UNLOCKING THE BIOGAS POTENTIAL
OF LIVESTOCK FARMING

D3.2

Report on Deployment of ALFA Support Measures – First Round

APRE

30 / 09 / 2024

Funded by
the European Union

PROJECT INFORMATION

PROGRAMME	Horizon Europe
TOPIC	HORIZON-CL5-2021-D3-02-03
TYPE OF ACTION	HORIZON Coordination and Support Actions
PROJECT NUMBER	101075659
START DAY	1 November 2022
DURATION	36 months

DOCUMENT INFORMATION

TITLE	D3.2 Report on deployment of ALFA Support Measures – First Round
WORK PACKAGE	WP3
TASK	T3.2, T3.3, T3.4, T3.5
AUTHORS (Organisation)	APRE, Q-PLAN, FBCD, CERTH, SIE, PEDAL.
REVIEWERS	Q-PLAN, SIE
DATE	30/09/2024

DISSEMINATION LEVEL

PU	Public, fully open	x
SEN	Sensitive, limited under the conditions of the Grant Agreement	
Classified R-UE/EU-R	EU RESTRICTED under the Commission Decision No2015/444	
Classified C-UE/EU-C	EU CONFIDENTIAL under the Commission Decision No2015/444	
Classified S-UE/EU-S	EU SECRET under the Commission Decision No2015/444	

DOCUMENT HISTORY

VERSION	DATE	CHANGES	RESPONSIBLE PARTNER
v0.1	19/06/2024	Table of content	APRE
v0.2	09/08/2024	Contribution from partners	Konstas I., Balla C., Efraimidis G., (Q-PLAN), Facci E. (A0CO2), Druskova S. (PEDAL), Sebastiani C., Matilla D. (SIE), Stockler M. (FBCD), Mpotsi G. (CERTH)
v0.3	06/09/2024	First draft	APRE
v0.4	18/09/2024	Review	SIE
v0.5	18/09/2024	Review	Q-PLAN
v1.0	30/09/2024	Addressing comments and final version	APRE

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS

APRE	Agenzia per la Promozione della Ricerca Europea
A0CO2	AZZERO CO2 Srl
ARC(s)	Awareness Raising Campaign
BE	Belgium
CAPEX	Capital Expenditure
CERTH	The Centre for Research & Technology, Hellas
DK	Denmark
DoA	Description of the Action
DST	Decision Support Tool
EBA	European Biogas Association
EDF	European Dairy Farmers
EL	Greece
ES	Spain
ESG	Environmental, Social, Governance
FBCD	Food & Bio Cluster Denmark
IT	Italy
KPI	Key Performance Indicator
NPV	Net Present Value
OPEX	Operational Expenditure
PEDAL	PEDAL Consulting Sro
PESTLE	Political, Economic, Sociological, Technological, Legal and Environmental
Q-PLAN	Q-PLAN International Advisors PC
RES	Renewable Energy Systems

ROI	Return on Investment
SIE	Sustainable Innovations Europe
SK	Slovakia
T	Task
WR	White Research

Executive Summary

The ALFA project aims at enhancing the participation of livestock farming stakeholders in the promotion and adoption of biogas solutions through replicable support strategies that have been tested and validated in six European countries (Belgium, Denmark, Greece, Italy, Slovakia, and Spain). The significant disparities that exist among the local livestock/biogas markets across Europe require the implementation of customized, adaptable solutions, rather than a one-size-fits-all approach, to effectively support the widespread adoption of biogas solutions through increased engagement of livestock farmers. To address these challenges and respond effectively to differences in socioeconomic conditions the ALFA methodology integrates an iterative development of Market Uptake Support Measures in two rounds. This report describes the **deployment of the 1st round** of the activities. This approach allows for flexible support measures tailored to the specific circumstances and frameworks of each target market, that can be adjusted in the 2nd round according to the gathered feedback.

This report, ***D3.2 – Report on deployment of ALFA support measures – First Round***, describes all the actions undertaken by the ALFA consortium for the deployment of the support services, capacity building and awareness raising campaigns during the first round of deployment and the progress against the targets set for these by the ALFA project. In brief the major activities and the

- **Hands-on market uptake support services** (business and technical services) to help stakeholders navigate the complexities of the biogas market, by offering tailored guidance in areas such as market research, business planning, access to finance, and technical development. In the 1st round **25 projects were supported from seven countries**, out of 37 applicants (target of 50 after two rounds of support)
- **Capacity building activities** developed in the ALFA project such as international webinars, developed to attract an international audience from the livestock industry, and in English, and Onsite Seminars with a regional scope, organised by every hub locally. To date **two Seminars** and **one Webinar** were organised (target of at least six Seminars and six Webinars after two rounds)
- **Regional Awareness Raising Campaigns** aimed at creating awareness and knowledge about biogas among key stakeholders, to maximise the impact, the visibility and the main messages of the ALFA project. In the 1st round **six ARCs were deployed** tailored to each of the regional Hub needs and particularities (target of 12 ARCs in the six countries after two rounds).

