ECOLOOP

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# Deliverable 8.2 Dissemination, Communication, end-users' engagemen activities, synergies with other projects and exploitation activities V1

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# Keywords

Dissemination, communication, exploitation, engagement, action plans, results, target audience, awareness, media, publications, scientific publications, social media, online content, news, events, promotional materials, media, cluster activities, stakeholders, end-users, citizens, media presence, workshops, webinars, videos, corporate identity, brand book, promotional campaigns, public relations, women in energy, Horizon Europe, Open Access, Open Science, KERs, Lean Canvas, Value Proposition Canvas, IPR.


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# Executive Summary

The ECOLOOP project has made significant strides in communication, dissemination, engagement, and exploitation activities during its first 18 months. The project's Dissemination, Exploitation, and Communication Plan (DECP), outlined in D8.1, is being effectively followed by the Consortium to ensure successful dissemination and communication, with a particular focus on adhering to the established publication procedures. Key Performance Indicators (KPIs) are progressing positively, with successful outreach to various target audiences across multiple communication channels.

Key dissemination materials, including brochures, roll-ups, visuals, posters, and videos (with up to 295 views), have been created and updated to reflect the project's evolution. The ECOLOOP website has seen strong engagement, recording 1,900 pageviews from 537 visitors and facilitating the download of over 370 documents. Social media platforms such as LinkedIn, X, and YouTube have significantly contributed to the project's visibility, with strong audience engagement across these channels. On LinkedIn, there are 319 followers, 55 posts, 29,686 impressions, and 966 total reactions; on X, there are 186 impressions, 100 posts, 68 followers, 108 reposts, and 212 likes; and on YouTube, there are 4 videos, 295 views, and 12 subscribers.

Partners have participated in 17 events, including 3 organized by ECOLOOP partners, 4 exhibitions, 15 pitches, and 6 dedicated to networking with related projects or initiatives.

ECOLOOP has been featured in five specialized news articles focused on energy, sustainability, and innovation, and has issued two press releases to introduce the project to key target audiences. The project newsletters have reached over 70 subscribers, achieving a solid 54.5% click-through rate per unique open, and has published two editions to date.

In terms of scientific dissemination, six publications are available in open access, with eight public deliverables submitted, four of which are available for download on the website. The project also conducted two successful online campaigns, achieving 7,642 impressions and 698 reactions.

ECOLOOP has initiated collaborative actions with five other projects and one initiative, resulting in concrete dissemination outcomes such as a co-organized workshop and a site visit with a filmed report in Valencia. Additionally, an online campaign promoting Women in Energy was launched, featuring interviews with female colleagues in celebration of Women in Science Day.

This deliverable presents the first version of the Exploitation and Commercialisation Activities Report, which will be updated in M30 and M48. Six Key Exploitable Results (KERs) have been identified by project partners, and this report outlines the underlying exploitation strategy, including activities undertaken so far. The identified KERs include:

- KER1: Efficient biogas production and conversion process
- KER2: Optimal combination of different renewable energy technologies to address the needs of agricultural or forest processes
- KER3: Bioproducts to create positive effects in soil health, biodiversity and groundwater
- KER4: Decision support tool for farmers and foresters
- KER5: Carbon sequestration tool
- KER6: Economic and social support for farmers' and foresters' engagement as prosumers of renewable energy

The ECOLOOP Soil LL solution is not included in the above list as it is a research innovation activity that it is not going to be commercialized. From this task just an implementation methodology and guidelines for partners and stakeholders are meant to be created in order to enhance the knowledge sharing of the LL creation and deployment process. This activity and its outputs are mostly addressed to research and scientific organizations and agro-communities and associations.

The exploitation strategy is structured around four overarching objectives:

1. Identification of KERs
2. Market analysis
3. Business model creation
4. Commercialisation strategy

This strategy aims to maximize impact, prepare solutions for industrial adoption, and ensure financial and market sustainability. It incorporates market analysis, value chain assessments, and financial models to define target users, competitive positioning, and revenue streams. Commercialisation strategies include licensing, partnerships, public-private collaborations, and SaaS (Software as a Service) models for key tools.

A market overview has been conducted to highlight the innovation potential of the KERs and emphasize their market opportunities. The report also identifies potential risks, such as regulatory challenges and market adoption barriers, with mitigation strategies in place to ensure the successful uptake of ECOLOOP's innovations.

Overall, the first 18 months of the project have been marked by effective dissemination and communication activities, contributing to ECOLOOP's visibility and engagement within the energy, sustainability, and innovation sectors.

Over the past months, the execution of the Engagement Plan was significantly impacted by external factors, particularly the severe floods caused by the DANA in Valencia (Spain) last October, which heavily affected the region's agricultural sector. As a result, AVA-ASAJA had to postpone planned engagement activities to focus on urgent support for farmers. Despite these challenges, key outcomes were achieved, including a revised engagement timeline, with activities initially planned for Phase I and II (M1-M18) now set to occur from April 2025 (M19) to March 2026 (M30), ensuring that outreach and engagement objectives are met. The experience also highlighted the importance of integrating resilience and crisis response mechanisms into engagement strategies to better handle future disruptions.

# Copyright statement

Each ECOLOOP partner may use this document in conformity with the ECOLOOP Consortium Grant Agreement provisions.


# Acknowledgement

This project has used a standard methodology already developed in EBENTO project, Deliverable 7.1 (Plan for Exploitation and Dissemination of results) (Grant Agreement number: 101079888), X-FLEX project, Deliverable 9.6 (Exploitation and commercialization strategies activities report v1) (Grant Agreement number: 863927), OPENTUNITY project, Deliverable 8.2 (Dissemination and Communication activities Report), (Grant Agreement number: 101096333) and in EBENTO project, Deliverable 7.2 (Dissemination, Communication and Cooperation activities Report), (Grant Agreement number: 101079888) following EU recommendations. Ad hoc modifications were added to comply with the Grant Agreement conditions for ECOLOOP (Grant Agreement number: 101118127).


# 1. Introduction

## 1.1.Purpose and scope of the document

This report, “Dissemination, Communication, End-Users’ Engagement Activities, Synergies with Other Projects, and Exploitation Activities,” provides a comprehensive overview of the dissemination, communication, end-user engagement, and exploitation efforts carried out by all project partners during the first 18 months of the project.

The primary objective of this document is to present the activities carried out to date, assess their impact, and identify both successful initiatives and areas for improvement. Therefore, it outlines how the strategies defined in D8.1 Dissemination, Exploitation and Communication Plan (DECP) [1] have been followed and evaluates these actions up to the present date.

ETRA, as the leader of this deliverable, in collaboration with AVA-ASAJA, which leads the "Farmers and Foresters Engagement Activities", and the rest of the consortium, has actively

contributed to implementing the dissemination, communication, exploitation, and engagement strategies outlined in this document.

Rather than reiterating the theoretical distinctions between dissemination and communication, this report focuses on the collective efforts and concrete progress made toward achieving the project's objectives in these key areas.

This deliverable, D8.2, is the second report produced within WP8 – Dissemination, Communication, and Exploitation Activities and serves as a continuation of the efforts documented in the previous deliverable.

## 1.2.Structure of the document

This document begins by presenting all dissemination and communication activities in chapter 2, covering promotional materials, communication channels (website and social media), press releases, newsletters, scientific publications, public deliverables, publications, events, online campaigns, media impact, and exchange activities with related projects and initiatives. The chapter also assesses these actions through Key Performance Indicators (KPIs). Chapter 3 presents the engagement activities achieved, while chapter 4 details the exploitation actions. Finally, the concluding chapter 5 outlines the conclusions and next steps.

# 2. Communication and dissemination actions

## 2.1.Promotional materials

To communicate, disseminate, and raise widespread awareness of the project's goals and achievements, different promotional materials have been developed based on the designed corporate identity detailed in the D8.1 [1] . It explains in detail the corporate identity and Brand Book and provides in-depth explanations of the strategic aspects and significance of these materials.

Serving both informational and promotional purposes, these materials are designed to engage diverse audiences, including experts, end users, media, and the general public. They have been

actively used at various events, playing a crucial role in promoting ECOLOOP and amplifying its message. All materials, except the templates, are available on the project's website [2].

### 2.1.1. Templates

To ensure visual consistency, templates have been designed for drafting the deliverables submitted to the European Commission, as well as PowerPoint templates for presenting ECOLOOP in various settings, including internal meetings and public events (see Annex 1 – Word and Power Point templates)

In addition to these templates used for internal project communication, further templates have been created to collect specific information from project partners. However, as these are for internal use only, they are not included in this public report.

### 2.1.2. Brochure

The brochure is a key visual document designed to present the project in a clear and accessible way, using images to simplify complex concepts while avoiding excessive technical details. It includes contact channels, highlights the members of the consortium, and acknowledges the funding received from the Horizon Europe programme.

This resource is particularly useful for events and meetings in its printed format but also serves as an effective digital asset for online sharing via the website or email exchanges. The brochure has been distributed at all in-person events where ECOLOOP has participated and has also been used in its digital format to further promote the project.

ECOLOOP develops and demonstrates a set of solutions to optimise the combination of distributed energy renewable sources in rural areas, generating positive effects on air quality, biodiversity and soil health while contributing to job creation, gender equality and climate resilience and adaptation.

ECOLOOP's multidimensional approach addresses the interrelated challenges of energy, biodiversity, and rural social development:

01 **ENERGY**: ECOLOOP creates an energy ecosystem that meets local demands while promoting energy independence and environmental sustainability.

02 **BIODIVERSITY**: ECOLOOP develops innovative agricultural protocols and advancing bioproducts, generating positive effects on biodiversity and soil health.

03 **SOCIAL**: ECOLOOP fosters regional development in rural areas by creating new opportunities to enhance economic growth and stability in rural communities.

PROJECT COORDINATOR: etra I+D

PARTNERS:

BIOMASA · AVA · albena · Eesti Maaülikool · Zenia · Universitat Politècnica de València · INDEREN · IRI UL · Trakia University Stara Zagora · Kmetijski inštitut Slovenije · FERTINAGRO · KOLEKTOR · Fibenol

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# ECOLOOP

## Optimization of renewable energy sources combination in rural areas to create positive effects in air quality, biodiversity, and soil health.

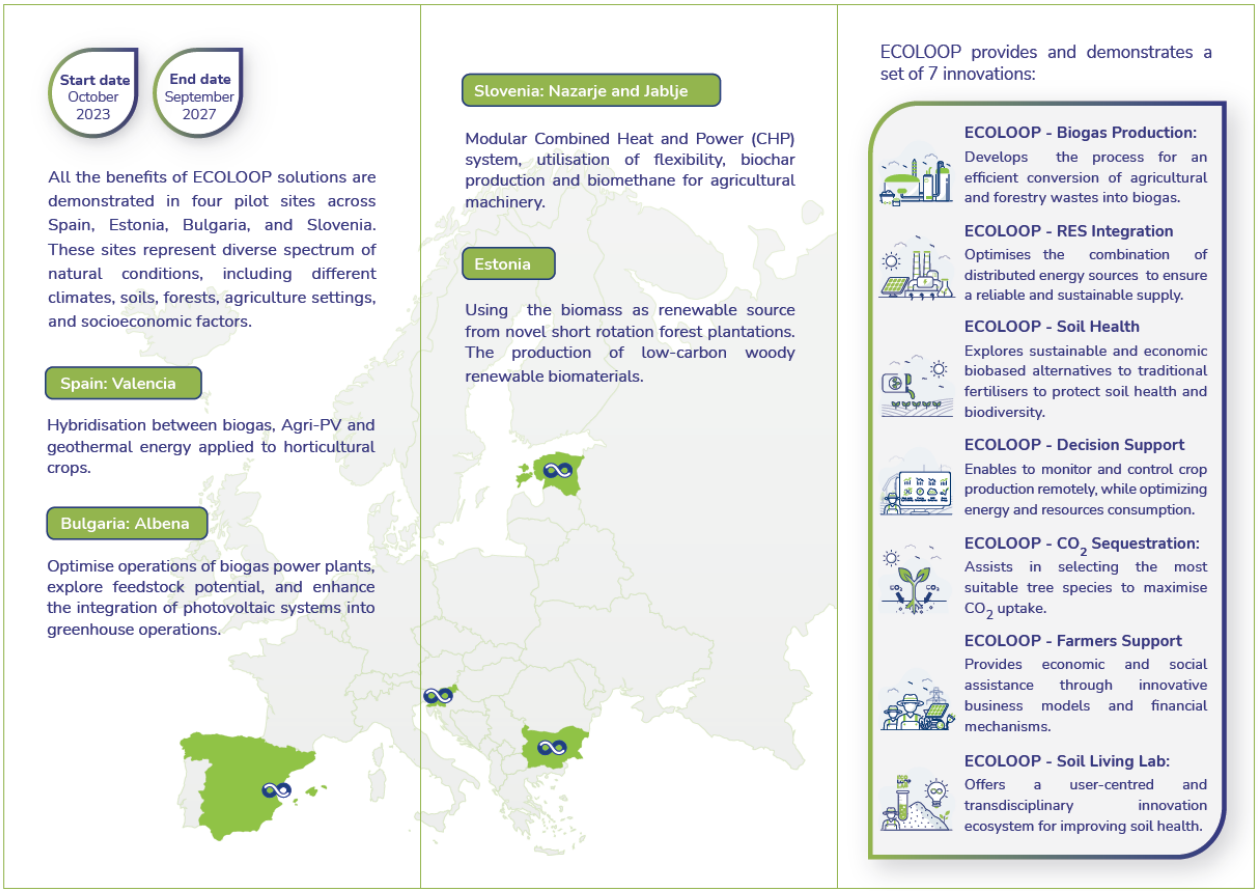


*Figure 1 – ECOLOOP brochure.*

## 2.1.3. Roll-up

A roll-up banner, designed to align with our visual identity, was also created. This essential resource enhances exhibitor visibility at exhibitions, trade fairs, and events. With a focus on making a strong impact, its content is clear and concise. This element is also available on the website.


*Figure 2 – ECOLOOP roll-up.*

## 2.1.4. Poster

Several template posters have been designed for partners to showcase their work in progress or results at events. Ideal for technical and scientific gatherings, it ensures clear and effective information dissemination.


*Figure 3 – ECOLOOP posters.*

## 2.1.5. Overview presentation

An overview presentation in English has been designed for partners to use at events and meetings. Additionally, it is accessible online for external audiences.


## ECOLOOP at a glance

ECOLOOP develops and demonstrates a set of solutions to optimise the **combination of distributed energy renewable sources in rural areas**, generating positive effects on **air quality, biodiversity and soil health** while contributing to gender equality and climate resilience and adaptation.

- HORIZON-CL5-2022-D3-02-07 (IA): Renewable energy incorporation in agriculture and forestry
- 14 partners from 4 EU countries - 4 pilot sites
- Total budget: 9,1 M€ - Total funding: 7,3 M€
- Start date: 01/10/2023 - End date: 30/09/2027

## ECOLOOP objectives

ECOLOOP's multidimensional approach addresses the interrelated challenges of energy, biodiversity, and rural social development:

ENERGY: ECOLOOP creates an **energy ecosystem to meet local demands** while promoting energy independence and environmental sustainability.

BIODIVERSITY: ECOLOOP develops **innovative agricultural protocols and advancing bioproducts**, generating positive effects on biodiversity and soil health.

SOCIAL: ECOLOOP **fosters regional development in rural areas by creating new opportunities** to enhance economic growth and stability in rural communities.

ECOLOOP

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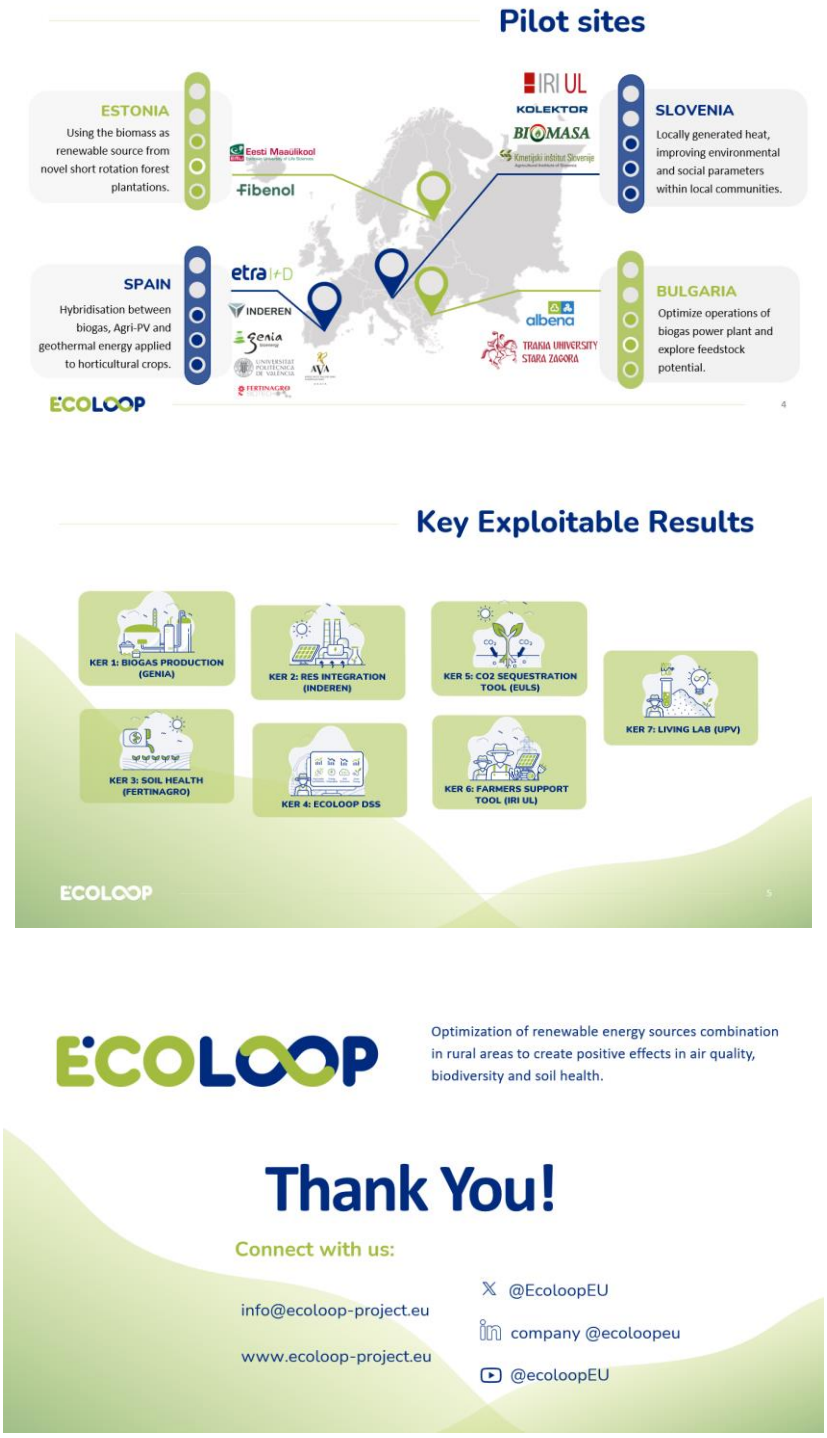
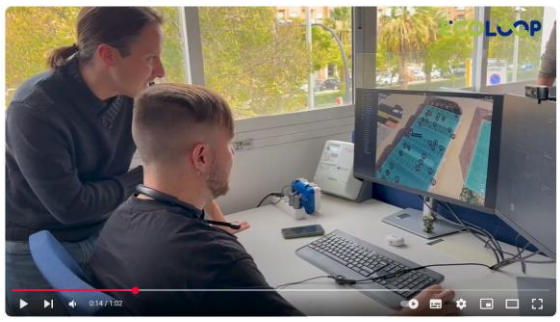



*Figure 4 – ECOLOOP presentation.*

## 2.1.6. Videos

As part of ECOLOOP, initial videos have been produced (see Table 1) to showcase the project's main objectives, solutions and ongoing work. These videos have gained positive engagement across various ECOLOOP communication channels and are on the website [3] and YouTube [4].

