks, and plant health is not significantly studied and understood – thus these applications are highly experimental. Although it is clear that this will result in higher carbon stock, the approach to the applications and the consequences for management are less clear. LCC has been discussing with the University of Nottingham, which has an ongoing research project on the use of biochar on agricultural fields. This will allow for a transfer of best practices and also for a long-term monitoring of LCC’s test fields, beyond the scope of the AgriCaptureCO<sub>2</sub> project, which is considered important to optimise this management option for public bodies. GWCT has also decided in the week of writing this report to start field trials with biochar that can potentially also link with LCC.



AgriCaptureCO<sub>2</sub> has also engaged a different department in Lancashire County to discuss how LCC will quantify changes in soil carbon (AgriCapture algorithms) and carbon in trees and hedgerows (GWCT models) to include in their carbon accounting. The meeting is set for mid-July. Eventually, it will be important to also engage OCW as LCC's carbon accountants to record what information they need and in what format.

### *3.2.5 Use case #5: Serbia*

The partners involved in the Serbia use case are committed to ensuring that they deliver on their promise to make regenerative agriculture easier and more profitable in the country, and ensuring direct benefits to the farmers that have engaged with the project to provide their time and data.

An initial proposal was prepared, centring on two suggested programmes:

- Carbon credit project to certify and reward farmers for accumulation of carbon in soils, and
- A certification programme to increase farmgate prices for produce from "better agricultural practices".

GILab and UPOR organised a workshop to present the AgriCaptureCO<sub>2</sub> services to farmers participating in the use case. There was significant interest in the first option, but large skepticism in the second. Indeed, given that participating farmers largely produce commodity crops (for local use and export), the latter would require significant engagement with *all* stakeholders in the value chain, including on the international level (e.g. similar to what Danube Soya or Europe Soya has accomplished). It seems that this is beyond the scope of the project.

Another idea is being explored, currently in its initial phase: to create a "soil passport", i.e. a registry of all activities conducted on fields overtime. This idea was implemented in the Netherlands and is key to *prove* that management practices have been implemented overtime with benefits for soil quality, with consequences on land value, access to lower insurance premiums, and access to loans under better conditions.



## 4 Conclusion

This document provides a top-down overview of activities implemented in WP6. It has significant overlap with several deliverables, where a greater degree of detail is offered on project activities. The document will be updated at the end of the project, covering the period of M19-M36. However, as updates of all the related deliverables is due at the same time the update will probably provide even less details than the current version.

Communication and dissemination activities are progressing largely as planned. There are a couple of communication activities that performed as expected. An extra effort is expected by the consortium to address these and to meet the KPIs by the end of the project.

Exploitation has intensified after the first year. The business team has made a significant stride in developing exploitation pathways to the extent of setting up actual carbon credit projects and the processes to engage local partners and establish them internationally. This work provides valuable feedback to help us improve work processes and ensure greater maturity for future clients and partners. In parallel, each use case, with significant support from the project, has also been exploring exploitation opportunities to make the best use of AgriCaptureCO<sub>2</sub> results to generate value for local stakeholders and for the organisations involved; in this regard, there has been promising progress so far, but these activities are still at their initial stages. Nonetheless, the overall exploitation effort is ahead of schedule compared to Description of Action, which is appropriate given the pace of progress so far, and the overarching project goal of generating operational commercial services.

Coordination between a “central” project communication/engagement team and “central project business team with the use cases has been quite strong, and will have to continue to ensure that each use case makes full use of project results.



---

## End of document



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101004282.

The content of this publication exclusively reflects the author's view and the Research Executive Agency and the Commission are not responsible for any use that may be made of the information it contains.