ALFA project's market uptake support measures organised under T3.2 (business and financial support), T3.3 (technical support), T3.4 (capacity building) and T3.5 (awareness raising) will be continued in the 2nd round expected to be launched in **Autumn 2024**.

1. Introduction

ALFA project

The ALFA project aims to tackle the untapped potential of **biogas production from livestock farming** to **enhance** the adoption of **renewable energy sources** (RES) and increase the share of bioenergy as a reliable energy source. As a catalyst for biogas development in Europe, ALFA wants to providing demand-driven **business and technical support** to over 50 livestock farmers and other biogas projects in six EU countries during the project lifespan. To facilitate the implementation of ALFA activities, six Hubs have been strategically established in the six project countries (Belgium, Denmark, Greece, Italy, Slovakia and Spain). These local hubs serve as **focal points** in all the six regions, acting as coordination centres for the execution of project initiatives. Each ALFA hub is strictly linked to the **local community, leveraging existing networks and engaging stakeholders,** to ensure the effective delivery of tailored support measures. The support measures have been outlined and deployed through the following project tasks:

- Providing two rounds of business and technical services through the launch of an open call. (T3.2, T3.3)
- Boosting knowledge about biogas by implementing **capacity-building activities** (international and regional webinars, in-person seminars) (T3.4)
- Carrying out two rounds of **awareness raising campaigns** promoting the benefits of biogas solutions. The campaign was organised in six different versions one for each regional hubs, tailoring the activities to meet specific local needs. (T3.5)

Strategic Approach used in the implementation of the activities:

1. Service Provision:

Phased and Iterative Approach: The service provision process is designed in multiple phases, beginning with an **open call**, to engage interesting projects to be supported, followed by a **needs assessment**, **service pairing,** and the **provision** of technical and business services. This approach allows tailored support based on specific project requirements.

Regional Hubs and Localized Implementation: The six regional hubs ensure that services are locally relevant and responsive to each country's unique livestock market conditions. Each hub manager is responsible for mapping the relevant stakeholders to provide tailored support based on the regional market needs.

Demand-Driven Services: The services offered, including business and technical support, are tailored to the demand-driven needs of the selected projects. The project team conducts **an in-depth needs assessment** to identify specific challenges, followed by customized service offerings from a portfolio of options.

Evaluation and Feedback Loop: After the 1st round of service provisions, reports are drafted where to gather information about the experience, to be send back to the awardees for review and a two-sided evaluation is conducted This continuous learning process feeds adjustments for the 2nd round of service delivery, enhancing effectiveness.

2. Capacity-Building Strategy:

Specialized Seminars and Webinars targeted to the stakeholders: The ALFA project conducts **targeted seminars and webinars** for capacity-building, in order to increase livestock farmers' knowledge of biogas systems, CO2 reduction, and financial opportunities for sustainable farming.

3. Awareness Raising Strategy:

Targeted Awareness Raising Campaign are customized for each regional context to improve societal acceptance of biogas facilities. The campaigns are **tailored** to address local cultural, environmental, and economic concerns and aim **to boost social acceptance** of biogas systems **.**

Monitoring and Evaluation for Awareness: The ALFA project implements a monitoring framework to evaluate the impact of awareness-raising efforts. Pre-ARCs questionnaires were set to assess and measure baseline. Post ARCs questionnaires (after the 2nd round) will be set to adapt strategies, as well as replicate successful methods in other regions.

4. Overall Strategic Focus applied to the project´s activities:

Scalable and Replicable Models: All strategies are designed with scalability in mind, ensuring that the results of the project can be replicated across various European regions. The goal is to demonstrate the widespread applicability of biogas solutions.

Holistic Engagement: The combination of the different support measures, the support services, the capacity-building activities, and the ARCs were designed to be combined and run simultaneously, as to ensure a full maximization of the impact.

Evaluation and Feedback Loop: This iterative strategy has been applied through the whole project´s actions. After the 1st round of service provisions, reports are drafted where to gather information about the experience, to be send back to the awardees for review and a two-sided evaluation is conducted This continuous learning process feeds adjustments for the 2nd round of service delivery, enhancing effectiveness.