*Table 1 – List of ECOLOOP videos produced.*

| Title of the video | Link |
|---|---|
| **ECOLOOP in a Nutshell: Everything You Need to Know**<br>  | https://youtu.be/uyJv8B3pqmU?si=1APKVhaFwp0tMlsI |
| **ECOLOOP: solutions towards energy transition**<br>  | https://youtu.be/SZ6oeGBrt0Q?si=H2nvaXfNsgWrsTib |
| **ECOLOOP solution: Decision Support Tool for Farmers and Foresters**<br>  | https://youtu.be/lButaClTTe8?si=PpWhHndKcgFWdIkl |

**ECOLOOP: Living Lab for Soil Health**

https://youtu.be/1qaYKrAORaE?si=5NXRpfhDfY7GxWo_

## 2.1.7. Visuals

To enhance audience engagement, ECOLOOP has developed additional visual content optimised for social media sharing. This material effectively communicates key aspects and concepts of the project, highlighting its innovations, pilots, and partners. By showcasing the organisations and pilot sites driving the project forward, ECOLOOP strengthens rapport and fosters a deeper connection with its target audience.



*Figure 5 – Examples of visual designs for the ECOLOOP social networks.*

## 2.2. Website

The ECOLOOP website (https://ecoloop-project.eu/) serves as the primary online communication channel, providing comprehensive project information, regular updates on progress, and open access to all relevant documentation, materials, and publications. Maintaining the website with up-to-date content is essential to ensuring broad dissemination and engagement.

Designed to reach a diverse audience, the website particularly targets technical groups aligned with the project's areas of expertise. New content is published monthly, enhancing visibility and outreach, and all updates are also shared via ECOLOOP's social media channels.

As a result, the website has demonstrated strong engagement and impact:

- 1,900 pageviews from 537 visitors, with 95.7% being new visitors, highlighting consistent interest and audience growth.
- 19 published posts, ensuring a steady flow of updates and knowledge sharing.
- Over 370 downloads of available documents, reflecting active engagement with project resources.

These metrics underscore the website’s effectiveness in disseminating information, attracting a relevant audience, and fostering interaction. Table 2 presents the detailed website analytics for this period.


*Figure 6 – ECOLOOP website: Home.*

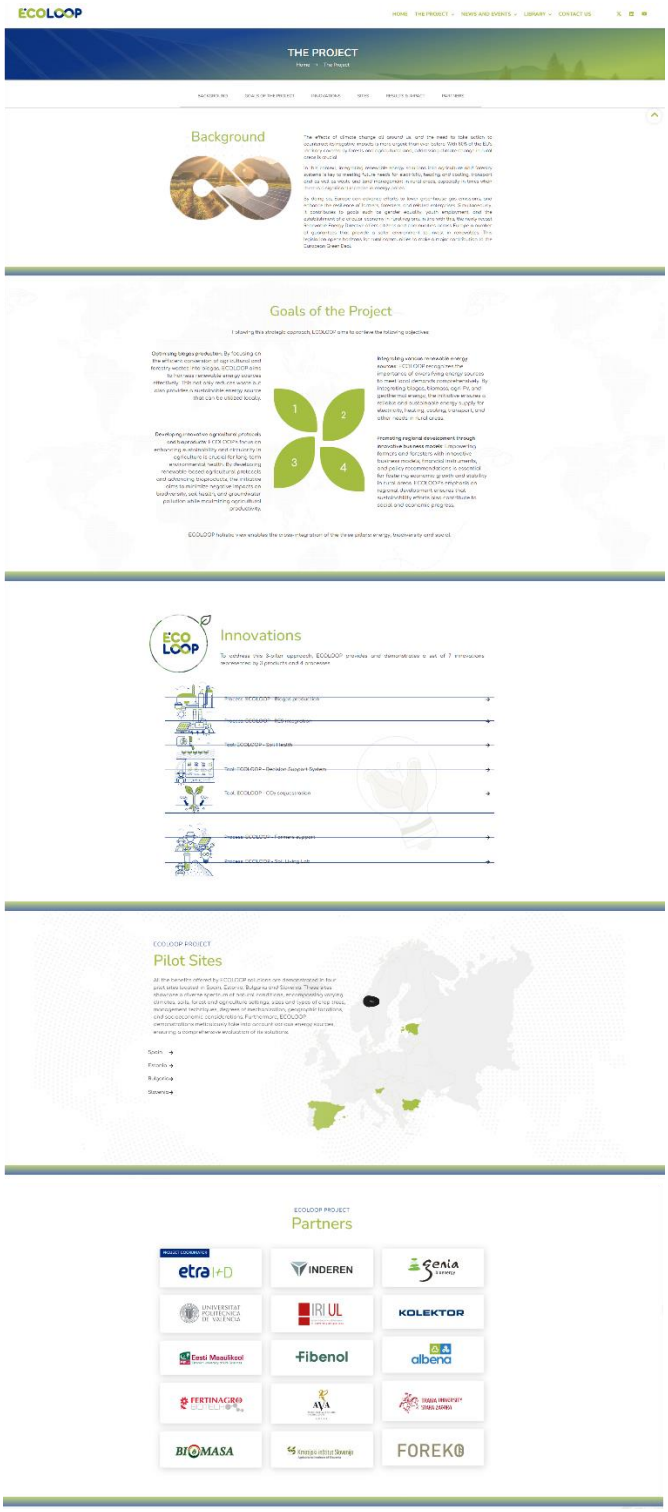



*Figure 7 – ECOLOOP website: The project page.*

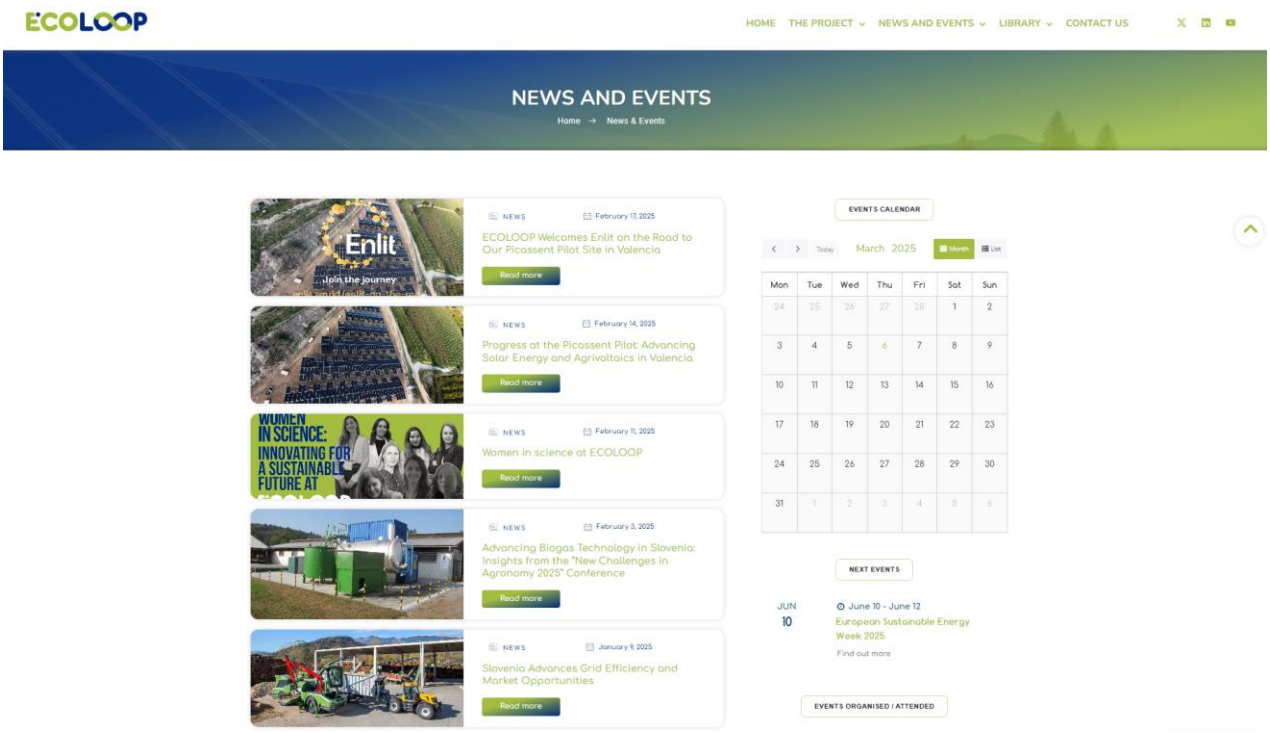



*Figure 8 – ECOLOOP website: News and events page.*


*Figure 9 – ECOLOOP website: Library page.*


*Figure 10 – ECOLOOP website: Dissemination materials page.*

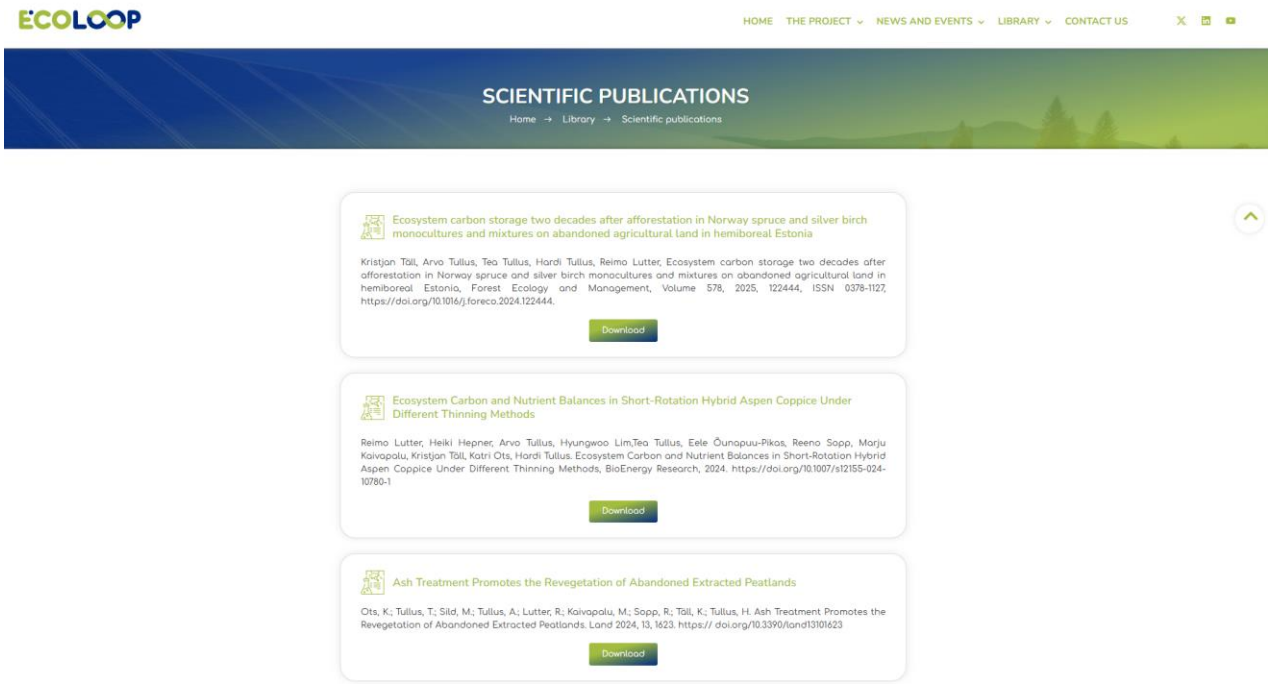



*Figure 11 – ECOLOOP website: Scientific publications page.*

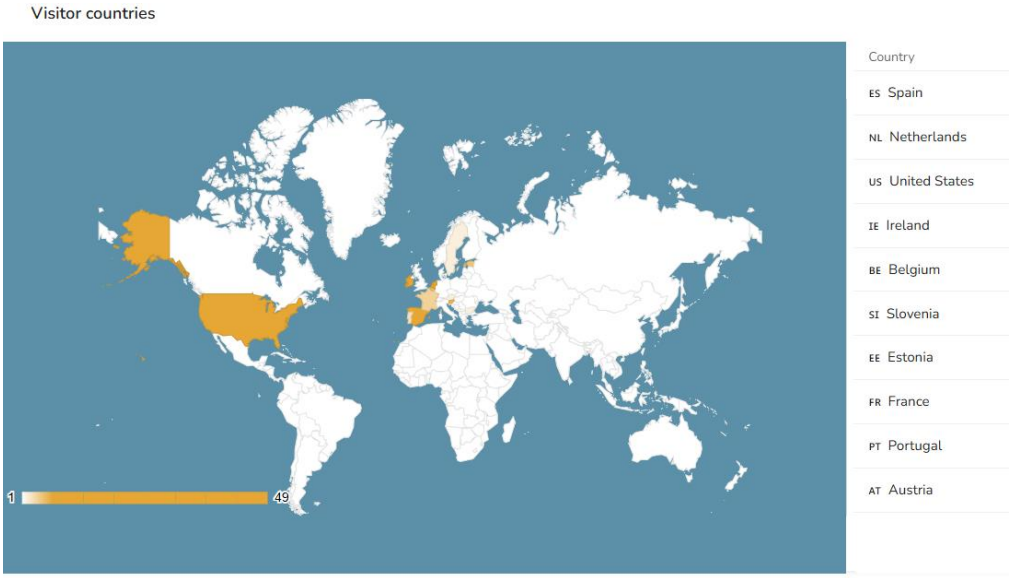



*Figure 12 – ECOLOOP website: Visitor Countries. Source: Metricool.*

*Table 2 – ECOLOOP website metrics. Source: Brust Statistics. * Metrics taken until March 21, 2025.*

| Website metrics up to M18 | |
|---|---|
| Pageviews | 1,900 |
| Sessions | 782 |
| Top Countries | Spain, Netherlands, United States, Ireland, Belgium, Slovenia, Estonia, France, Portugal, Austria, Bulgaria. |
| Nº of posts | 19 |
| Most popular pages | Home, The project, News and events, dissemination Materials, Library, Newsletters |
| Downloads | 370 |

## 2.3. Social networks

Social media is a key channel of ECOLOOP's dissemination and communication strategy, aimed at generating interest and fostering discussions on the integration of renewable energy sources in rural areas. As outlined in D8.1, the strategy defines specific goals and expected impacts across selected platforms.

To maximize outreach and engagement, ECOLOOP leverages targeted hashtags, including: #ECOLOOPproject, #HorizonEurope, #RuralAreas, #EUbioenergy, #biogas, #RuralEnergy #CircularEconomy, #EnergyCommunities, #EnergyInnovation, #renewableenergy, #soilhealth #AgriPV, #agriculture, #forestry.

### 2.3.1. LinkedIn

The ECOLOOP LinkedIn page (https://www.linkedin.com/company/ecoloopeu) has become the project's primary social media platform, as it has yielded the best results from the online community after 18 months. As a result, content publishing efforts will now be focused on this platform starting from month 18.

Analytics highlight key LinkedIn metrics: 319 followers, 55 posts, and 29,686 impressions. These figures indicate highly positive results, reflecting strong engagement and reach within the LinkedIn audience over the first 18 months. Table 3 presents an evaluation of ECOLOOP's LinkedIn activity and its outcomes.

*Table 3 – ECOLOOP LinkedIn metrics. Source: LinkedIn. * Metrics taken until March 21, 2025.*

| LinkedIn metrics up to M18 | |
|---|---|
| Followers | 319 |
| Nº Posts | 55 |
| Impressions | 29,686 |
| Reactions | 1,008 |
| Repost | 81 |

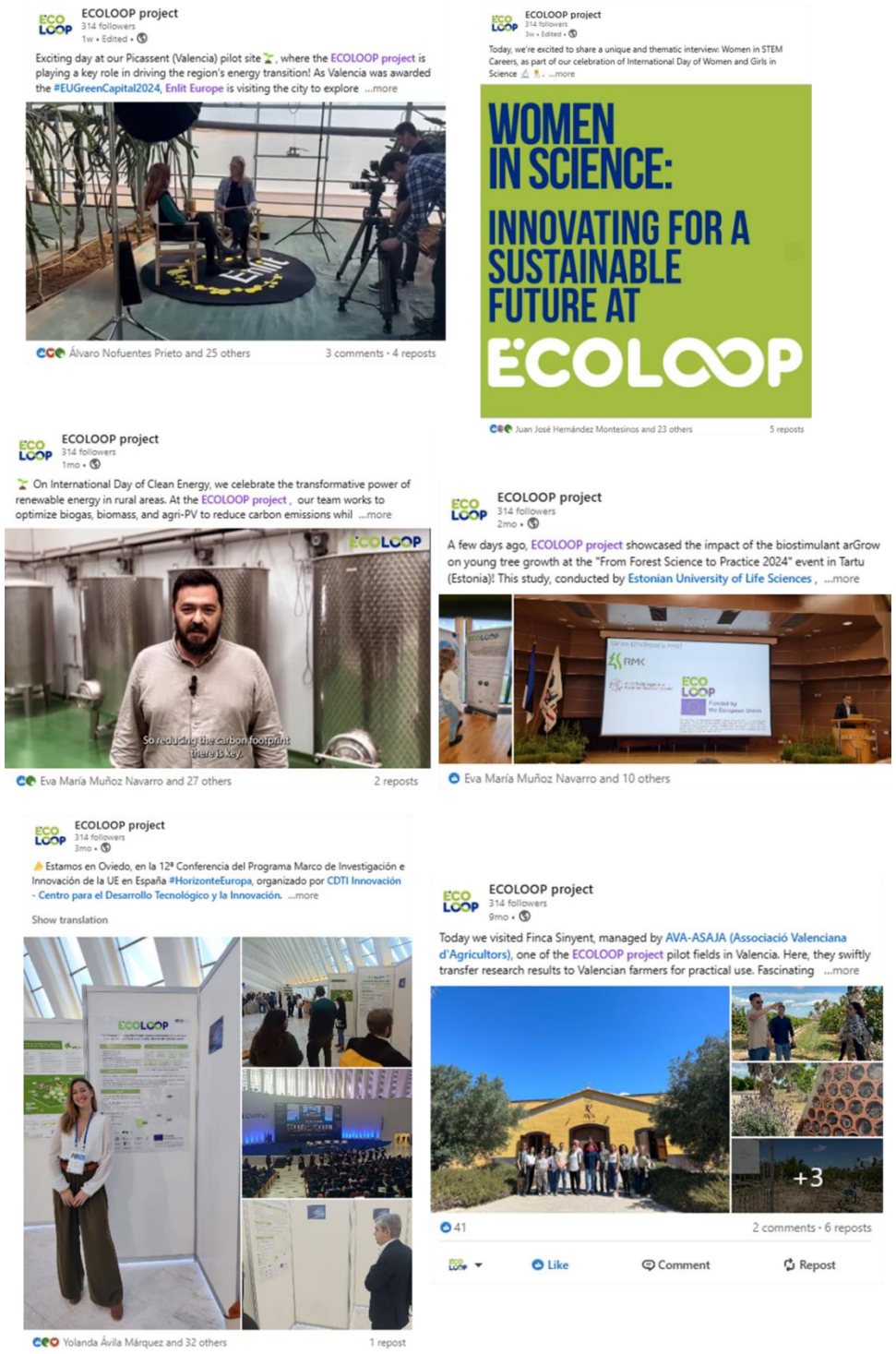



*Figure 13 –Some examples of posts on LinkedIn.*

### 2.3.2. X (former Twitter)

X social network has become the secondary social media platform for ECOLOOP (https://x.com/EcoloopEU), as its new policies have made it increasingly difficult to gain visibility. As a result, the decision has been made to prioritize LinkedIn as the main platform. However, given that there is still a relevant community on X, project-related content will continue to be published on this platform. The content shared on X plays a key role in reinforcing the project's messages, refining its strategy, and supporting planning efforts by providing valuable insights into both its followers and the broader X community.