Description of the Report

The objective of this report, D3.2 – ALFA Deployment of ALFA support measures – is describing all the actions performed in the 1st round and the results achieved by the ALFA consortium. In order to promote the development of biogas across Europe ALFA project deployed a set of support measures, such **business and technical services, capacity-building activities** and **awareness raising campaigns**. These initiatives are designed to engage and educate a wide range of stakeholders, including farmers, policymakers, researchers, and the general public, with the goal of enhancing the understanding and acceptance of biogas as a sustainable energy source. This report provides indeed an overview of all the activities carried out across the six different hubs, delving into the specifics of each country, highlighting the integrated and customized approach of the ALFA project in supporting the knowledge about biogas and the transition towards a circular economy.
The wide range of business and technical services, provided to livestock farmers through an open call, are carefully described one by one in the 2nd section of this report, describing and highlighting the need of each farmer and how the ALFA project has taken care of providing the specific service to satisfy the specific need.
The support measures include also Capacity Building Activities such as international webinars, in-person seminars to enhance the knowledge about biogas to a broader audience and upskill the project stakeholders.

Moreover, a setting up of an awareness raising campaigns, running parallel to the above-mentioned activities, was deployed in six different versions tailored to the six countries in the ALFA project. The campaign was organized in different versions for the regional hubs, each of which tailors its activities to meet specific local needs. This report provides an overview of the activities carried out across the different countries, listing in detail which awareness raising activity has been performed in which country.
Summarizing, as described in the DOA, the deliverable *includes all the actions undertaken for the implementation of the support actions described in the deployment of the following tasks and during the 1st Round and their progress towards the project's targets*:

- **Task 3.2**: Deployment of business and financial support services Leader: FBCD
- **Task 3.3**: Deployment of technical support services Leader: CERTH
- **Task 3.4**: Organisation of capacity building activities to facilitate the uptake of biogas in practice Leader: SIE
- **Task 3.5**: Raising awareness campaigns to build acceptance and break down misconceptions Leader: APRE

The ALFA project aims at achieving several **key results** through the project activities in the above-mentioned tasks:

- **Enhanced business and technical capacity** through the Capacity-building activities and supporting measures: Selected farmers are targeted to receive tailored financial, business, and technical support services, alongside several dedicated seminars, to enhance their biogas-related knowledge and skills.

- **Improving societal acceptance** of the stakeholders: through well-designed awareness-raising campaigns, the project aims to increase the acceptance of biogas facilities among citizens This is being assessed by questionnaires distributed **before** and **after the first and second** running of the ARCs.

- **Scalability and replicability**: The project's initiatives are deployed through national hubs operating in six diverse countries, ensuring that results are applicable in various settings, in terms of framework conditions, type of livestock farming, biogas solutions, target biogas value chain, geographic location, etc. and thus they can be replicated widely for reaching a maximum impact.

In brief the progress related to the set targets was the following:

- **Farms and projects supported in the first round: 25** (50 by the end of the two rounds of which 8-9 / per country)
- **Capacity building webinars / seminars: 1 / 2** (Capacity building webinars / seminars by the end of the two rounds: > 6 / 6
- **Awareness raising campaigns in the first round: 6 in the six countries** (Awareness raising campaigns: 12 (1/country /round) by the end of the two rounds)

2. ALFA support services

Each HUB of the ALFA project provided a portfolio of services to the livestock farmers, aiming at supporting the development and implementation of biogas solutions, focusing on both business and technical aspects. These services are designed to address both business and technical needs, helping stakeholders navigate the complexities of the biogas market while also providing practical solutions for technology implementation. By offering tailored guidance in areas such as market research, business planning, access to finance, and technical development, the ALFA project ensures that livestock farmers, agricultural cooperatives, and biogas technology providers receive the necessary support to shift towards more sustainable energy practices in line with the objectives of the work program. The services are continuously updated and adapted to meet the diverse needs of the different regions, ensuring flexibility and relevance to each local context. The stakeholders in the ALFA Hubs have been reached through the launching of an **Open call** and, this report include the description and evaluation of **the first round of support measures**. The open call received **37 applications, out of which 25 cases were provided a service**. The timeline of the process along with the type of services and the description will be explained in the next paragraphs of the section.

2.1 Timeline

For the 1st round of the Service provision, according to the methodology outlined by Q-PLAN in T3.1, an Open Call was drafted in all 6 languages as a formal invitation for projects to apply for specialized support. To facilitate this process, a dedicated section has been created within the **ALFA Engagement Platform** (https://alfaep.eu/open-call); including the Terms of Reference, i.e. the roadmap for the entire procedure, detailing the selection criteria and offering clear, precise guidelines for applicants.