Despite the platform's new policies limiting visibility, the analytics collected during the first 18 months of the project indicate positive performance. The data shows a total of 6,186 impressions, 100 posts, and 68 followers (see more metrics in Table 4).

*Table 4 – ECOLOOP X metrics. Source: X. * Metrics taken until March 21, 2025.*

| X metrics up to M18 | |
|---|---|
| Followers | 68 |
| Nº Posts | 100 |
| Impressions | 6,186 |
| Reposts | 108 |
| Likes | 212 |

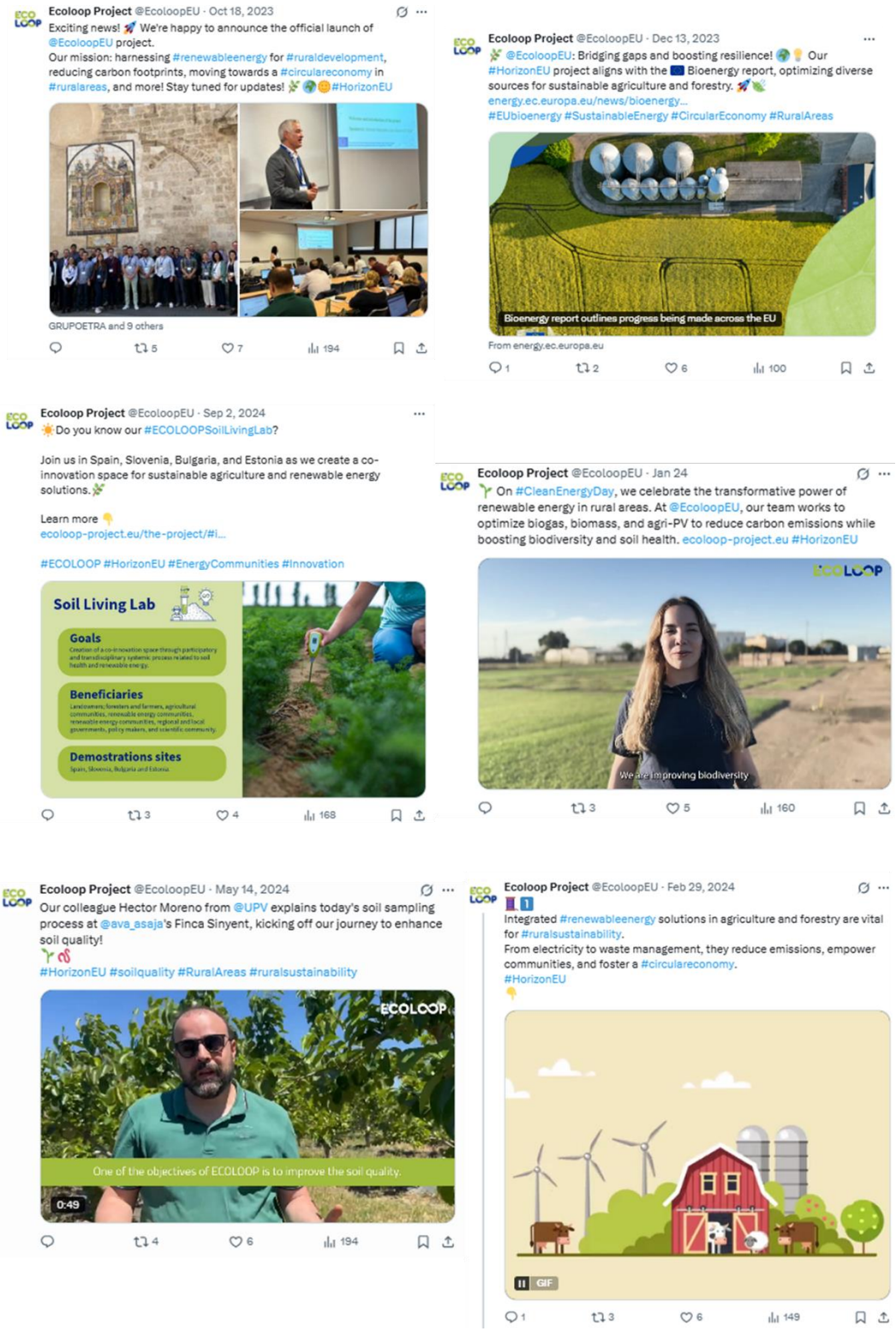



*Figure 14 –Some examples of posts on X.*

## 2.3.3. YouTube

Given the audiovisual nature of the ECOLOOP communication and dissemination strategy, it was essential to establish a YouTube channel (https://www.youtube.com/@ecoloopEU) to share all project-related productions. Currently, the channel features four videos: one in which some project partners provide a general introduction to the initiative, another where the ETRA coordinator offers additional details about specific solutions of the project, a third explaining the Decision Support Tool for Farmers and Foresters, and a fourth focused on the Living Lab for Soil Health by UPV.

Throughout the project's duration, the number of videos will increase to further highlight the project's developments and unique features more visually and engagingly, reaching a broader audience.

The channel currently has 4 videos, with 295 views and 12 subscribers. Given the relatively short time the videos have been online and the technical nature of the content, these metrics demonstrate a positive impact.

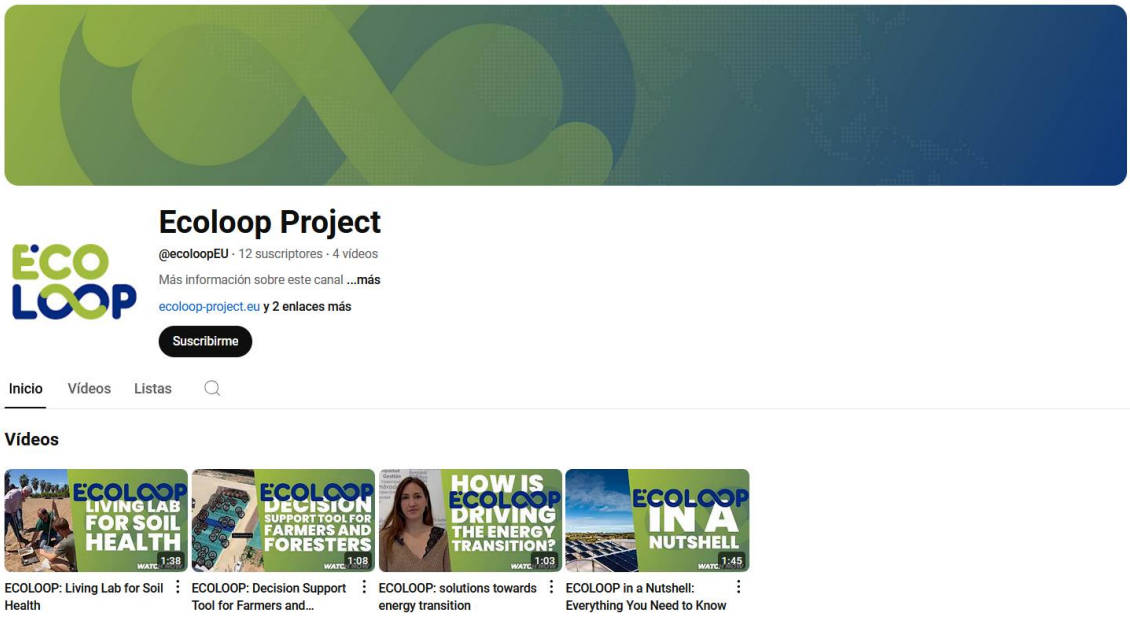



*Figure 15 – ECOLOOP YouTube channel.*

# 2.4.Open Access Repository (Zenodo)

In alignment with open science principles, Zenodo was selected as the primary repository to enhance the accessibility, transparency, and reproducibility of research findings. This open-access platform ensures that all scientific outputs are freely available, facilitating knowledge sharing and fostering collaboration within the research community.

Currently, the ECOLOOP Zenodo repository (https://zenodo.org/communities/ecoloopproject) hosts an overview presentation, and the six open-access publications. As the project progresses, additional resources will be uploaded to further support data dissemination, long-term preservation, and compliance with FAIR (Findable, Accessible, Interoperable, and Reusable) data principles.

By leveraging Zenodo, ECOLOOP maximizes the impact of its research, enabling stakeholders—including policymakers, researchers, and industry professionals—to access and utilize project insights efficiently.

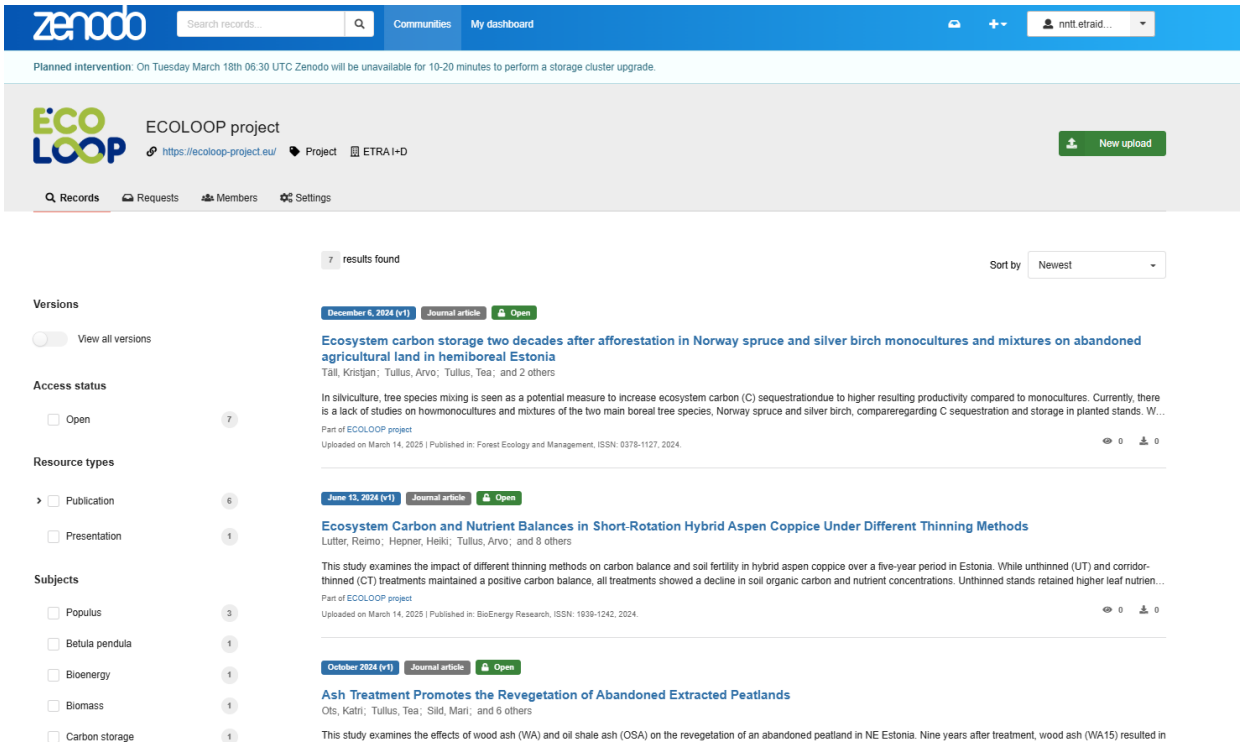



*Figure 16 – ECOLOOP Zenodo Community.*

## 2.5.Newsletters

The ECOLOOP newsletters serve as a key communication tool, providing in-depth insights into the project's progress, activities, and impact. Produced and distributed by ETRA, these newsletters reach a diverse audience, including subscribers, project stakeholders, the ECOLOOP network, and consortium members. Each edition features comprehensive updates on project developments, event highlights, upcoming initiatives, and strategic insights. To enhance engagement, the newsletters also incorporate multimedia content, offering a more dynamic and informative reading experience.

So far, two issues have been published, reaching over 70 subscribers. The newsletters have demonstrated strong engagement, with an average click-through rate per unique open of 54.5%, highlighting their effectiveness in disseminating project information.

All published issues are freely accessible on the ECOLOOP website [5], ensuring transparency and broad dissemination of project results. Table 5 provides the editions released so far and its metrics.

*Table 5 – ECOLOOP Newsletters launched.*

| Newsletter issue | Opens | Clicks | Reactivity | Link |
|---|---|---|---|---|
| Nº1 | 54.5% | 36.36% | 66% | https://ecoloop-project.eu/?na=view&id=6 |
| Nº2 | 55% | 37.12% | 68% | https://ecoloop-project.eu/?na=view&id=7 |


*Figure 17 – Overview of the ECOLOOP newsletters.*

# 2.6.Press releases

During this period, two press releases have been published to disseminate key information about the ECOLOOP project.

The first press release, issued at the project's launch, introduced its main objectives, outlined the tools to be developed, and explained the expected impact on the sector and local communities. It also detailed the locations where the proposed solutions would be tested.

The second press release, published after the project's first year, provided an update on its progress, highlighting achievements and ongoing developments.

Press releases play a crucial role in keeping the media and broader public informed about ECOLOOP's advancements. They serve as valuable tools for increasing visibility and ensuring that key stakeholders stay engaged.

All press releases are publicly available on the project's website, facilitating transparency and wider dissemination of results [6].

## 2.7.Press clipping

Through the publication and distribution of press releases, as well as the dissemination of content across ECOLOOP's communication channels and those of the consortium, the project has gained visibility in both specialized and general media outlets.

To date, ECOLOOP has been featured in five media outlets, including two in Spanish and three in Slovenian. All of these are specialized publications focused on energy, sustainability, and innovation, highlighting the project's relevance within these key sectors.

This growing media presence underscores the project's relevance and impact, helping to raise awareness of its progress, key milestones, and contributions to the energy transition.

*Table 6 – ECOLOOP Press Clipping up to M18.*

| Title | Date | Country | Audience | Language | Link |
|---|---|---|---|---|---|
| El proyecto ECOLOOP Horizon estudiará la integración de las energías renovables en la agricultura y la silvicultura en toda Europa | 06/11/2023 | Spain | Specialised | Spanish | https://www.agronewscomunitatvalenciana.com/el-proyecto-ecoloop-horizon-estudiara-la-integracion-de-las-energias-renovables-en-la-agricultura-y |
| El proyecto Ecoloop promoverá la reducción de la huella de carbono en las zonas rurales | 22/02/2024 | Spain | Specialised | Spanish | https://www.eseficiencia.es/2024/02/22/proyecto-ecoloop-promovera-reduccion-huella-carbono-zonas-rurales |

| | | | | | |
|---|---|---|---|---|---|
| Biomasa: po lanskih poplavah letoszaganjajo 10-milijonsko naložbo | 20/08/2024 | Slovenia | Specialised | Slovenian | https://www.finance.si/okolje-energija/biomasa-po-lanskih-poplavah-letos-zaganjajo-10-milijonsko-nalozbo/a/9026616 |
| Mikro bioplinska naprava namesto bencinske črpalke | 22/11/2024 | Slovenia | Specialised | Slovenian | https://agrobiznis.finance.si/agro-hi-tech/mikro-bioplinska-naprava-namesto-bencinske-crpalke/a/9029163 |
| Kdaj se bo lahko agrofotovoltaika bolj razmahnila | 09/12/2024 | Slovenia | Specialised | Slovenian | https://agrobiznis.finance.si/agro-hi-tech/kdaj-se-bo-lahko-agrofotovoltaika-bolj-razmahnila/a/9029696 |

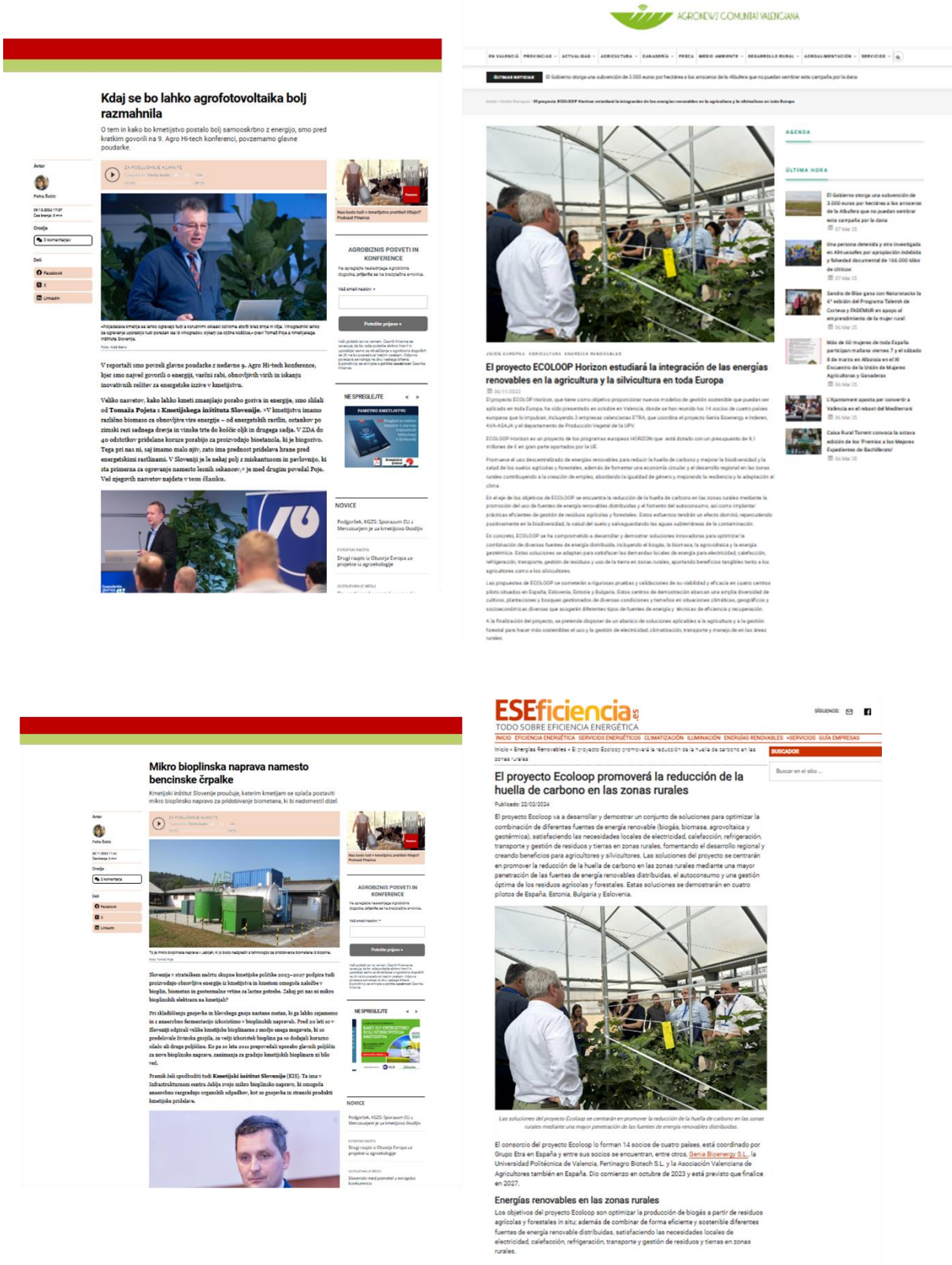



*Figure 18 – ECOLOOP press clipping.*

# 2.8. Scientific publications

Throughout the 18-month project period, partners from universities and research centres have been actively engaged in drafting scientific publications based on ECOLOOP's research findings. In accordance with Article 17 of the Grant Agreement (GA) [7], ECOLOOP is committed to ensuring open access to all peer-reviewed scientific publications related to its results.

To date, six scientific publications have been completed as open access. These publications contribute to the dissemination of knowledge within the academic and professional community. All scientific publications are publicly available on the ECOLOOP website [8] and Zenodo reinforcing the project's dedication to transparency and open science.

*Table 7 – List of ECOLOOP Open Access Scientific Publications up to M18.*

| Open Access Scientific Publications |
| --- |
| 1.Kristjan Täll, Arvo Tullus, Tea Tullus, Hardi Tullus, Reimo Lutter, Ecosystem carbon storage two decades after afforestation in Norway spruce and silver birch monocultures and mixtures on abandoned agricultural land in hemiboreal Estonia, Forest Ecology and Management, Volume 578, 2025, 122444, ISSN 0378-1127, DOI: https://doi.org/10.1016/j.foreco.2024.122444 |
| 2.Reimo Lutter, Heiki Hepner, Arvo Tullus, Hyungwoo Lim,Tea Tullus, Eele Õunapuu-Pikas, Reeno Sopp, Marju Kaivapalu, Kristjan Täll, Katri Ots, Hardi Tullus. Ecosystem Carbon and Nutrient Balances in Short-Rotation Hybrid Aspen Coppice Under Different Thinning Methods, BioEnergy Research, 2024. DOI: https://doi.org/10.1007/s12155-024-10780-1 |
| 3. Ots, K.; Tullus, T.; Sild, M.; Tullus, A.; Lutter, R.; Kaivapalu, M.; Sopp, R.; Täll, K.; Tullus, H. Ash Treatment Promotes the Revegetation of Abandoned Extracted Peatlands. Land 2024, 13, 1623. DOI: https:// doi.org/10.3390/land13101623 |
| 4. Kangur, O., Sopp, R., Tullus, A. et al. Growth ranking of hybrid aspen genotypes and its linkage to leaf gas exchange. BMC Plant Biol 24, 435 (2024). DOI: https://doi.org/10.1186/s12870-024-05104-6 |
| 5. Rähn E, Lutter R, Riit T, Tullus T, Tullus A, Tedersoo L, Drenkhan R, Tullus H. Soil mycobiomes in native European aspen forests and hybrid aspen plantations have a similar fungal richness but different compositions, mainly driven by edaphic and floristic factors. Front Microbiol. 2024 May 7;15:1372938. DOI: 10.3389/fmicb.2024.1372938 |
| 6. Zupančič, J., Jozič, J., Pečjak, M., Germšek, B., & Medved, T. (2024). Agrophotovoltaics and other opportunities for green energy transition in agriculture. Journal of Landscape Governance, 9(1). DOI: 10.5281/zenodo.15023974 |

## 2.9.Public deliverables

The deliverables produced by the ECOLOOP project are strategically developed to align with the project's overarching objectives, serving as key building blocks for its implementation. Deliverables classified as "public" must be disseminated to maximize the outreach and impact of the project's findings and advancements.

To ensure transparency and accessibility, the ECOLOOP website [8] functions as an open repository, making public deliverables readily available to a wide network of relevant stakeholders.

Table 8 provides an overview of all public deliverables, including those that have been approved and uploaded to the website by month 18. So far, four public deliverables have been available on the website since the end of 2024 and have been downloaded 37 times.

*Table 8 – List of ECOLOOP Public deliverables by M18. In grey the deliverables which are approved and uploaded to the website.*

| Deliverable | Deliverable name | WP | Leader | Type* |
|---|---|---|---|---|
| D1.1 | Project Management Plan v1 | 1 | ETRA | R |
| D1.2 | Data Management Plan | 1 | ETRA | DMP |
| D1.3 | Project Management Plan v2 | 1 | ETRA | R |
| D2.1 | Pilot site analysis and use cases, requirements and KPIs definition | 2 | SETUP | R |
| D2.2 | ECOLOOP SOIL Living laboratory implementation procedure description | 2 | UPV | R |
| D6.1 | Pilot sites integration and demonstration planning | 6 | EULS | R |
| D8.1 | Dissemination, Exploitation and Communication Plan (DECP) | 8 | ETRA | R |

| | | | | |
|---|---|---|---|---|
| D8.2 | Dissemination, Communication, end-users' engagement activities, synergies with other projects and exploitation activities V1 | 8 | ETRA | R |

## 2.10. Events

The participation and presentation of ECOLOOP at various events are essential for sharing the project's outcomes, demonstrating its innovations, and raising awareness about its goals among the target audience. To ensure maximum exposure, all events are announced in advance on the ECOLOOP website and social media platforms. For key events, in-depth articles are published in the "News" section to highlight important developments and insights gained from the event.

Over the course of the project, partners have been actively involved in a wide array of events, conferences, and workshops, helping to promote ECOLOOP's work and engage with relevant stakeholders. During the first 18 months, they participated in 17 events, including 3 organized by ECOLOOP partners, 4 exhibitions, 15 pitches, and 6 events dedicated to networking with related projects or initiatives. This demonstrates a strong commitment to collaboration, knowledge exchange, and strengthening connections both within the community and with external stakeholders.

Table 9 offers a detailed list of all the events organized or participated in by ECOLOOP partners, outlining the specific roles and contributions made at each event. Additionally, there is an internal event report that provides detailed information about each event.

*Table 9 – List of all events where ECOLOOP partners participated.*

| Event's name | Date | Location | Nº Atendees | Type of event | ECOLOOP participation |
|---|---|---|---|---|---|
| National annual forestry conference ''From forest science to practice 2023' | 01/12/2023 | Tartu (Estonia) | 250 | Participation to a Conference | Oral presentation "Soil carbon, soil fungi and vegetation in the silver birch plantations". |

| | | | | | |
|---|---|---|---|---|---|
| Meeting with Solutions project | 26/04/2024 | Valencia (Spain) | 6 | Co-organised meeting for synergies. | Presentation and pilot site visit. |
| Tour of Finca Sinyent | 14/05/2024 | Sinyent (Spain) | 18 | Organised visit | Presentation and pilot site visit. |
| European Sustainable Energy Week 2024 | 11-13/06/2024 | Brussels (Belgium) | >1,000 | Participation to a Conference, and Fair | Exhibition |
| IUFRO conference | 27/06/2024 | Stockholm (Sweeden) | >1,000 | Participation to a Conference | Presentation |
| SERE2024 - 14th European Conference on Ecological Restoration | 26-30/08/2024 | Tartu (Estonia) | 670 | Participation to a Conference | Poster presentation ”The afforestation and re-vegetation of nutrient-rich ashes treated cutaway peatlands in Estonia”. |
| 62. INTERNATIONAL FAIR OF AGRICULTURE AND FOOD (AGRA) | 28/08/2024 | Murska Sobota (Slovenia) | ±500 | Trade Fair | Presentation |
| EUROPEAN ENERGY MANAGER" Training for more efficient energy management | 03/09/2024 | Ljubljana (Slovenia) | >20 | Training | Presentation |
| 17Th Congreso Internacional de Bioenergía | 1-2/10/2024 | Valladolid (Spain) | >3,600 | Participation to a Conference | Poster presentation of Ecoloop |
| International Conference on Agrivoltaics | 11/10/2024 | Novo Mesto (Slovenia) | 50 | Participation to a Conference | Presentation |
| 12th Conference of the EU Framework Programme for Research and Innovation in Spain – Horizon Europe | 28/11/2024 | Oviedo (Spain) | >500 | Exhibition | Poster presentation of Ecoloop |
| 9th Agrobiznis Hi-tech conference | 28/11/2024 | Ljubljana (Slovenia) | >50 | Participation to a Conference | Presentation |

| | | | | | |
|---|---|---|---|---|---|
| National annual forestry conference ''From forest science to practice 2024'' | 29/11/2024 | Tartu (Estonia) | 250 | Exhibition | Oral presentation and exhibition area. |
| New Challenges in Agronomy 2025 (Novi izzivi v agronomiji 2025) | 30/01/2025 | Laško, (Slovenia) | 150 | Participation to a Conference | Poster exhibition |
| ENLIT on the Road | 26/02/2025 | Valencia (Spain) | 5 | Media – site visit | Site visit |
| The importance of soil health: How can we improve it? | 27/03/2025 | Valencia (Spain) | >30 | Organisation of a workshop | Presentation |
| ENLIT on the Road Valencia Public Day | 27/03/2025 | Valencia (Spain) | >50 | Participation to a Conference | Presentation |

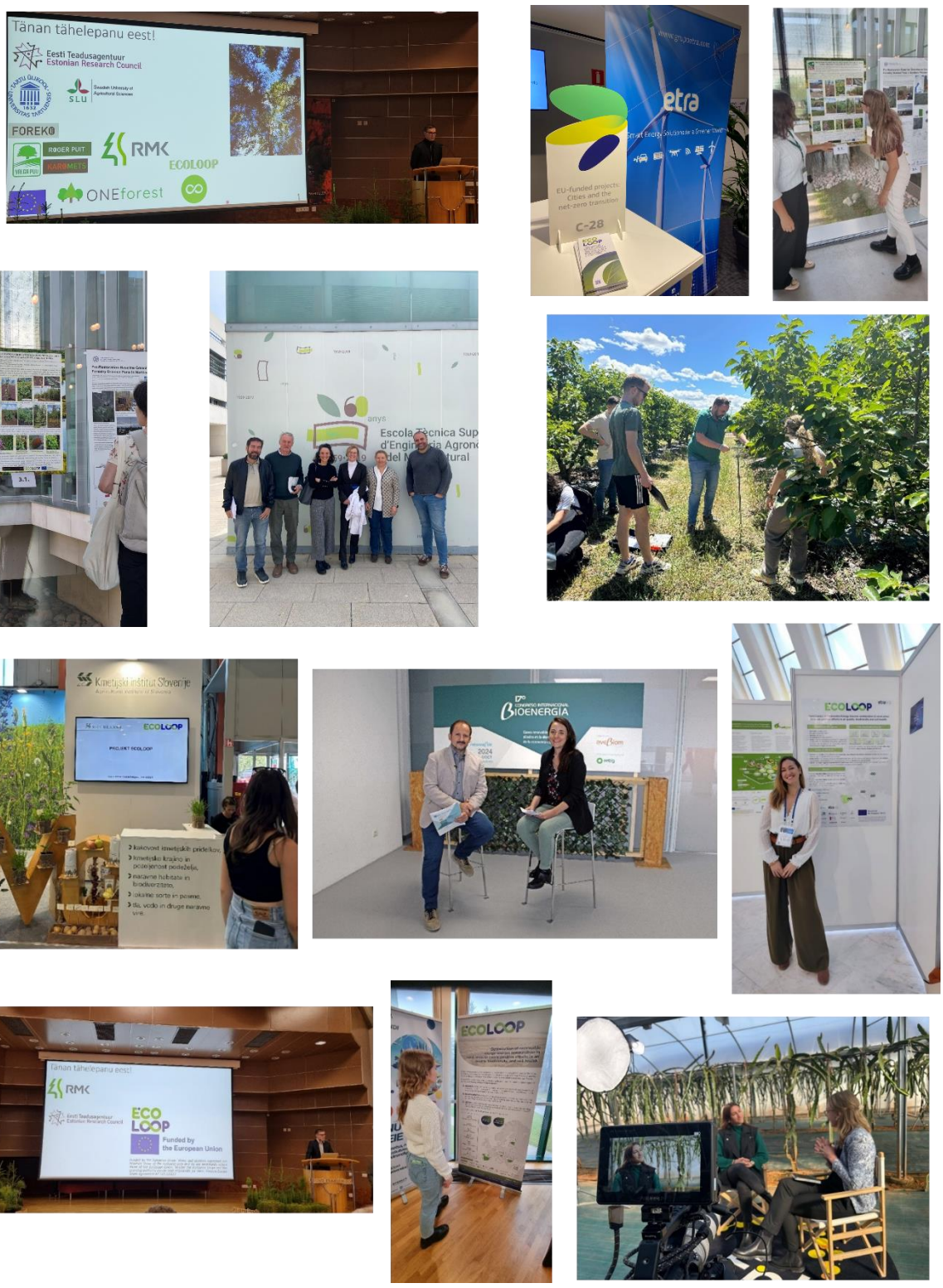



*Figure 19 – Some pictures of ECOLOOP partners representing the project in events.*

## 2.11. Online Campaigns

Online communication campaigns to promote ECOLOOP from the outset have been one of the key tools used for the project's communication and dissemination. These campaigns help increase visibility, foster collaboration, and ensure the dissemination of results and progress to a wide and diverse audience.

During this period, two online campaigns were conducted on LinkedIn and X to promote the general aspects of the project, its goals, tools, and pilot sites. The second campaign specifically highlighted women in science and STEM carriers working on ECOLOOP. These campaigns have been well received, achieving 7,642 impressions and 698 reactions (Table 10).

*Table 10 – ECOLOOP online campaigns (M1-M18).*

| Campaigns | Date | Publications | Impressions | Redactions |
|---|---|---|---|---|
| ECOLOOP: Everything You Need to Know | June 2024 – September 2024 | 34 | 6,991 | 264 |
| Women in STEM at ECOLOOP | February 2025-March 2025 | 3 | 651 | 34 |


*Figure 20 – Images of selected posts from the online campaigns.*

## 2.12. Exchange activities with related projects or initiatives

The exchange of actions with other projects or initiatives related to ECOLOOP, whether focused on communication or more technical aspects, is also of great importance within the dissemination activities outlined in the DECP.

During these initial months, the first step has been the identification of relevant projects and initiatives. Subsequently, initial contact has been established with some of them through online channels, including email and virtual meetings. Notably, a joint workshop was conducted with the bioSOILUTIONS project, focusing on the importance of soil health, and ENLIT Europe organised a site visit to film the Picassent pilot site and interview the Project Manager.

In total, contact has been established with five projects and one initiative, resulting in two concrete dissemination actions (see Table 11).

*Table 11 – List of cooperation activities by M18.*

| Name of the project or initiative | Activity | Location | Date | Nº participants | Link |
|---|---|---|---|---|---|
| bioSOILUTIONS project [9] | Physical meeting to exchange project updates within the Living Labs framework. Given their similarities, a joint dissemination activity for university students and farmers was proposed. | Valencia (Spain) | 26/04/2024 | 6 | https://www.linkedin.com/feed/update/urn:li:activity:7192073273701019648 |
| REPOWER project [10] | Online meeting to find synergies and potential common actions on communication and dissemination. | Online | 24/10/2024 | 2 | NA |
| ENLIT on the road [11] | Video recording of the Picassent pilot site and interview. | Valencia (Spain) | 27/02/2025 | 5 | https://www.linkedin.com/feed/update/urn:li:activity:7300515745510154240 |

| | | | | | |
|---|---|---|---|---|---|
| OpenMod4Africa Project [12] | Email contact to identify synergies between both projects and establish joint dissemination actions. | Online | 10/03/2025 | 2 | NA |
| PYRAGRAF project [13] | Email contact to identify synergies between both projects and establish joint dissemination actions. | Online | 12/03/2025 | 2 | NA |
| FUELPHORIA project [14] | Email contact to identify synergies between both projects and establish joint dissemination actions. | Online | 12/03/2025 | 2 | NA |
| bioSOILUTIONS project [9] | Co-organisation of the workshop "The importance of soil health: How can we improve it?" | Valencia (Spain) | 27/03/2025 | >20 | |

## 2.13. Assessment

As explained in D8.1, Key Performance Indicators (KPIs) help ECOLOOP assess and track progress toward its dissemination and communication goals. These indicators serve as key metrics for evaluating the effectiveness of the dissemination and communication plan and its alignment with the project's main objectives. A preliminary list of KPIs was defined in D8.1, and this deliverable presents the results achieved after 18 months of project implementation.

*Table 12 – List of KPIs reached by M18.*

| Dissemination action | KPIs | Target (M48) | M18 |
|---|---|---|---|
| Website | Design and Development of the project's web portal | Fully developed web portal by M4 | YES |
| | Total page views | ≥ 10,000 | 1,900 |

| | | | |
|---|---|---|---|
| | Regular update of the website content | Continuous update (1 time/month) | 1 per month |
| | Visitor's countries | Minimum 10 countries | 10 |
| | Nº of post | ≥ 110 | 19 |
| | Nº of documents published | ≥ 30 | 17 |
| | Nº of downloads | ≥ 800 | 370 |
| Social networks | Nº of followers on X | ≥600 | 68 |
| | Posts on X | ≥ 1,000 | 100 |
| | Impressions on X | ≥ 200,000 | 6,186 |
| | Nº of followers on LinkedIn | ≥ 300 | 319 |
| | LinkedIn posts | ≥ 200 | 55 |
| | Impressions in LinkedIn | ≥ 70,000 | 29,686 |
| | Content share in the Zenodo | ≥ 4 | 7 |
| | YouTube subscribers | ≥ 100 | 12 |
| | YouTube views | ≥ 3,500 | 295 |
| Scientific publications | Nº of scientific papers | ≥ 7 | 6 |
| Promotional materials | Nº of brochure designed | 1 | 1 |
| | Nº of roll-up designed | 1 | 1 |
| | Nº of videos produced | ≥ 8 | 3 |
| | Handbook lessons learnt | 1 | Schedule for period 3 |
| | Downloads of promotional materials at the webpage | ≥ 1,000 | 190 |
| | Nº of newsletter forwarded | 7 | 2 |

| | | | |
|---|---|---|---|
| Newsletter | Nº of subscribers | ≥ 100 | 70 |
| Deliverables | Nº of public deliverables | 22 | 8 |
| | Nº of public deliverables downloaded | ≥ 300 | 37 |
| Press releases | Nº of press releases | 5 | 2 |
| | Media presence | ≥ 40 | 5 |
| | Countries reached | ≥ 7 | 3 |
| Events | Nª of events attended | ≥ 20 | 17 |
| | Nº of Trade fairs | ≥ 3 | 5 |
| | Nº of events organised | ≥ 5 | 3 |
| | Nº of pitch events | ≥ 10 | 12 |
| | Visitors/attendants reached | ≥2,500 | ≥ 6,000 |
| Workshop | Nº of all the workshops | 4 | Schedule for period 2/3 |
| | Nº of joint workshops with other related projects and/or initiatives | 2 | 1 |
| | Total participants | ≥ 300 | ≥ 20 |
| Webinars | Nº of all webinars | 7 | Schedule for period 2/3 |
| | Total participants/views | ≥ 600 | Schedule for period 2/3 |
| | EU projects invited | ≥ 4 | Schedule for period 2/3 |
| Joint activities with other related EU projects or initiatives | Nº of related projects or initiatives addressed | ≥ 4 | 5 |
| | Nº of actions | ≥ 5 | 2 |
| | Audience reached | ≥ 500 | ≥ 100 |
| | Nº of talks | 4 | Schedule for period 2/3 |

| | | | |
|---|---|---|---|
| Talks | Participation in related projects or initiatives | ≥ 3 | Schedule for period 2/3 |
| | Audience reached | ≥ 600 | Schedule for period 2/3 |
| Online campaigns | Nº of campaigns | 4 | 2 |
| | Impressions | ≥ 10,000 | 7,642 |
| | Reactions | ≥ 5,000 | 698 |
| Women in energy action | Nº of actions | 3 | 1 |
| | Nº of women reached | ≥ 1,000 | ≥ 200 |
| | Nº entities reached | ≥ 5 | ≥ 5 |

# 3. Engagement activities

In this period, a structured engagement strategy plan has been designed, as a second version of the guidelines shared in D8.1. *DECP*. This plan will ensure that the activities carried out in the Spanish pilot site will serve as a best practice model for the rest of the project partners and related stakeholders. AVA-ASAJA, in collaboration with the rest of the Spanish partners, is responsible for implementing the plan, sharing knowledge with the rest of the project partners and supporting them in the implementation and delivery of the engagement activities up to M30. In this sense, the partners in Slovenia, Bulgaria, and Estonia can develop their own localized strategies benefiting from shared knowledge and experiences resulting from the activities undertaken in the Spanish pilot. In this manner, ECOLOOP aims to build a European network of renewable energy adopters in agriculture, paving the way for wider EU expansion and policy support. The progress, performance and updates of the engagement activities and engagement plan will be presented in further version of this deliverable in M30 (D8.3) and M48 (D8.4).