The Open Call was launched on the ALFA Engagement Platform, and the ALFA regions have been systematically engaged. Partners are leveraging their networks to disseminate the call throughout their Hubs. The target audience for the call includes livestock associations and networks, ranging mostly from livestock farmers or farmers ´consultants with an interest in installing or upgrading biogas systems. This broad reach also extends to farmers' associations, energy communities, and other stakeholders interested in investing in biogas solutions—particularly those using manure as feedstock. 37 applications have been collected in response to the call. ALFA partners were responsible for mapping and identifying key stakeholders in their respective countries to ensure the effective dissemination of the ALFA call. Also, they appointed a regional hub manager for each region, resulting in six hub managers across the project.

The selection process utilized the **Selection Matrix** developed by Q-PLAN, through which the consortium rated each application. **The highest-scoring projects from each region were invited to receive tailored business or technical services through the ALFA program started in March 2024, 25 projects were supported, out of 37 applicants.**

The interaction between the awardees and the service providers were divided in more steps. **STEP1**: A preliminary **need analysis** phase, during which interviews were conducted using the needs assessment template questionnaire, developed by Q-PLAN which were distributed to each selected project during the initial meeting. This tool allowed projects to provide crucial insights into their **specific challenges and requirements**, enabling the ALFA team to design a more customized service offering.

STEP2: After identifying their needs, the subsequent phase involved **pairing each project** with appropriate services from the ALFA services portfolio and assigning the corresponding service providers. Depending on the project's needs and preferences, they would be matched with either their first or second preferred service, within the constraints of the project.

STEP3: **Service provision**. For technical support, was provided by CERTH, FBCD, and A0CO2, while business support was managed by FBCD, Q-PLAN, APRE, SIE, WR, and PEDAL. Q-PLAN kept an supervised the entire process, with FBCD leading the business service coordination and CERTH managing the technical services. The Service Managers are responsible for preparing all the necessary materials for service delivery, while the Service Providers executed the service provision. A report was prepared by the service providers after the completion of the service, and sent to the awardees for review and approval

STEP4: **Evaluation**. After the completion of the service provision, feedback questionnaires were circulated with the awardees. This last phase is crucial for learning from the experience and carry the lessons learnt to the 2nd round of service provision, starting with an Open call in November 2025 (M25) for more projects.

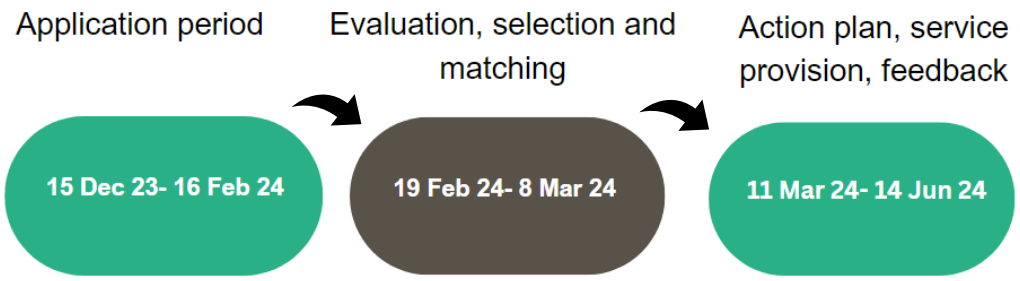


Figure 1. Timeline of the Service provision process

2.2 Strategy for the Support Services

The service provision strategy and methodology for the ALFA project is essential to ensure a highly targeted, effective, and iterative deployment of support across its six regional hubs. The key steps can be described as follows:

- **Tailored Outreach and Engagement**: Each regional hub actively leverages local networks and stakeholder mapping to ensure wide dissemination of the Open Call, targeting livestock farmers, energy communities, and biogas investors. This ensures that the projects selected are highly relevant and committed to adopting biogas solutions.
- **Rigorous Selection Process**: Using the **Selection Matrix** developed by Q-PLAN, all applications are evaluated based on clear criteria to identify the projects with the highest potential for impact. This ensures the most promising initiatives are chosen for tailored support.
- **Customized Service Matching**: After a thorough needs assessment using a standard template, selected projects are paired with specific business or technical services from the ALFA portfolio, ensuring each project receives the most relevant support according to their challenges and preferences.

- **Phased Service Delivery**: The service provision is broken into clear steps—from need analysis to service matching and provision—led by specialized service providers. This structured approach ensures accountability and that projects receive high-quality assistance.
- **Continuous Evaluation and Learning**: The provision of support measures is divided into 2 rounds. At the end of each round, through the information collected in the feedback forms for each project supported, relevant insights are gathered. This feedback loop is critical for refining the service provision after each round, incorporating lessons learned to further optimize the process.

This strategy ensures that the ALFA project delivers impactful and adaptable biogas solutions across its diverse European hubs.

2.3 Types of Support Services

The types of services provided in the 1st round of the activities of T 3.2 and T3.3 are divided into two categories: **technical services** and **business and access to finance services**.