## 3.1. Engagement activities plan

This plan outlines a comprehensive strategy to involve and effectively transfer the knowledge and results of the ECOLOOP Project to targeted audiences, primarily farmers, foresters, and

rural communities who can directly benefit from its outcomes. Through diverse communication efforts—including media partnerships, social media engagement, and workshops—the main goal is to raise awareness, foster collaboration, and promote the adoption of renewable energy solutions in the agriculture sector. From press releases and community-driven video testimonials to on-site pilot demonstrations, each activity is designed to maximize impact and ensure that project findings reach and benefit a broad audience.

- **Stakeholder Engagement:** Identify key agricultural actors, (AVA-ASAJA, ASAJA national, CAJAMAR, DO Utiel Requena, CAEV, Conselleria Agricultura, IVIA), industry experts, and policymakers.
- **Press release:** Establish media partnerships with press media like Levante-EMV, Valencia Plaza, Agronegocios, as well as in AVA-ASAJA and ASAJA national magazines, to publish articles informing the rural community about the project findings.
- **Dissemination material:** Design and distribute dissemination material, such as infographics, flyers, rollups, etc.
- **Video Testimonial & Success Story Campaign:** Produce case study videos featuring Valencian farmers using agro-PV, biogas, and geothermal. Interview representatives from farmers, cooperatives, agribusinesses, and irrigation communities (Acequias and SATs).
- **Community YouTube series:** Launch interviews with Valencian farmers who use renewable energy. Discuss sector challenges with local experts and policymakers.
- **Social Media & WhatsApp Engagement:** Share in dedicated WhatsApp groups of farmers in Valencia and National a survey to assess awareness and interest in renewable energy adoption.
- **Workshops Pilot Demonstration:** Set up and showcase agro-PV installations in at least one of these crops: citrus, vineyard, greenhouse, and biogas systems for vegetal or livestock waste, and geothermal energy for irrigation.
- **Fist Assessment Report:** Elaborate first report assessing the results obtained from: survey and initial findings, from pilot demonstrations, media and RRSS reach, etc.
- **COPA COGECA networking:** Present ECOLOOP findings in the COPA-COGECA annual event, to create awarenesses in the European Union.

The plan is designed to be scalable and replicable, allowing it to extend to additional stakeholders, such as industry experts, policymakers, and agribusinesses.

## 3.2. Engagement activities done to date

As stated in D8.1, the engagement strategy is structured into three key phases:

- **Phase I (Outreach and General Promotion, M1-M12):** Focused on informing rural communities, farmers, and foresters about the project, its potential applications, and benefits for the sector.
- **Phase II (Community Building & Demonstration, M12-M40):** Involves showcasing the evolution of the project, with an emphasis on pilot site developments and initial tangible results.
- **Phase III (Capitalization & Adoption, M36-M48):** Aims to enhance the visibility of project outcomes, promote their adoption, and encourage stakeholders to implement the solutions developed.

At this stage Phase I is successfully completed and Phase II has been started in September 2024.

It is worth mentioning that the severe floods caused by the DANA in the Valencia region last October 2024, had a devastating impact on the agricultural sector. Many farmers suffered significant damage to their land and infrastructure, severely disrupting their activities.

In response to this emergency, AVA-ASAJA prioritized efforts between October and February to organize initiatives aimed at informing and assisting farmers in various key aspects of their recovery. These activities focused on supporting them in damage assessments, guiding them through the process of applying for financial aid, and aiding for the reconstruction of their fields. The primary objective was to facilitate their recovery and enable them to resume operations as swiftly as possible.

As a result, the engagement activities initially planned for the first six months of Phase II of the DECP could not be implemented as scheduled. These activities will now commence in April (M19) and will be extended until M30.

# 4. Exploitation actions

## 4.1. Objectives and approach

The exploitation plan (EP) describes the key exploitable results of the ECOLOOP project and guides activities that support their positioning. Individual partners of the project consortium can turn their activity in this project or its outputs into commercial or non-commercial value.

The exploitation plan will be designed to maximize the impact of the proposed solutions and to prepare the transition towards industrial and commercial uptake in order to fully achieve the expected impact. ECOLOOP delivers a multitude of outputs, of which it is important to distinguish the ones with the highest exploitation potential – by assessing the innovativeness, market demand for the product, possible revenues or recognition opportunities or the impact on society. Most importantly the project develops a set of tools such as the CO2 sequestration tool, the ECOLOOP Decision Support Tool and the Farmers Support Tool, among others, which are aimed to serve market actors by providing solutions for the overall optimization of the agricultural and forest land and waste management under different geographical contexts across the European different forestry and agricultural settings.

The EP describes the activities to be undertaken (how and by whom) to ensure exploitation beyond the project itself. The exploitation strategy reflects and is built up because of a sound analysis of the market trends, potential users, and financial sustainability. The target users will be precisely identified and analysed in terms of specific needs and objectives. The exploitation activities will be coordinated by the Business and Innovation Manager. A value chain and market analysis will be performed in order to find the needs of the customers and the competitive situation. The needs of the customers and the competitive situation will be assessed quantitatively to gain better insight into the pricing of the components developed within the project.

This chapter is only a basic version of the exploitation plan that will be updated throughout the project.

The exploitation approach of ECOLOOP will follow the pathway as shown below.


*Figure 21 – ECOLOOP exploitation pathway.*

## 4.2.Exploitation activities

During the first 18 months of the project, the consortium designed and developed the first version of the ECOLOOP technologies while making use of module C of the Horizon Results Booster (HRB) service 1, "Assisting projects to improve their existing exploitation strategy", as stated in D8.1 Dissemination, exploitation and communication plan (DECP). The service has provided guidance and training to achieve an effective exploitation of the project KERs.

During the following months, individual business plans will be developed for each of the results and products considering business propositions, revenue streams and financial feasibility. The templates of the business plan are presented in Annex 2 – Business Plan Structure Templates based on the outline by the HRB service.

By following the step-by-step approach proposed by the HRB, a preliminary version of the Decision Support Tool business plan has been developed by ETRA as follows.

The first step consists of completing the table below (Table 13) which outlines the main issue, the unique value proposition of the DSS tool and its market potential, including target customers, adoption trends and competitive landscape.

*Table 13 – KER Form for Decision Support Tool.*

| KER Form for the Decision Support Tool | |
|---|---|
| **Problem** | Farmers are under pressure to produce more with less energy and other resources, and environmental impact in the process, and with no access to technology and digital tools. |
| **Alternative solution** | The current DSS for farmers can monitor and control only the operations related to crop production, but not regarding energy efficiency and other environmental impact parameters. |

| | |
|---|---|
| **Unique Selling Point USP - Unique Value Proposition UVP** | ECOLOOP Decision support tool for farmers and foresters will provide services, based on the information collected by IoT ecosystems, metering and other data sources. The goal of the tool is to enable farmers to monitor, manage and control not only the crops but also the energy consumption and carbon footprint. The final objective is to reduce the dependency on big energy companies and increase renewable energy consumption, energy efficiency and self-consumption to reduce energy costs and emissions. Moreover, the ECOLOOP Decision support tool will optimise the application of agricultural inputs (e.g., fertiliser, agrochemicals) by delivering 'the right amount, at the right time, in the right place', ensuring that the minimum resources needed are used at the production stage in order to achieve optimum performance reducing and eliminating the negative effects in soil and groundwater contamination. This allows the active participation of farmers, facilitating access to energy systems in rural areas, and providing also other social and economic benefits to them. |
| **Description** | ECOLOOP DSS (Decision Support System) is a software tool, based on advanced software models and analytics tools, using the data collected by the IoT ecosystem deployed. The main objective is to provide the algorithms in a manner where the captured and processed data enables advanced decision-making whilst being presented on a digital dashboard and in an easily understandable "user-friendly" manner. The services provided through the tool offer benefits to the farmers to increase the efficiency and profitability of the crop production and also to reduce energy consumption and GHG emission, increasing the use of green energy sources (biogas, PVs, etc,) and self-consumption. |
| **"Market" – *Target market*** | - *What is the target market?* Foresters and farmers, technology providers of software-related crops management end-to-end solutions<br>- *Who are the customer segments?* Agriculture and forest areas. |
| **"Market" – *Early Adopters*** | Farmers |
| **"Market" - Size** | The project will start addressing the farmers that are part of the Association of Valencian farmers (AVA-ASAJA) which are members of the project. The idea is to identify which are the most appropriate farmers that could make use of the tool, which would be approximately 10% of the members. |
| **"Market" - Trends** | In Europe smart agriculture market is expected to reach USD 9916 million by 2030, growing at a CAGR of 12.02% from 2022 to 2030. Europe is expected to be the second-largest smart agricultural market after North America. Increasing assistance from regional authorities in Germany, France, Italy, and the United Kingdom, as well as improved awareness among business-oriented farmers, are likely to drive regional demand for the market during the projection period. |

Germany, the United Kingdom, France, Italy, Spain, the Netherlands, Poland, and the Czech Republic are the primary countries in the region with a large portion of the smart farming market. Germany brought in the most money out of all the countries. The tremendous expansion in the German market was partly attributable to the country's agricultural producers' rapid adoption of new technologies. The country's considerable R&D operations, as well as the urgent need to boost productivity due to the declining number of farms, farm consolidation, and increasing animal herd sizes, all contributed to the market's rise.

Countries such as the Netherlands, Czech Republic, Poland, and Spain, on the other hand, are expected to have the quickest market growth during the forecast period. With the growing urban population, the growing market penetration of internet in farm management, and favourable government investments, these countries have a lot of room for market development.

Increased urbanization in countries like Poland and the Czech Republic, as well as improved quality of life due to high-income levels and increased demand for fresh crop produce and animal feed, are driving up crop protection demand. Other factors include the scarcity of natural resources such as fresh water and arable land, as well as declining crop productivity patterns. As a result, prominent agricultural corporations have been encouraged to implement new farming practices in the agricultural sector in order to increase farm output.

**Settings – Acceptance**

ECOLOOP DSS will solve the issues related to climate change and the environment by means of the integration of distributed renewable generation sources, in order to contribute to the EU aim of achieving the integration of a large share of renewables of 40% by 2030 as laid down in the updated renewables directive. In this context, the synergies with agriculture and waste management to produce biogas and biomass will avoid an overinvestment into technologies and will contribute to circularity. Moreover, ECOLOOP will improve the management of rural energy communities, reducing additional investment and improving efficiency. In this way, it can ease the market introduction of new ways of installing renewables, accelerate the decarbonization of the electricity grid, and improve the security and efficiency of electricity supply in rural areas.

Thus, considering both, an increase of self-consumption, an increase in RES utilization, and the new utilization of biogas (instead of traditional fuels) and biomass together with CO2 capture, it is estimated a reduction of 39,89 MtCO2eq. Simple changes like introducing agri-PV systems for solar irrigation, can reduce the related emissions by 95 to 98%, according to IRENA and FAO.

The global Smart agriculture market size was valued at $ 14.44 billion in 2021 and is expected to expand at a CARG of 10.8% from 2022 to 2030. Technology to manage, analyse, and identify variability on a farm to increase crop production while reducing human effort is a cornerstone of smart agriculture. Smart agriculture allows farmers to determine the exact quantity of nourishment crops require to improve production by accessing real-time data about weather, yields, and soil quality. In Europe agricultural land plays an important role in

| | |
|---|---|
| | land use patterns across the region. The agriculture sector provides livelihoods to almost 10.5 million farmers across the region. The agriculture sector occupies more than 40% of the region's landmass and is known to be the largest agricultural food exporter in the world. Germany, France, the UK, Spain and Italy, are countries that have a significant share in the smart agriculture market. |
| **Settings – Legal and regulatory aspects** | *What are the legal requirements?*<br>*What are the normative requirements?*<br>*What are the ethical requirements?* |
| **Go to Market – Use model** | Future commercialisation will be led by an international ICT technology provider within the consortium with a track record and experience in DSS and expert systems in high-demanding sectors. For commercialisation will be essential to establish key partnerships or create a network of partners to integrate this high-level software layer into their commercial off-the-shelf solutions, in some cases in a white-label model. Key stakeholders in the distribution channel will be agronomic/environmental engineering & consultancy firms as well as agronomic cooperatives which centralize expert advisory services and some crop-related activities among their members. Incomes will come from monthly fees for end users. In the case of business through partners incomes will come from yearly fees according to the number of instances released by the partner. |
| **"Market" – Competitors** | Well-established technological commercial offers exist providing monitoring and management of crops, weather conditions monitoring and orchestration of the supply of water and nutrients with precision. Clear market segments are established in the market, those technology firms relating to crop-science and irrigation and water supply, those more focused on end-to-end farming activities management. A diverse range of technologies are in use today, most well-established are those backed by sensory technology, dataloggers and software management, other are more related to image-based technology such as drones or satellite images. Some little references are only specialized as data-based platforms that merge information and data for a wide spectrum of systems, and which provide advanced analytics and decision-support. Technology-based firms such as Regaber, Libelium, SupPlant, Treetoscope, Agroscoute, Blue White Robotics, Agrowing, Cropx, WayBeyond, Sensing4Farming, CropWat, AgrIOT are well-known firms. Who are your "competitors" (note: they are the ones offering "alternative solutions"). |
| **Go to Market – IPR Background** | ETRA will exploit the product by itself, with no collaboration with other partners. |
| **Go to Market – IPR Foreground** | ETRA will exploit the product by itself, with no collaboration with other partners. |
| **Go to Market – Timing** | It is estimated that 3-6 months after the end of ECOLOOP, the DSS will be market-ready. This time is needed to finalise testing and validation as well as to adapt it according to the client's requirements. |

| | |
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| **Go to Market - Channels** | ETRA will identify potential customers, such as farmers associations, and contact them directly to offer the solution. Moreover, the DSS will be presented in congresses, workshops, symposia conferences and exhibition fairs to attract potential customers. |
| **Go to Market - Pricing** | *What will be the eventual price of the solution? Estimation of price / unit and number of units sold to reach breakeven point (cover costs).* |
| **The Team** | The company has already a dedicated sales team that reaches out to potential customers, engages in direct communication, and showcases the benefits and features of the solution providing an opportunity to tailor the software offering to specific customer needs. |
| **The Team – External providers** | |

The third step (Figure 22) provides a Lean Canvas model summarizing the business strategy for the Decision Support Tool. It includes elements such as customer segments, problem identification, unique value proposition, key metrics, and revenue streams, helping to visualize the strategic direction of the project.

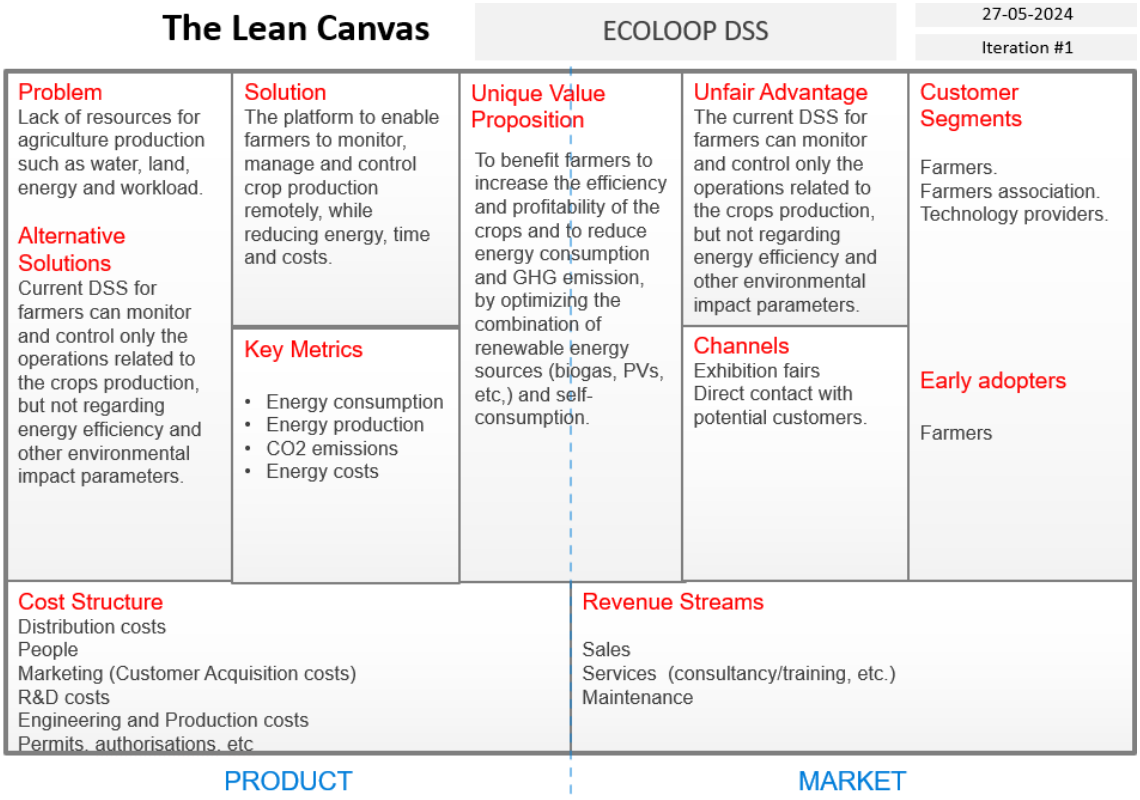


*Figure 22 –Lean Canvas for the Decision Support Tool.*

Finally, the Value Proposition Canvas for the Decision Support Tool (Figure 23), highlights the connection between customer needs and the tool's features. It identifies customer pains and gains, as well as the solutions provided, ensuring that the tool effectively addresses the market demand.

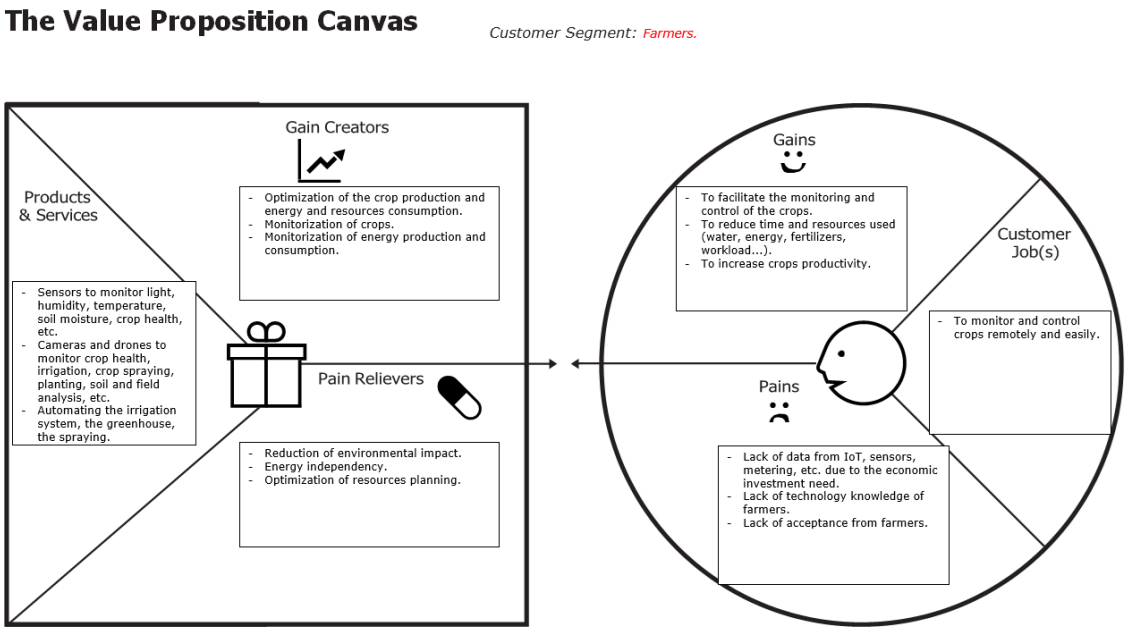


*Figure 23 – Value Proposition Canvas for Decision Support Tool.*

Thus, the D8.3 "Dissemination, Communication, end-users' engagement activities, synergies with other projects and exploitation activities V1" to be delivered in M30, will reflect all the individual exploitation plans of all the partners.

The ECOLOOP business plan will be developed at a later stage of the project, as needed input may not be available before and will be finalized in the third version of this report in M48.

# 4.3. Exploitation strategies

How each company plans to take profit from the exploitation results was shown in the previous section. These can be strategies in terms of teaching/training, research, business, attendance at events, etc.

It is possible to differentiate between three different types of partners involved in ECOLOOP consortium: industrial partners, research institutions/universities and end users. Their activities are complementary, and depending on the type of partner, the exploitation interests and impact are different.

The launch of the first phase of the demonstration of the ECOLOOP activities will be performed in M30. This means that from M30, the partners will be able to have their exploitation activities clearer and focus on Task 8.2 “Exploitation plans and IPR activities” which will support them in performing the core exploitation activities of ECOLOOP.

From the list of exploitable results, the consortium has extracted the ones which have special relevance on the project. These results are named as KERs (Key Exploitable Results). This classification has been made according to the commercial potential of the own result or due to whether it has dependencies between different partners involved during its development.

Once identified the KERs, the consortium will start to follow the methodology developed by SSERR [15] (which has been promoted by the European Commission) that will be followed (and adapted to the particularities of ECOLOOP) until the end of the project.

The **first step** of this methodology is to complete a KER repository with the following information per KER:

- ID Number of the KER.
- Name of the KER.
- Leader.
- Short Description.
- Nature of the Result.
- Other organizations directly contributing to its development.
- Background needed to use this foreground.
- Rights to use the foreground.
- Other components (mainly other KERs) to use this Foreground.
- Priority.
- Timing to start the exploitation process.

The **second step** is to ask the end users of the project, which of the KERs they will be interested in at the end of the project and their boundary conditions. For that, they will also complete another template. Thus, the consortium has all the dependencies between the different partners after the end of the project (relevant for the IPR management).

To facilitate the understanding of those dependencies to an ECOLOOP external, the consortium will also create simple Business dependency diagrams for easily visualizing them and the possible joint strategies to exploit the results.

The **third step** is to characterize the KERs: To extensively describe each KER explaining, for example, how other partners contributed to its development, the innovativeness introduced, source of financing, etc.

The **fourth step** is the definition of the KER priority map: To build a map showing the potential risks of commercializing a KER and the potential interventions to avoid those risks.

The **fifth and last step** is to write Memorandums of Understanding (MoU) between the partners for KERs involving more than one partner or KERs which the End-Users are interested in. This MoU will include the relevant information for also understanding their joint exploitation strategy (relying on the second step).

All the findings and work performed within Task 8.2 will be led by ETRA and reported the in following deliverables D8.3 “Dissemination, Communication, end-users’ engagement activities, synergies with other projects and exploitation activities V2” (M30) and D8.4 “Dissemination, Communication, end-users’ engagement activities, synergies with other projects and exploitation activities V3” (M48) together with an update of the Individual exploitation plans of each partner.

## 4.4.Characterisation of the ECOLOOP Key Exploitable Results (KERs)

Results including commercialisation or third-party research will be granted on fair and reasonable conditions. Any proposed publication by one of the parties will be submitted to all partners for consent as per the Dissemination and Exploitation Plan (DEP). All publications will be either gold or green open access in accordance with the Horizon Europe requirements. Partners who own knowledge suitable for patenting will be encouraged to fill in applications for patents or a similar form of protection and shall supply details of applications to the other consortium partners. Specific confidentiality agreements will be signed among partners involved in tasks with sensitive IP and commercial issues if required.

Exploitable results were characterized already in the proposal stage. The project is still in its beginning phase, meaning that the characterization of KERs is still transforming and subject to

change. Preliminary Key Exploitable Results, foreseen by the Grant Agreement are listed below. For each tool there is a main responsible partner. The ownership or joint ownerships of the tools however will still be discussed.

### 4.4.1. KER1: Efficient biogas production and conversion process (Flexibility Management to increase the profitability of slow pyrolysis) – IRI UL

**Target Users:** New CHP buyers and users in the renewable sector, the agricultural sector for additional biochar production, industrial users and policymakers in regard to RE generation, flexibility and biochar production processes.

**Solution Provided:** This KER is focused on the utilization of the Slow pyrolysis process of the CHP units while providing stable electric power and heat generation. It will emphasize the flexibility potential of the CHP systems, which can be achieved through Temperature control of the wood gas burning in the chambers, modularity of the system, as the units can be connected in cascade to each other and general turn on/off capability.

As part of project activities in the Slovenian pilot and supporting tasks, a correlation between temperature control of the process and production of wood gas, char and ash as side-products. With a multicriteria optimization algorithm, an optimal setpoint for operation can be determined, pursuing economic or environmental benefits while operating the system.

**Key Innovation:** As the CHP owners and users are already utilizing the biomass-powered alternative for heating demand and energy generation, thus lowering their heating and energy costs of operation, additional flexibility utilization can present additional benefits. Enhanced flexibility of generation can more accurately follow the market conditions if selling produced energy on the electricity market, flexibility products can also be offered on ancillary service markets to the TSOs and DSOs through an auction process.

Controlling the temperature has a direct impact on the generation of the unit and the type of side product in the process. While lowering the temperature can have a negative impact on the level of output thermal and electric power, the yield of biochar as a side product is increased. The biochar, with proper chemical attributes, can serve as an alternative fertilizing agent for agricultural purposes. This results in additional products, which the CHP owner can sell, or use

in their field and reduce the fertilizing cost. If in addition to the biochar value we stack this reduction of generation from CHP as an ancillary service to the electricity grid, we are faced with a multicriteria optimization process, which defines the optimal operation of the CHP from several aspects: heat and power output, provision of ancillary services and biochar production.

**Positioning:** The market is actively exploring and implementing flexible biomass CHP systems that can adapt to market conditions, participate in ancillary services, and produce valuable byproducts like biochar. Several companies and projects are developing solutions that integrate biomass CHP systems with enhanced flexibility, participation in ancillary services, and byproduct utilization such as biochar production. This KER Key market positioning elements include:

- Flexibility monetization by dynamically adjusting production, they can sell electricity at peak prices and participate in ancillary services markets, such as frequency regulation and demand response, providing additional income streams from Transmission System Operators (TSOs) and Distribution System Operators (DSOs).
- By fine-tuning operating temperatures, CHP units can produce biochar, a valuable byproduct that can be sold or used as a sustainable soil amendment in agriculture. This diversification of revenue sources enhances profitability while contributing to circular economy principles.
- Operators must strategically balance multiple objectives:
    - Generating electricity and heat efficiently.
    - Offering ancillary services to the grid.
    - Maximizing biochar production for additional revenue.
    - This optimization enables CHP systems to be more responsive to energy markets while ensuring economic and environmental benefits.

**Exploitation Strategy:**

- **B2B Collaborations:** Cooperation between energy utilities, grid operators and CHP owners would be required to leverage the flexible nature of CHP units, while the agricultural and bioenergy sectors can benefit greatly from biofertilizer production. Through advanced optimization and control of the CHP systems, research institutions

and technology developers and providers could further increase the efficiency, profitability and viability of the CHP systems, thus making them more attractive to the market. Engagement with industry, standardization institutes and cooperation with energy and agriculture stakeholders will also play a crucial role in the successful exploitation of KER1.

- **Events and publications:** The activities around KER 1 will be shared through scientific publications and industry reports, through participation in events in RES sectors and agricultural trade fairs. Workshops and webinars increase the reach and help promote the KER 1.
- **Licensing Model:** The CHP system distributer will enhance sales of new optimized modular CHP systems and will also offer software or licenses for the multicriteria control and optimization of the CHP operation. The CHP operator will benefit from advanced CHP operation, offering flexible services and biochar production process in addition to essential reduction of energy costs.
- **Direct Commercialization:** As the modular systems are being developed within the pilot, the demonstration activities and prototype operation, results will be presented together with potential control strategies to the general public and future investors/ buyers. Once the product is fully developed with the advanced type of control, it could be offered as a product of the BIOMASA company, which is also working on regulatory requirements for biochar classification as a biofertilizer. Once the product design is completed, the commercialization process and sale of the modular units to the biomass energy producers can happen, in parallel with the collaboration with fertilizer production contracts.

### 4.4.2. KER2: Optimal combination of different renewable energy technologies to address the needs of agricultural or forest processes – INDEREN, GENIA

**Target Users:** Landowners, foresters, renewable energy producers, energy and food suppliers, government agencies and policymakers, engineering and consulting firms.

**Solution Provided:** Methodology and procedures for optimizing biogas production and quality, biomethane production and quality. ECOLOOP solution implies the development of a rural-

based system to produce and upgrade biogas to biomethane, using locally sourced feedstocks from agroforestry wastes. The system will optimize the anaerobic digestion phase to maximize both biogas and digestate production. An innovative hydrophobic membranes technology will be used to develop vehicle-grade biomethane. This solution will be cost-efficient and adaptable to the local conditions in the different European regions participating in the project. Moreover, different agroforestry- wastes will be studied to produce biogas and biomethane production yield and it will address vegetal agricultural wastes such as fruit and vegetable wastes. Finally, the ECOLOOP project, through an optimal combination of anaerobic and aerobic digestion, will obtain CMC (Component Material Category) materials to use in the production of fertilizer materials or for application as organic fertilizer. This combination converts complex organic matter into high-quality humic compounds, such as humates and fulvates, which improve soil quality as well as improve nutrient absorption by crops.

**Key Innovation:** Enhancing the quality standards and commercialization of the biogas and biomethane market. ECOLOOP Biogas technology comprises a first-of-a-kind solution for biogas industries that perfectly fits the operational workflow of these plants and covers their needs, which are connected to the growing demand for energy and/or fuels with a low carbon footprint. Thus, this innovative solution fosters the transition towards a bio-based economy, aligned with the recent Circular Bioeconomy Strategy of the EU. The biomethane technology will be proved at a lab and demonstration scale and will be subjected to a fine-tuning step along this HORIZON EUROPE project to reach the market and comply with biomethane European quality requirements for vehicular use. In this regard, minimum purities of 95% and 80% will be reached for biomethane. This system will simultaneously produce two interesting marketable products with different values in the global market in each respective industrial sector.

**Positioning:** Currently, there's no straightforward tool that helps landowners evaluate and implement the best mix of renewable energy for their land. Many existing solutions require specialized knowledge or are too broad to be truly useful for rural applications. KER2 fills this gap by providing a focused, easy-to-use approach tailored to agricultural and forestry needs. It simplifies decision-making and makes renewable energy adoption more accessible for a market that has been underserved. The market positioning sought with ECOLOOP technology is based on multi-energy production and consumption sources. ECOLOOP combines different types of renewable energy sources assets (biogas, biomass, agri-PV, geothermal) and consumption

assets (electricity, heating, cooling, transport, waste management, etc); in this way, it unleashes all the value and flexibility resulting from the synergies which can be established within the overall rural ecosystem in an efficient and cost-effective manner. The goal will be to reduce the dependency on the big energy companies and increase energy efficiency and self-consumption to reduce energy billing and the carbon footprint of farmers and foresters. Specially, will look for the optimal combination of the different energy sources, considering GHG emissions and costs.

**Exploitation Strategy:** By means of supporting farmers and foresters, ECOLOOP will propose new business opportunities and financial instruments in rural areas making them more energy self-sufficient and more economically powerful while enhancing circular bioeconomy.

On the one hand, the model offers a free guide and self-assessment report for rural communities and governments, with an upsell to premium services.

At the same time, this exploitation model aims to achieve a **Cloud-Based SaaS Model that consists in** Deploy the tool as a cloud service with subscription-based access for landowners and renewable energy developers.

The key that will allow us to link our exploitation model will be **Consulting and Partnerships form** alliances with engineering firms specializing in renewable energy for integration into project feasibility studies.

The participation obtained through **Government Collaboration** will mean work with policymakers to embed the tool in regional land-use planning frameworks.

### 4.4.3. KER3: Bioproducts to create positive effects in soil health, biodiversity and groundwater

This KER is divided into two main actions/outputs that make up the overall exploitable result and are described as follows. Each of these actions a is led by a different partner as indicated in the following subsections.

#### 4.4.3.1. Treatment of digestate used as an organic amendment for crop fertilization – FERT, UPV

**Target Users:** Farmers, rural communities, biofertilizer and biogas producers, foresters, land-use planning technicians, environmental technicians, gardening companies, nurseries.

**Solution Provided:** Engineering process to make a solid/liquid separation of the digestate coming from the biogas plant. Part of the liquid fraction will be recirculated back into the biogas plant. This will reduce the requirement for potable water in the biogas plant.

The rest of the liquid fraction will be filtered so that the resulting biofertilizer can be used for fertigation. It will be a simple filtration, only to avoid clogging of the drippers when applying the resulting biofertilizer. The liquid part will be used as the base for a liquid biofertilizer that will be supplemented with the necessary nutrients to cover the requirements of the target crop. The solid part will be composted, and after composting it will be completed with the necessary nutrients to make a solid biofertilizer to cover the requirements of the target crop while improving soil health and characteristics.

**Key Innovation:** The main innovation is not in the final product, but in being able to use a contaminant residue, such as digestate, to produce biofertilizers that improve soil characteristics and feed new crops.

**Positioning:** The final products, in terms of nutrients provided, will be like those existing in the market. However, the products will be different due to the raw materials used, considering the circularity of the raw materials, due to the use of contaminant residues.

The use of these raw materials will reduce the carbon footprint of the final product being more competitive with respect to those of the competitors.

**Exploitation Strategy:**

- **Technology Licensing:** The digestate transformation processes will be patented if they are susceptible to such action.

In any case, the know-how acquired during the development of these processes can be commercialized for implementation in other companies interested in transforming digestate into biofertilizers.

- **Joint Ventures:** It will be necessary to carry out agreements with companies involved in the operation of biogas plants, or in the transformation of biomass by methods that give rise to residues such as digestate. This collaboration is beneficial for both companies, but especially for the operators of biogas plants due to the large amount of digestate generated by these plants and their problem in disposing of it.

  It will be necessary to implement digestate transformation plants at each biogas plant to avoid unnecessary transportation of large quantities of digestate. Biogas plants should be designed from the outset with a digestate transformation plant.

- **Customized Formulations:** Regardless of the characteristics of the digestate, the biofertilizers developed will be designed to meet the specific requirements of each client.

  In order to carry out this customization of the biofertilizer it will be necessary to have a perfect knowledge of the crops in the area to determine the requirements of each one at each moment. In the same way, it will be necessary to have knowledge of the characteristics of the soil to know if it needs improvements and how to implement them with the biofertilizer elaborated from the digestate.

  The same will be necessary to be able to cover the requirements of the forest areas, both in terms of nutrients and improvements in soil characteristics.

  In every biofertilizer it will be possible to implement the technologies developed by Fertinagro to improve the efficiency of utilization of each nutrient (NPK), both of those existing in the soil, but blocked, and those provided by the biofertilizer.

- **Circular Economy Model:** In order to produce a balanced biofertilizer that meets the requirements of the target crop, raw materials will be required to complement the scarce digestate inputs. As far as possible, these raw materials should be taken as close as possible to the processing plant to reduce transportation requirements.

  For the same reason, the substrates used by the biogas plant should be taken from the area where the plant is located and likewise, the resulting biofertilizer should be applied in nearby plots. This will increase the circular economy of the area by reducing costs

and emissions, thus reducing the carbon footprint of the final product, which could be a great competitive advantage.

#### 4.4.3.2. The concept of biostimulants to increase the CO2 uptake in forest plantations and the concept of wood ash recycling for forest plantations on organic soils - EULS

**Target Users:** Biofertilizer producers, wood ash producers, forest and agricultural companies, farming and foresters' communities, nursery companies, forestry consultants, landowners, decision-makers, rural communities, politicians, non-government organizations, research institution, academia for student training, and the public.

**Solution Provided:** Bioproducts to stimulate deciduous plantations CO2 uptake and create positive effects on soil health, biodiversity and groundwater:

1. **Wood ash** is a waste from heating systems when woody biomass is used to produce bioenergy. Nutrient-rich wood ash fertilization will be studied to develop the recycling of wood ash back to forest plantations and estimate the potential production gain. The development of wood ash environmentally safe recycling to forest plantations for smart and sustainable usage of bioenergy wastes.

2. **Biostimulant arGrow** is a novel biostimulant based on organic nitrogen to improve the success of forest regeneration in Northern Europe. In the first order arGrow stimulates the growth of roots and benefits microbes in the soil. Plants supplied with arGrow quickly develop robust root systems that improve water and nutrient absorption from the surrounding soil. The established experiments of arGrow biostimulants in combination with mineral fertilizers in the pilot areas will be assessed to see the potential to improve tree growth.