The Business services focus on supporting beneficiaries in business strategy development, access to funding, conducting market analysis, a tailored approach was adopted, that took into account each project's unique market conditions.

Whereas the **Technical services** concentrate on the operational and technological aspects of biogas production, offering consultations on system design, optimization, and environmental assessments.

A brief description of the services is provided in the table below and in the next paragraphs 2.2.1 and 2.2.2.

<table>
<tr><th colspan="3">BUSINESS SUPPORT</th><th colspan="2">TECHNICAL SUPPORT</th></tr>
<tr><td rowspan="2">Market Research</td><td>Business Modelling and Planning</td><td rowspan="2"></td><td rowspan="2">Concept design and development of biogas systems</td><td>Evaluation of biogas potential based on preliminary calculations</td></tr>
<tr><td>Corporate and Sustainable Finance</td><td>Energy and environmental analyses assessing the energy and carbon footprint across the life cycle</td></tr>
<tr><td colspan="2">Access to finance support</td><td>Farmer to Farmer advice</td><td>Consultancy on the implementation and monitoring of biogas solutions</td><td>Technical support for farmers in the evaluation and comparison of plant suppliers' quotes</td></tr>
</table>

Figure 2. Types of Business and Technical Support Services

2.3.1 Business and access to finance

Service 1: Market Research

This service entails conducting comprehensive market research, employing tools such as the PESTLE framework for external environmental analysis. It includes identifying target markets,

providing a detailed market overview encompassing quantification, trends, and competitive analysis, and evaluating market attractiveness through Porter's 5 forces.

Service 2: Business modelling and planning

Planning: The ALFA project supports participants in developing innovative business models tailored to their unique needs, with a specific focus on energy and digestate. This process utilizes the Business Model Canvas methodology to ensure a strategic and adaptable approach.

Service 3: Access to finance support

This service involves identifying European, regional, and national financing opportunities for implementing biogas technologies in livestock farming. It offers step-by-step guidance on securing identified financing options, ensuring a comprehensive approach to financial support.

Service 4: Corporate and sustainable business finance

The ALFA initiative conducts assessments of the profitability of potential investments in biogas systems. This includes evaluating key metrics such as Internal Rate of Return (IRR), Return on Investment (IRR), Return on Investment (ROI), Net Present Value (NPV), Capital Expenditure (CapEx), and Operational Expenditure (OpEx).

Service 5: Farmer/expert to farmer advice

Facilitating mentorship and knowledge exchange, this service connects livestock farmers who have successfully incorporated biogas solutions with those who are interested in similar activities within the supported projects. This collaborative approach aims to harness the wealth of practical experience and insights within the farming community.

2.3.2 Technical Support

Service 6: Concept design and development of biogas systems

Providing conceptual design services that address critical aspects of biogas production, encompassing determinants such as plant size, design, and the selection of appropriate technological solutions.

Service 7: Evaluation of biogas potential based on preliminary calculations

Conducting preliminary calculations to assess biogas potential, considering substrate mixtures to achieve high biogas yield and productivity.

Service 8: Energy and environmental analyses assessing the energy and carbon footprint across the life cycle

Assessing the energy and carbon footprint throughout the life cycle of biogas production via Life Cycle Analysis (LCA). This involves identifying environmentally impactful stages and exploring scenarios related to critical parameters such as feedstock types.

Service 9: Consultancy on the implementation and monitoring of biogas solutions

Offering consultancy services for the implementation and monitoring of biogas solutions, collaborating with farmers to address concerns, and overcome obstacles.

Service 10: Technical support for farmers in the evaluation and comparison of plant suppliers' quotes

Assisting farmers in evaluating and comparing quotes from plant suppliers, supporting the selection of optimal technical solutions for biogas and biomethane production on their farms.

2.4 Deployment of the Services in the six HUBs

The ALFA project is strategically structured around six regional Hubs located in Belgium, Denmark, Greece, Italy, Slovakia, and Spain, serving as the core engines for deploying tailored biogas-related services. Each Hub plays a critical role in adapting the project's Market Uptake Support Services to meet the specific needs and challenges of its local livestock and biogas sectors. This decentralized approach allows the project to offer solutions that are not only replicable but also highly adaptable to regional market conditions, cultural factors, and local industry frameworks.

By leveraging the expertise and knowledge within each Hub, ALFA ensures that the services provided—ranging from capacity-building initiatives to technical and financial guidance—are delivered with a deep understanding of regional dynamics. This helps in fostering stronger engagement from livestock farmers and other key stakeholders, enhancing the overall effectiveness of biogas solutions in diverse European markets.