**Key Innovation:** The implementation of wood ash fertilization tailored to specific deciduous tree species and varying peatland fertility levels can significantly enhance plantation yields. At the same time, the introduction of arGrow, a novel biostimulant based on organic nitrogen, provides an innovative approach to improving tree establishment in conventional forestry.

However, its impact on deciduous forest plantations remains largely unexplored. The combined application of wood ash on peatland forests and biostimulants on mineral soil forests represents a promising silvicultural strategy with considerable economic and ecological benefits. Additionally, the integration of novel biomass concepts from fast-growing plantations into new business models promotes circular economy principles, enhancing local production sustainability and market competitiveness.

**Market positioning:** Environmental-friendly fertilizers, including biostimulants and wood ash, are at the forefront of sustainable forestry solutions, specifically designed to enhance the productivity of short-rotation deciduous forest plantations. By evaluating the trade-offs associated with wood ash and biostimulant fertilization, this approach enables state-of-the-art estimation of optimal doses to maximize climate benefits throughout the recycling chain while maintaining cost efficiency and minimizing carbon footprints under future bioeconomic frameworks. The primary goal is to integrate these solutions into certification systems, thereby legalizing fertilization practices in forest plantations as a sustainable approach to scaling up renewable resource production in the region.

**Exploitation strategy:**

- **Commercialization of Bioproducts**: Develop and market wood ash fertilizers and arGrow biostimulants as sustainable forestry products for large-scale application.
- **Integration into Carbon Sequestration Programs**: Incorporate findings into carbon credit systems and certification schemes to provide economic incentives for landowners and forestry companies.
- **Public-Private Partnerships**: Collaborate with governmental and private stakeholders to implement large-scale pilot projects and secure funding for further research.
- **Knowledge Transfer and Training**: Establish educational programs and workshops to train forest managers, landowners, and policymakers on the benefits and application methods of wood ash and biostimulants.
- **Policy Advocacy and Standardization**: Work with regulatory bodies to develop guidelines for the safe and effective use of biostimulants and wood ash in forestry.

- **Circular Economy Business Models**: Promote the integration of these technologies into circular economy frameworks by linking forestry with bioenergy and waste management sectors.
- **Technology Development and Innovation**: Invest in research and development to refine application techniques, enhance product efficacy, and expand the range of suitable tree species.
- **Collaboration with Research Institutions**: Engage universities and research centers to conduct long-term impact studies and further validate the ecological and economic benefits of these solutions.

### 4.4.4. KER4: Decision support tool for farmers and foresters - ETRA

**Target Users:** Foresters, farmers, landowners, agro-communities, agronomic/environmental engineering firms and technology providers for crop management solutions.

**Solution Provided:** The decision support tool (DSS) is a SaaS software for helping end users increase the efficiency and profitability of the fields and reduce energy consumption and GHG emissions, increasing the use of green energy sources (biogas, PVs, geothermal, etc.). Thanks to this tool, farmers and foresters can monitor, manage and balance their energy grid section, allowing their active participation in the energy sector and facilitating access to energy systems in rural areas. By using this tool, end users can monitor and control their operations remotely, based on real-time data instead of direct observation and manual tasks on-site. Key data captured are solar irradiance, ambient temperature, relative humidity, air pressure, wind speed, wind direction, rain, etc. Agricultural/forestry data captured is soil and climatic conditions such as PAR (Photosynthetically active radiation), global radiation, air temperature, relative humidity, pluviometry, wind speed and direction, soil moisture, luminosity, etc. ECOLOOP decision support software tool is based on advanced software models and analytics tools, using the data collected by the IoT ecosystem applied across the entire ECOLOOP value chain. The algorithms are developed in a manner where the captured and processed data enable advanced decision-making whilst being presented on a digital dashboard and in an easily understandable “user-friendly” manner.

**Key Innovation:** The key innovation of this system lies in its ability to reduce dependency on major energy companies while ensuring seamless interoperability with third-party systems. It features automated remote control and decision-making capabilities, enhancing efficiency and responsiveness. Additionally, the system leverages AI to empower data, enabling the generation of automated recommendations for performance optimization, continuous risk mitigation in energy, agriculture, and forestry, and the automatic triggering of alarms when necessary.

**Positioning:** Well-established technological commercial offers exist providing monitoring and management of crops, weather conditions monitoring and orchestration of the supply of water and nutrients with precision. Unlike these traditional monitoring and control solutions focused on irrigation, crop health or farm management, the DSS merges data from diverse technologies—sensor networks and third-party systems—to provide predictive analytics, optimization recommendations, and automated alerts. This positioning places it within the high-value segment of agricultural technology, bridging the gap between raw data collection and actionable insights, and empowering farmers, agribusinesses, and stakeholders with enhanced operational efficiency and risk mitigation capabilities.

The DSS is positioned as an advanced data-driven platform that integrates multiple sources of information, leveraging AI and automation for real-time decision-making in agricultural management.

**Exploitation Strategy:**

- **Go-to-Market Approach:** The commercial rollout of the DSS will be spearheaded by an international ICT technology provider within the consortium that has a proven track record in developing expert systems for high-demand sectors. The approach focuses on establishing key partnerships to integrate the DSS as a high-level software layer into commercial off-the-shelf solutions, including white-label implementations when required.
- **Key distribution channels:**
    - Agronomic and environmental engineering and consultancy firms: acting as primary conduits, embedding the DSS into their advisory services to enhance decision-making for clients.

    - Agronomic cooperatives: given their role in centralizing expert advisory services and crop-related activities for their members, cooperatives present a key opportunity for scaling the DSS adoption within farming communities.
- **Revenue Model:** the revenue generation strategy is structured around two key streams:
    - **Direct End-User Subscription Model:** monthly fees will be charged to end users (farmers, foresters, landowners…), ensuring continuous revenue flow based on active usage.
    - **Partner Licensing Model:** business partners (large-scale aggrotech companies and software providers) will be charged annual fees based on the number of DSS instances they deploy, incentivizing long-term partnerships and scalable growth.

### 4.4.5. KER5: Carbon sequestration tool - EULS

**Target Users:** Foresters and landowners, policymakers, students at the academia to train their skills in carbon accounting and forest growth formation and private companies who manage carbon credit trading platforms.

**Solution Provided:** Carbon calculator is an open-access web platform for decision-making to choose the best combination of afforestation strategy to offset $CO_2$ and enter to the voluntary carbon credit market. Voluntary carbon credit markets by afforestation is one of the fastest growing businesses in land-use and forestry sector to reduce greenhouse gas emissions and increase incomes in rural areas. Carbon calculator is based on the growth and yield models from extensive network of experimental areas and provides updated state-of-art yield functions to estimate $CO_2$ uptake. The carbon calculator will be in advanced developed for Northern Europe (based on the Estonian pilot) and cover three other European regions based on the main species for afforestation (Spain, Slovenia and Bulgaria). Carbon calculator offers different combinations of tree species, planting density and soil type to predict carbon sequestration over the rotation cycle. This provides the best combination for the landowner to choose tree species for the given soil type to maximise carbon uptake and profitability before joining a commercial carbon credit platform for trading. In addition, carbon calculator predicts forest management operations and their contribution to carbon sequestration during the rotation cycle. Carbon calculator provides language support in Estonian and English.

**Key Innovation:** The Carbon Calculator is an innovative open-access tool which integrates state-of-the-art yield functions and real-time financial estimations, allowing users to determine the most profitable and climate-effective afforestation approach. Unlike commercial alternatives that require subscriptions and personal data, this tool provides an anonymous and accessible decision-making platform. By offering insights into forest growth, carbon stock, and economic viability—including profitability from both traditional wood markets and carbon credits—it supports policymakers, academia, and trading platforms in promoting sustainable forestry management. Its adaptability for various regions and tree species ensures a broad impact in fostering low-carbon, high-yield afforestation solutions.

**Positioning:** Existing tools are mostly private-sector initiatives that require sharing the personal information of the end user. While commercial trading platforms require subscription and private information, the carbon calculator allows one to make anonymous inquiries about the best combination for afforestation and provides the output in open access for decision-making.

**Exploitation Strategy:**

- **Open-access platform:** Provide free anonymous access to all functionalities.
- **Integration with $CO_2$ Markets:** Flexibility to adjust carbon pricing of the market. Offer dynamic carbon pricing integration, allowing users to calculate and estimate carbon credits based on current market prices. Provide flexibility for users to choose between different carbon markets or regions.
- **Knowledge transfer & Training:** Decision-making tool to optimise investments and train students. Equip users with the tools and knowledge needed to optimize their carbon footprint management and make informed investment decisions.
- **Strategic Public-Private Partnerships:** Collaborate with forest enterprises, individual owners, agencies, landowners' associations, carbon credit brokers and government sustainability programs to enhance the tool’s reach, credibility and effectiveness.
- **Post-Project Sustainability:** After ECOLOOP ends, the tool stays an open-access platform by academia. Create partnerships with industry and government that can provide long-term support in the form of research, data updates and funding for further tool enhancements.

### 4.4.6. KER6: Economic and social support for farmers' and foresters' engagement as prosumers of renewable energy – IRI UL, AVA-ASAJA, TRU

**Target Users:** Policymakers, municipalities, agricultural communities.

**Solution Provided:** The KER6 provides a model for local agro-energy communities using different biomass types, which supports joint investments in biomethane, electricity, and heat production. This solution enables farmers and foresters to participate actively in renewable energy production while maintaining their primary agricultural activities.

This solution specifically focuses on community-based approaches, recognising that collective action can overcome barriers that individual farmers or foresters might face when attempting to engage with renewable energy production. The joint investment model allows for the sharing of costs, risks, and benefits among community members.

**Key Innovation:** As part of the ECOLOOP project, an interactive real-time model will be developed to demonstrate the utilization of various biomass feedstocks for biomethane, electricity, and thermal energy production. This innovative tool will provide a dynamic visualization of circular and sustainable bioeconomy processes, making them accessible and understandable to a broad audience. The system enables farmers and other contributors to calculate the value of their biomass waste based on real-time yield data, ensuring fair compensation and transparency in feedstock contribution. This innovative approach enhances stakeholder engagement, supports fair resource distribution, and strengthens the circular bioeconomy by integrating real-time data, visualization, and financial assessment into one comprehensive platform.

The second key innovation focuses on policy and financial frameworks specifically designed for community-based biogas facilities:

- Identification of relevant policy instruments that can support community bioenergy initiatives
- Financial models tailored to the needs and constraints of agricultural communities
- Guidance on accessing funding and investment opportunities

- Frameworks for equitable distribution of costs and benefits among community members

This innovation addresses a critical barrier to the development of agricultural bioenergy systems: the lack of suitable policy and financial mechanisms that recognise and support the unique position of farmers and foresters as potential energy prosumers.

**Positioning:** While there may be some general renewable energy planning tools or agricultural support mechanisms available, none combine the specific focus on:

- Agricultural and forestry communities.
- Community-based energy production.
- Multiple biomass conversion pathways.
- Integrated policy and financial support.

**Exploitation Strategy:**

- **Public-Private Partnerships:** A key element of the exploitation strategy is to engage with policymakers to integrate the model into investments in bioenergy projects. This will involve developing collaborative relationships between public sector entities (municipalities, regional governments) and private agricultural stakeholders.
- **Knowledge Transfer & Training:** The exploitation strategy includes conducting workshops and knowledge-sharing programs for farmers and local authorities. This component recognises that successful implementation requires building capacity among all stakeholders.
- **Post-Project Sustainability:** After ECOLOOP ends, the exploitation strategy includes transferring ongoing management to an entity specialising in financial instruments and policy making. This transfer will ensure that the model continues to generate value beyond the project timeframe, supporting the broader transition to renewable energy in the agricultural sector and contributing to both economic development and environmental sustainability in rural areas.

# 4.5. IPR Management

The management of Intellectual Property Rights (IPRs) is strictly ruled by the Consortium Agreement (CA), which includes all provisions related to the management of IPR, including ownership, protection and publication of knowledge, access rights to knowledge and pre-existing know-how as well as questions of confidentiality, liability and dispute settlement.

ECOLOOP will follow the rules for IPR set out by the European Commission (EC), specifically:

- **IPR background (confidential)**

  “Background” i.e. partners’ pre-existing know-how, while remaining the sole property of their owners, will be made available to other partners when needed for the project implementation.

- **IPR foreground (confidential)**

  “Foreground" means the results, data, information, whether or not they can be protected, which are generated under the project.

ECOLOOP aims to stimulate innovation while protecting partners' IPRs. Each partner will treat information from other partners as confidential and not disclose it to third parties unless the information is publicly available.

Knowledge is owned by the partners who carried out the work generating the knowledge, or on whose behalf such work was carried out. Partners grant to each of the other partners free access to knowledge generated in the project to the extent needed to successfully perform the project.

ECOLOOP initiated a process regarding co-ownership of knowledge in the form of exploitation sessions where such issues were discussed and stated in the EP that will be updated several times.

## 4.6. Exploitation Activities Risks Assessment

The risk analysis for the project exploitation activities identifies six main risks that could impact the ECOLOOP project's success as presented in the table below (Table 14). The probability and impact of these risks vary, with most categorized as “low” or “moderate”. The most significant risks are "Regulatory framework conditions not favourable" and "Low market uptake due to lack of interest, high competition, or market saturation," both rated as moderate risks due to their potential financial and market implications. Other risks, such as intellectual property (IPR) issues, data protection concerns, and ethical compliance, are rated as low as they have a lower impact on the project’s technical performance, costs and schedule.

The analysis highlights that the project is generally well-prepared to handle these risks, as each identified issue has a corresponding contingency plan. Proactive measures, including market research, regulatory analysis, and flexible business strategies, are in place to minimize potential negative impacts. However, continuous monitoring is essential, particularly for regulatory and market adoption risks, to ensure early detection and effective mitigation.

*Table 14 – Exploitation Risk Assessment.*

| | Nº Risk | Description | Type | Responsible | Probability | Technical Impact | Schedule Impact | Cost Impact | Impact on other teams | Risk Assessment | Contingency Plan |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WP8 exploitation activities | WP8-1 | Regulatory framework conditions not favourable. | Financial | ETRA | 3 | 2 | 1 | 1 | 2 | MODERATE | An extensive analysis of the existing regulatory conditions will be part of the project and a document for policy makers with recommendations will be done after that. |
| | WP8-2 | Unsuccessful exploitation strategy in terms of attracting the relevant stakeholders | Financial | ETRA | 2 | 1 | 1 | 2 | 2 | LOW | A detailed analysis of the market and the products developed will be done during the project to detect gaps in the market to be covered by the project. |
| | WP8-3 | Lack of cooperation of the project partners due to IPR issues. | Financial | ETRA | 2 | 2 | 2 | 2 | 1 | LOW | Possible IPR issues have been discussed among the partners already in the proposal phase and IPR and access right clauses will be included in the |

| | | | | | | | | | | | |
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| | | | | | | | | | | | CA which will be signed before the project starts to avoid future disputes. |
| | WP8-4 | Insufficient protection of personal data managed during the project demonstrations. | Financial | ETRA | 1 | 1 | 1 | 1 | 1 | LOW | Specific procedures are defined to collect, storage, protect, retain and destruct sensitive and confidential personal information from participants of the project demonstrations. |
| | WP8-5 | The project contravenes ethical principles or applicable legislation. | Financial | ETRA | 1 | 1 | 1 | 1 | 1 | LOW | There are specific tasks to ensure the compliance with the ethics and legal requirements during the project. |
| | WP8-6 | Low market uptake due to lack of interest, high competition or market saturation | Financial | ETRA | 2 | 2 | 2 | 3 | 3 | MODERATE | Offer flexible business models and establish partnerships with key stakeholders and early adopters to drive acceptance |

# 5. Conclusions and next steps

The Consortium is effectively following the D8.1 Dissemination, Exploitation, and Communication Plan (DECP) to ensure structured and impactful dissemination. This includes strict adherence to the publication procedure. As a result, the key performance indicators (KPIs) outlined in D8.1 are progressing well.

Key messages have been successfully delivered to various target audiences through multiple communication channels. To support these efforts, all dissemination materials, including brochures, roll-ups, posters, templates, presentations, visuals, and videos, have been designed and updated to reflect project developments.

The project website serves as a central hub of information, attracting 537 visitors and generating 1,900 page views. A total of 19 posts have been published, with the most visited sections being Home, The Project, News and Events, Dissemination Materials, Library, and Newsletters. Over 370 documents have been downloaded from the site.

Social media platforms play a crucial role in extending the project's outreach. ECOLOOP maintains active accounts on X, LinkedIn, and YouTube, engaging with a diverse audience:

- LinkedIn: 319 followers, 55 posts, 29,686 impressions, and 966 total reactions.
- X (Twitter): 6,186 impressions, 100 posts, 68 followers, 108 reposts, and 212 likes.
- YouTube: 4 videos, 295 views, and 12 subscribers.

Partners took part in 17 events, including 3 organized by ECOLOOP partners, 4 exhibitions, 15 pitches, and 6 focused on networking with related projects or initiatives. This highlights a strong dedication to collaboration, knowledge sharing, and building connections both within the community and with external stakeholders.

To introduce ECOLOOP to key target audiences, two press releases were issued at the project’s launch. Additionally, ECOLOOP has been featured in five specialized news articles—two in Spanish and three in Slovenian—covering topics related to energy, sustainability, and innovation.

The ECOLOOP newsletter has gained over 70 subscribers, with two editions published so far, achieving an average click rate of 54.5% per unique opens. Furthermore, six scientific publications have been made available in open access.

During this period, eight public deliverables were submitted, four of which are available on the website and have been downloaded 37 times. Two online campaigns were conducted, generating a total of 7,642 impressions and 698 reactions.

ECOLOOP has actively engaged in cluster activities, collaborating with five projects (bioSOILUTIONS, OpenMod4Africa, PYRAGRAF, and FUELPHORIA) and one initiative (ENLIT on the Road). This partnership has resulted in two major dissemination actions: a co-organized workshop and a site visit in Valencia, documented in a filmed report.

An online campaign was launched to celebrate Women in Science Day, highlighting interviews with female colleagues under the theme of Women in Energy.

The deliverable presents the first version of the exploitation and commercialisation activities report, which will be updated in M30 and M48. Six key exploitable results have been identified by the partners and are presented in this deliverable that outlines the underlying exploitation strategy, which will be followed throughout the project and describes the activities taken so far, including the Decision Support Tool, Carbon Sequestration Tool, Bioproducts for Soil Health and Biogas Production Optimization among others. Four overarching objectives are set within the strategy: identification of KERs, market analysis, business model creation, and commercialisation strategy. These key pillars will be addressed subsequently throughout the project duration of ECOLOOP.

The KERs of the project has already been identified and presented in this deliverable. Also, their key innovation has been pointed out to emphasize the market opportunities of the proposed KERs which has been done as part of a market overview. The exploitation strategy for the ECOLOOP project KERs is designed to maximize impact, prepare solutions for industrial adoption and ensure financial and market sustainability. The plan incorporates market analysis, value chain assessments and financial models to define target users, competitive positioning and revenue streams. Strategies for commercialization include licensing, partnerships, public-private collaborations and SaaS models for key tools.

Furthermore, the report highlights potential risks such as regulatory challenges and market adoption barriers with mitigation strategies in place.

Over the past months, the execution of the Engagement Plan has been significantly affected by external circumstances, particularly the severe floods caused by the DANA in Valencia (Spain) the past October 2024, which had a major impact on Valencia's agricultural sector. Consequently, the planned engagement activities by AVA-ASAJA had to be postponed, as all the efforts were redirected towards urgent support for affected farmers. Despite all the challenges, several important outcomes have been achieved:

- Revised Engagement Timeline: Due to the necessary shift in priorities, the engagement activities initially planned for Phase I and Phase II (M1–M18) will now take place from April 2025 (M19) up till March 2026 (M30), ensuring that the intended outreach and engagement objectives are fully met.
- Lessons for Future Crisis Management**:** The experience reinforced the importance of integrating resilience and crisis response mechanisms into engagement strategies, ensuring that future initiatives can be better anticipate and address external disruptions.

To achieve and successfully complete the targets outlined in D8.1 by the second period (M30), a comprehensive communication/dissemination action plan with specific actions has been defined as follows:

- Publish Newsletter #3 in M22 and Newsletter #4 in M27.
- Run two online campaigns to promote innovations and pilot sites in M24-M29.
- Issue two press releases on the status of the EBENTO project before M30.
- Co-organize a joint activity with a related project.
- Organize two ECOLOOP talks by M30.
- Publish at least two new scientific publications.
- Launch second Women in Energy promotion actions by M30.
- Produce videos presenting the pilot sites and tools.
- Produce first demo videos showcasing ECOLOOP tools.
- Participate in at least five additional events by M30.
- Increase the number of publications across communication channels.

The next steps for the exploitation and commercialisation strategy are the following: until the next version of this report (M30) several exploitation workshops will be held to get a clear picture of the market positioning of each KER. Here, International Advisory Board meetings will play a viable role, providing feedback on market gaps and opportunities. In a more mature phase of the project, the creation of a detailed business plan will start for each KER. This and an appropriate commercialization strategy thereof will be finalised in the third version of this report in M48.

In terms of engagement activities, as the project continues to move forward, its focus on strategic engagement and collaboration will remain crucial. Therefore, at least the following activity is expected to be develop up to M30:

-3 Articles of educational and dissemination information in specialised magazines AVA-ASAJA (M21), ASAJA national (M26), AGRONATURA (M27).

-1 Infographics design and other explicative material to disseminate (M20-M25).

-3 Press release Levante (M19), Agronegocios (M25) and Valencia Plaza (M29).

-1 Video on YouTube with information about the benefits of RES in rural areas and the agriculture (M26).

-1 Interview with end-user, ideally a farmer, already using RES in their own farm, with an expert in RES contribution. (M27)

-1 survey distributed among WhatsApp channels and communities of farmers, to gather acceptance on RES implementation. (M24).

-3 Presentation of ECOLOOP in farmers events organised by AVA-ASAJA, ASAJA national and COPA-COGECA (TBC).

-1 On-site demonstration and workshop in the Spanish pilot inviting farmers, industry experts and finance institutions.

-1 Assessment Report on the first-year engagement strategy.

At the end of the fist-year engagement strategy implementation, a second enriched version of the plan with be drafted, considering the data obtained from the first assessment report.

# 6. References and acronyms

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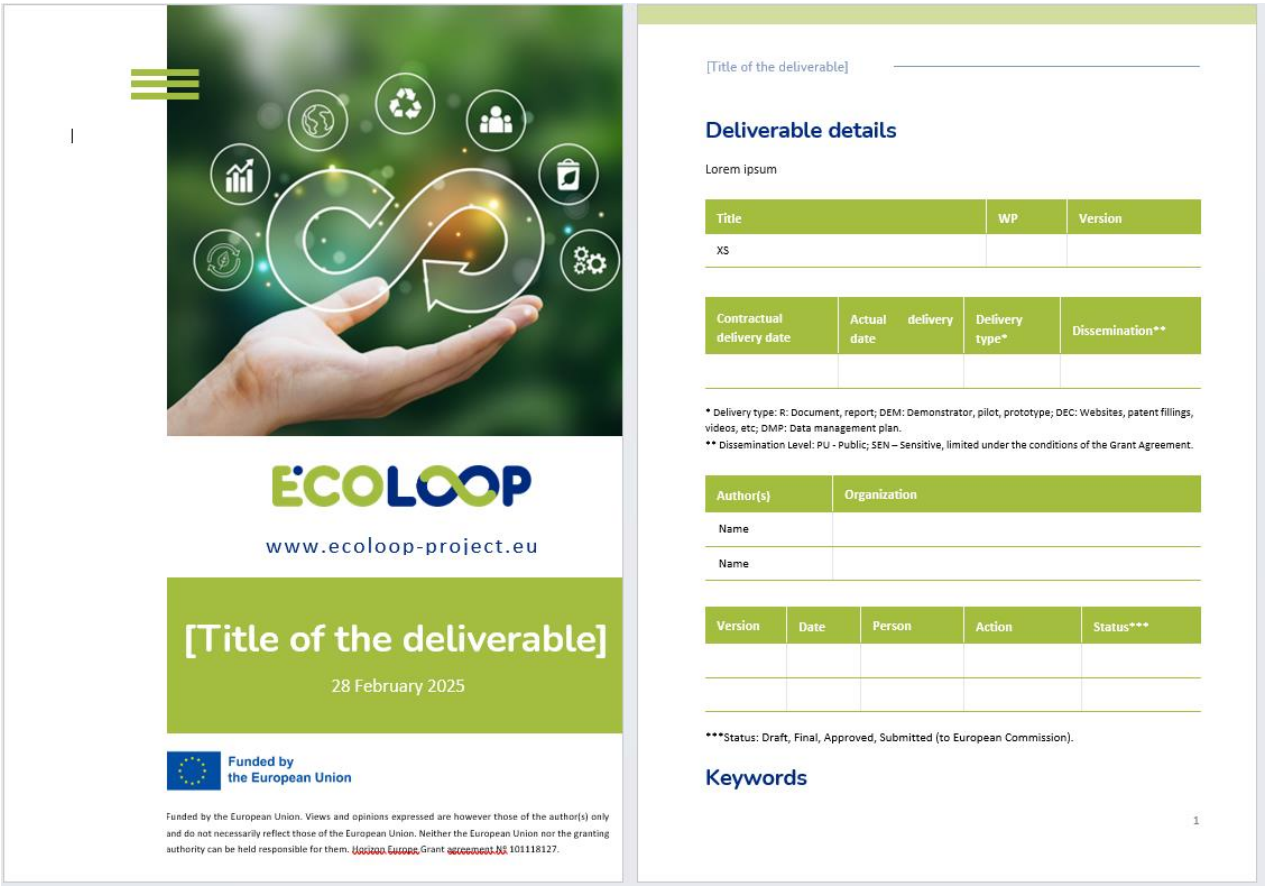
## 6.2.Acronyms

| | |
|---|---|
| ALBENA | ALBENA AD |
| AVA-ASAJA | ASOCIACION VALENCIANA DE AGRICULTORES |
| BIOMASA | BIOMASA DRUZBA ZA TRGOVINO SERVIS IN MONTAZO KOTLOV NA BIOMASO DOO |
| CA | Consortium Agreement |
| CC BY | Creative Commons Attribution |
| CC BY-NC | Creative Commons Attribution Non-Commercial |
| CC BY-ND | Creative Commons Attribution NoDerivs |
| CINEA | European Climate, Infrastructure and Environment Executive Agency |
| D | Deliverable |
| D&E | Dissemination and Exploitation |
| DoA | Description of Action |
| DCOM | Dissemination and Communication Manager |
| DECP | Dissemination, Communication and Exploitation of Results |
| DSOs | Distribution System Operators |
| EC | European Commission |

| | |
|---|---|
| ETRA | ETRA INVESTIGACION Y DESARROLLO SA |
| EU | European Union |
| EULS | EESTI MAAULIKOOL |
| FERTINAGRO | FERTINAGRO BIOTECH SL |
| FIBENOL | Fibenol Imavere OÜ |
| GENIA | GENIA BIOENERGY SL |
| HRB | Horizon Results Booster |
| INDEREN | INGENIERIA Y DESARROLLOS RENOVABLES SOCIEDAD LIMITADA |
| IoT | Internet of Things |
| IPR | Intellectual Property Rights |
| IRI UL | Inovacijsko-razvojni institut Univerze v Ljubljani |
| KER | Key Exploitable Result |
| KIS | KMETIJSKI INSTITUT SLOVENIJE - AGRICULTURAL INSTITUTE OF SLOVENIA |
| KPIs | Key Performance Indicators |
| M | Month |
| NA | Not Available |
| PM | Project Manager |
| PV | Photovoltaic |
| R&I | Research and Innovation |
| RES | Renewable Energy Sources |
| SaaS | Software as a Service |
| SETUP | KOLEKTOR SETUP, STORITVE ENERGETSKEGA UPRAVLJANJA, D.O.O. |
| SSERR | Support Services for Exploitation of Research Results |
| STEM | Science, Technology, Engineering and Mathematics |
| TRU | TRAKIYSKI UNIVERSITET |
| UPV | UNIVERSITAT POLITECNICA DE VALENCIA |
| WGs | Working Groups |

*Table 15 – List of acronyms.*

# 7. Annex 1 – Word and Power Point templates



www.ecoloop-project.eu

[Title of the deliverable]

28 February 2025

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## Deliverable details

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* Delivery type: R: Document, report; DEM: Demonstrator, pilot, prototype; DEC: Websites, patent fillings, videos, etc; DMP: Data management plan.
** Dissemination Level: PU - Public; SEN – Sensitive, limited under the conditions of the Grant Agreement.

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## Keywords

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## Index











## List of figures



## List of tables

## Executive Summary

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## Copyright statement

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## PLENARY MEETING

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## WPX: XXX

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Optimization of renewable energy sources combination in rural areas to create positive effects in air quality, biodiversity and soil health.

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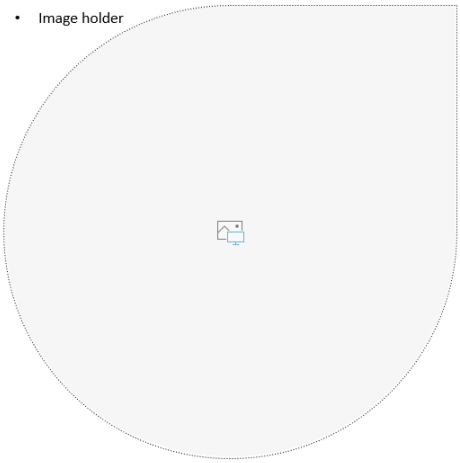

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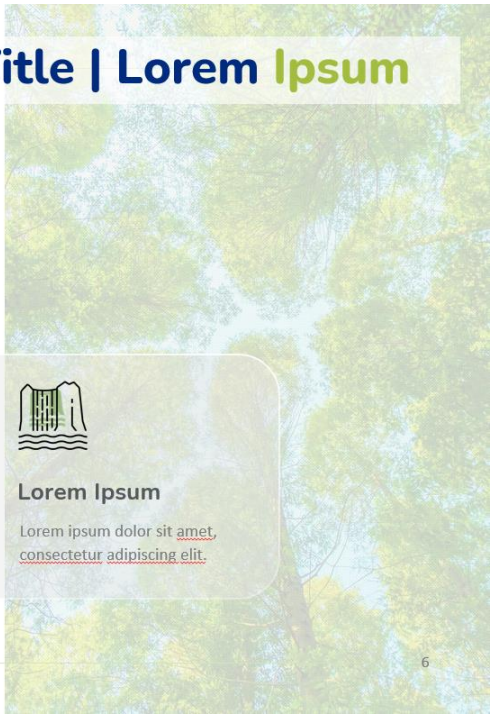

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## Title | Lorem Ipsum

### Lorem Ipsum

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**SPAIN**

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**BULGARIA**

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# Title | Lorem Ipsum

| Listed Table One | Listed Table Two | Listed Table Three | Listed Table Four |
|---|---|---|---|
| 01 Type Your Best Point Here | 01 Type Your Best Point Here | 01 Type Your Best Point Here | 01 Type Your Best Point Here |
| 02 Type Your Best Point Here | 02 Type Your Best Point Here | 02 Type Your Best Point Here | 02 Type Your Best Point Here |
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| 04 Type Your Best Point Here | 04 Type Your Best Point Here | 04 Type Your Best Point Here | 04 Type Your Best Point Here |

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# Thank You!

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# 8. Annex 2 – Business Plan Structure Templates

## KER form

| KER Form for the Decision Support Tool | |
|---|---|
| **Problem** | *Describe the problem you are addressing (the problem your potential users have). Potential users are the people, companies, organisations, etc. that you expect will use the result (and generate an impact). They are your "Customers".* |
| **Alternative solution** | *Describe how your "customer" has solved the problem so far.* |
| **Unique Selling Point USP -** | *Describe the competitive advantages, the innovative aspects. What does your solution do better, what are the benefits considering what your user wants, how does your solution solve his/her problem better than alternative solutions, what distinguishes the KER from the competition / current solutions?* |

| | |
|---|---|
| **Unique Value Proposition UVP** | |
| **Description** | *Describe in a few lines your result and/or solution (i.e. product, service, process, standard, course, policy recommendation, publication, etc.). Use simple wording, avoid acronyms, make sure you explain how your UVP is delivered.* |
| **"Market" – *Target market*** | *Describe the market in which your product/service will be used/can "compete", answering the following questions:*<br>*- What is the target market?*<br>*- Who are the customer segments?* |
| **"Market" – *Early Adopters*** | *Early adopters are the "customer you are willing to address first. They are usually the ones that feel the problem harder than all the others. (they are not the project partners).* |
| **"Market" - Size** | *What is the market size for your solution?*<br>*What is the percentage of that market you will be targeting?* |
| **"Market" - Trends** | What are the market trends related to your solution? |
| **Settings – Acceptance** | *What is the public acceptance?*<br>*What is the social impact?*<br>*What is the environmental impact?*<br>*What is the economic impact?* |
| **Settings – Legal and regulatory aspects** | *What are the legal requirements?*<br>*What are the normative requirements?*<br>*What are the ethical requirements?* |
| **Go to Market – Use model** | *Explain what is your "use model", how the KER will be put in use (made available to "customers" to generate an impact). Examples of use models: manufacturing of a new product, provision of a service, direct industrial use, technology transfer, license agreement, contract research, publications, standards, etc.*<br>*Note training is a service.* |

| | |
|---|---|
| **"Market" – Competitors** | *Who are your "competitors" (note: they are the ones offering "alternative solutions")? What are their strengths and weaknesses comparing to you?* |
| **Go to Market – IPR Background** | *What is the Background (type/ partner)?* |
| **Go to Market – IPR Foreground** | *What is the Foreground (type/ partner)?* |
| **Go to Market – Timing** | *What is the time to market?* |
| **Go to Market - Channels** | *How will you reach the Early Adopters?* |
| **Go to Market - Pricing** | *What will be the eventual price of the solution? Estimation of price / unit and number of units sold to reach breakeven point (cover costs).* |
| **The Team** | *Describe the team responsible for making sure the result is used (responsible to implement the exploitation plan) include, if possible, names and qualifications of the team members.* |
| **The Team – External providers** | *If you need to integrate your "team, whom do you need (new) external partners? Which type of external providers?* |

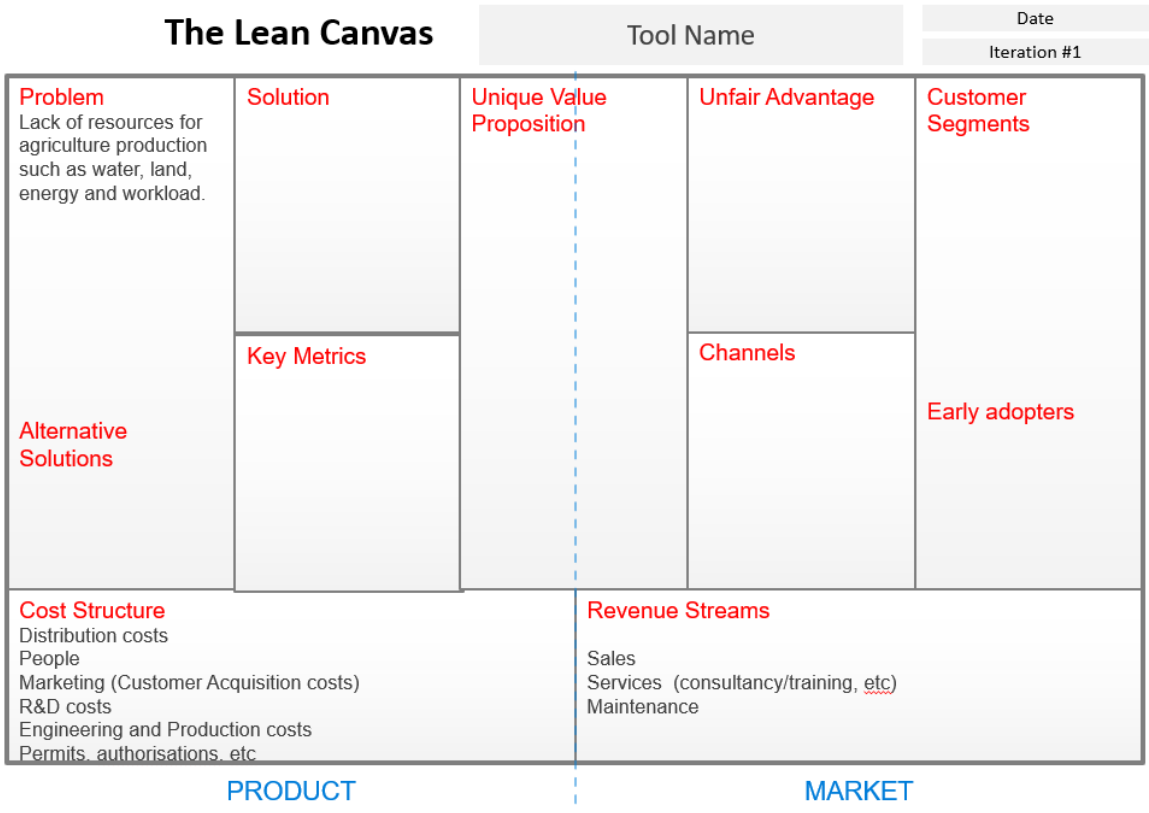
## Exploitation Roadmap

| **Exploitation Roadmap for KER Name** | |
|---|---|
| **Actions** | *Briefly describe actions planned to be executed 3-6 months after the end of the project.* |
| **Roles** | *Roles of partners involved in the actions defined above.* |

| | |
|---|---|
| **Milestones** | *List the milestones and KPIs to be used for monitoring the implementation of the actions listed above. Add timeline.* |
| **Financials Costs** | *Cost estimation to implement planned activities (1 year, 3 years).* |
| **Revenues** | *Projected revenues and eventual profits once the KER will be used (1 and 3 years after use).* |
| **Other sources of coverage** | *Resources needed to bridge the investment needed to increase TRL and ensure the result is used.* |
| **Impact in 3-year time** | *Describe impact in terms of growth/benefits for the society.* |

## Lean Canvas Template

Lean Canvas is adapted from "The Business Model Canvas" [16] and is licensed under the Creative Commons Attribution-Share Alike 3.0 Un-ported License.



# Value Proposition Canvas Template

## The Value Proposition Canvas

*Customer Segment: The first step is to select the customer segment that can benefit the most from your solution. Focus only on one customer segment at the time (each customer has its own specific needs and problems to be solved).*