2.4.1 Belgium

The Belgian livestock sector is increasingly adopting biogas as a solution for energy production and manure management. The project received 2 applicants from Belgium then decided to proceed delivering the service to the farm described below. The Belgian livestock sector exhibits interest in adopting biogas as a solution for energy production and manure management. Small-scale biogas installations are the most common in farms, and the related commercial and research environments are mature. Farmers show high awareness of biogas solutions. However, financial and regulatory barriers, as well as other regional-specific challenges, have strongly limited adoption of digesters in farms in recent years.

Project 1 (S6-Concept Design and Development of Biogas Systems)

Awardee project description	Mrs. Vandaele requested an advisory service comparing the different technologies for biomethane upgrade. She also expressed interest in footprint analysis to be conducted in subsequent stages of the plant development. The farm Biogasinstallatie Agro-energiek has been operating its own biogas installation since 2007, with 30% of the digester input coming from their own manure, supplemented by contributions from nearby farmers, totaling 20,000 out of 60,000 tons of manure annually. The biogas plant has an installed capacity of 2.7 megawatts/hour, producing 16 megawatts of electricity per year, along with heat. The digester was built by Biodynamics, and they have a CHP unit for energy generation. They are exploring the possibility of converting their biogas installation to biomethane. Measuring and demonstrating CO2 reduction is a key focus of their environmental efforts. Maintenance is handled largely in-house, with external support from partners like VKK.
Support service provided	Concept design and Development of Biogas Systems
Regional Hub	Belgian

Duration of support	April 2024 - June 2024
Service provider partner	A0CO2
Contact persons	Valerie Vandaele
Type of organisation	Livestock farm
Activities and results achieved through the services	A comprehensive overview of available upgrading and desulfurization technologies was drawn up. The reporting can be used in connection with a decision on which technological solutions are most relevant for the plants in question.

2.4.2 Denmark

For the market analysis service carried out, which identified potential customer segments, competitors, and assessed the market's size, the need was covered through conducting the PESTLE analysis to evaluate the political, economic, societal, technological, and legal factors influencing biogas market opportunities. In the experience gained in the Danish Hub, the needs were mostly to establish decentralized biogas facilities on their farms to manage manure from pig and poultry production efficiently, as well as aiming to cover their energy needs on-site. Their primary focus is on optimizing the use of biogas and minimizing external biomass input, reflecting a mature understanding of biogas technologies. Furthermore, other need met were to modernize an existing biogas plant with advanced technologies like biological methanation, while maintaining a decentralized, small-scale operation. These needs highlight the advanced biogas adoption in Denmark and northern Germany, with a focus on optimization and innovation.

Project 1 (S1-Market Research)

Awardee project description	Green Farm sells small biogas plants as turnkey contracts. Their concept is based on the fact that the biomass used is found on the individual farm and the biogas is used in a motor-generator plant - CHP. Their plant is built up in modules and with several smaller engine units if necessary. Green Farm would like help to describe the market opportunities for their concept in Belgium or Greece. Green Farm expects that market research in Belgium can support their opportunities to make contact with new customers and establish more facilities, but their knowledge of market conditions in Belgium is limited. Therefore, Green Farm would like help to describe the market opportunities for their concept in Belgium.
Support service provided	Market Research Report - Belgian Market Focus

Regional Hub	Danish	
Duration of support	May 2024 - June 2024	
Service provider partner	WR	
Contact persons	Bo Rosborg	
Type of organization	Private contractor	
Activities and results achieved through the services	The main expected outcome of this service provision was to deliver a tailored market research report outlining the relevant biogas market and framework conditions in Belgium. More specifically the report consist of an original written report covering the following aspects: An identification of the target market, including relevant (potential) customers segments and competitors from and in the biogas industry, briefly outlining their characteristics. An assessment of the current size of the relevant market for the awardee. An analysis of the framework conditions affecting the interest and commercial opportunities of the Belgian market. This can take the form of a PESTLE analysis, i.e., an assessment of political, economic, societal, technological, and legal factors.	

Project 2 (S2-Business Modelling and Planning)

Awardee project description	ES is a farmer with several properties where pigs and chickens are produced. Farmers with 17,500 slaughter pigs per year and 800,000 broiler chickens produce approx. 10,900 tons of manure per year. Grows grains, legumes and grasses for seed and silage. Have delivered to a biogas plant but have stopped with it again. ES has received various offers from Green Farm for the establishment of a decentralized facility located on one of his properties. The technical challenge mainly consists in finding the optimal solution for the use of the produced biogas. The question is whether a combination of engine operation and use of part of the gas in a boiler should be made.	
Support service provided	Business Modelling and Planning	
Regional Hub	Danish	
Duration of support	April 2024 - June 2024	

Service provider partner	FBCD	
Contact persons	Erik Sørensen	
Type of organization	Farmer	
Activities and results achieved through the services	The main outcome of this service provision is to make a review of offers received from Green Farm and validate the calculations made regarding the possible biogas production. An input is given as to how the biogas plant is best optimized in relation to the consumption of heat on the property in question. It was described which alternative options there can be for the use of additional biomass for biogas production. SØ expects to build the facility in the spring of 2025, if it is possible to get the necessary permits in place. The biogas plant must cover almost all of his own energy consumption. Intending a plant in 2025 and perhaps another plant in 2026.	

Project 3 (S7-Evaluation of Biogas Potential)

Awardee project description	SØ wanted to build a smaller decentralized plant exclusively for the slurry from his own production. He has approx. 45,000 tonnes of manure per year from pig production. The production is spread over 15 properties in the neighbourhood. Cultivates 1100 ha. SØ has received an offer for a CHP plant with 7 engines from Green Farm. The power production can cover 96% of his own consumption and the heat can be used in connection with the barn for the pigs of a total of 20,000 m^2. SØ does not want to have supplied other biomasses from outside but avoid the transports.	
Support service provided	Evaluation and Comparison of Plant Suppliers' Quote.	
Regional Hub	Danish	
Duration of support	April 2024 - June 2024	
Service provider partner	FBCD	

Contact persons	Søren Østergaard
Type of organization	Farmer
Activities and results achieved through the services	The main outcome of this service provision was to make a review of offers received from Green Farm and validate the calculations made regarding the possible biogas production. An input was given as to how the biogas plant is best placed in relation to the consumption of heat on the two properties in question. It was described which alternative options there can be for the use of additional biomass for biogas production.

2.4.3 ***2.4.1 Germany***

Project 1 (S6-Concept Design and Development of Biogas Systems)

Awardee project description	Martensen has a biogas plant in the northern part of Germany, Nord Friesland. Martensen is part of a group of approx. 15 biogas plants in the area. They would like to have their biogas plant modernized with different technologies. They have, among other things, been on a study trip to Denmark. They want to maintain the decentralized structure that is in Germany and not up to the scale of the large plants in Denmark. They will, among other things, like to have a demonstration plant for biological methanation. They are looking at several different technical options and are particularly interested in methanization on small biogas plants.
Support service provided	Concept design and Development of Biogas Systems
Regional Hub	Danish
Duration of support	March 2024 - June 2024
Service provider partner	A0CO2
Contact persons	Olav Rasmussen
Type of organization	Consultant
Activities and results achieved through the services	A comprehensive overview of available upgrading and desulfurization technologies was drawn up. The reporting can be used in connection with a decision on which technological solutions are most relevant for the plants in question.

2.4.4 Greece

Almost all Greek biogas projects share a common need for financial analysis and sustainability assessments regarding the establishment and operation of biogas units using livestock waste. In Greece, one project focuses on evaluating the financial feasibility of biogas production from goat manure, while another examines sustainability for an Energy Community exploring biogas from livestock. A poultry farming unit seeks to assess the financial viability of biogas for self-consumption, based on ESG criteria. Lastly, a comparative financial analysis is conducted across Greece, Italy, and Belgium, exploring hypothetical scenarios involving different types and amounts of livestock waste and biomass for biogas production.

Project 1 (S4-Corporate and Sustainable Finance)

Awardee project description	The report provides a financial analysis for establishing and operating biogas production unit using livestock waste in a small livestock farm in Komotini, Greece. The analysis focuses on biogas units processing waste from 300 goats, which produce about 150tn manure yearly.
Support service provided	Corporate and Sustainable Finance
Regional Hub	Greek
Duration of support	March 2024 - June 2024
Service provider partner	Q-PLAN INTERNATIONAL
Contact persons	Kadir Serif
Type of organization	Small Livestock Farm
Activities and results achieved through the services	The unit processes 150 tons/year of goat manure, producing 7,200 m³/year of methane and 11,429 m³/year of biogas, with an electric power output of 250 kWe. The financial viability is assessed by examining the initial capital expenditure (CAPEX), operational expenditure (OPEX), revenue generation, Net Present Values (NPVs), Payback Period and Return on Investment (ROI), considering cumulative cash flows. The report also highlights significant environmental and social benefits, such as renewable energy production of 250 kWe, a CO_2 emission reduction of 174.75 kg CO_2eq/year, and the processing of 150 tons/year of biomass, which contributes to improved air quality through reduced fossil fuel combustion and better waste management.

Project 2 (S4-Corporate and Sustainable Finance)

Awardee project description	The report is a financial analysis and sustainability report for an Energy Community. It focuses on an Energy Community, which is involved in the production and sale of pellets and is exploring the creation of a biogas unit by its livestock farmer members. The objective is to evaluate the financial feasibility and long-term sustainability of the biogas production system based on ESG (Environmental, Social, Governance) indicators.	
Support service provided	Corporate and Sustainable Finance	
Regional Hub	Greek	
Duration of support	March 2024 - June 2024	
Service provider partner	Q-PLAN INTERNATIONAL	
Contact persons	Vasileios Filippou	
Type of organization	Energy Community	
Activities and results achieved through the services	The proposed biogas production system utilises livestock waste to generate biogas, which is then used for combined heat and power (CHP) generation of 1MW. The process involves collecting organic waste from livestock farmers (members of the Energy Community), undergoing anaerobic digestion, filtering the biogas to remove CO2, and subsequently using the methane-rich gas for energy production. This system also produces a soil improver from the digested residue. All activities are under the umbrella of an Energy Community. The financial analysis details the initial investment costs (CAPEX), operating costs (OPEX), revenue streams and expenses. Apart from the cumulative cash flows, additional financial metrics were calculated including the Net Present Value (NPV), the Return on Investment (ROI), the payback period, and the Internal Rate of Return (IRR). The project emphasises on ESG (Environmental, Social, Governance) principles by integrating sustainable practices in its livestock farming members in Karditsa, Greece. Environmentally, the biogas system significantly reduces waste and lowers greenhouse gas emissions, avoiding approximately 21,500 tons of CO_2eq annually by converting livestock waste into renewable energy. This process not only mitigates climate impact but also promotes a circular economy through the utilisation of digestate as a soil improver. Socially, the project contributes to local employment (6 jobs in local level) and energy self-sufficiency, enhancing community resilience and promoting sustainable agricultural practices. Governance-wise, the project adheres to contemporary	

	operational standards and regulatory compliance, ensuring transparency and accountability in its operations.

Project 3 (S4-Corporate and Sustainable Finance)

Awardee project description	The report is a financial and sustainability analysis focused on a poultry farming unit located in Ioannina, Greece. The unit is designed to house 20,000 to 25,000 chickens and began operations in 2024. The aim is to design a sustainable waste management system to produce biogas, which is then used for combined heat and power (CHP) generation for self-consumption. The primary goal of this service provision is to evaluate the financial feasibility of the investment, and its long-term sustainability based on ESG (Environmental, Social, Governance) criteria.
Support service provided	Corporate and Sustainable Finance
Regional Hub	Greek
Duration of support	March 2024 - June 2024
Service provider partner	Q-PLAN INTERNATIONAL
Contact persons	Dimitrios Bellos
Type of organization	Poultry Farm
Activities and results achieved through the services	Technically, the biogas unit has a nominal electricity production capacity of 14 kW. The financial analysis covers capital expenditures (CAPEX) and operational expenditures (OPEX), revenue streams and expenses. In addition, key financial metrics were highlighted such as the Net Present Value (NPV), a Return on Investment (ROI), a Payback Period of 4.57 years, and the Internal Rate of Return (IRR). A cumulative cash flow table illustrates yearly CAPEX, OPEX, energy savings, revenues, and cumulative cash flow over a 20-year period starting in 2025. The project emphasises strong ESG (Environmental, Social, Governance) principles by integrating sustainable practices in its poultry farming unit in Ioannina, Greece. Environmentally, the biogas system significantly reduces waste and lowers greenhouse gas emissions, avoiding approximately 60 tons of CO_2eq annually by converting poultry waste into renewable energy. Socially, the project contributes to local employment and energy self-sufficiency. Governance-wise, the project adheres to

	contemporary operational standards and regulatory compliance, ensuring transparency and accountability in its operations.

Project 4 (S4-Corporate and Sustainable Finance)

Awardee project description	The report provides a financial analysis for the establishment and operation of biogas production units using livestock waste. The analysis is conducted for three hypothetical scenarios across three European countries: Greece, Italy, and Belgium. Each scenario involves different types and quantities of livestock and additional materials. The analysis focuses on biogas units processing waste from 20,000 chickens, 500 cattle, and 200 pigs, incorporating 4,000 tons of sludge and 2,000 tons of silage annually. In Scenario 1 (Greece), the unit processes 800 tons/year of chicken manure, 6,800 tons/year of total biomass. In Scenario 2 (Italy), the unit processes 9,650 tons/year of cattle manure, 15,650 tons/year of total biomass, prod. In Scenario 3 (Belgium), the unit processes 40 tons/year of pig manure, 6,040 tons/year of total biomass.
Support service provided	Corporate and Sustainable Finance
Regional Hub	Greek
Duration of support	March 2024 - June 2024
Service provider partner	Q-PLAN INTERNATIONAL
Contact persons	Panagiota Baraki
Type of organization	Biogas Plants Comparison
Activities and results achieved through the services	The financial viability of each scenario is assessed by examining the initial capital expenditure (CAPEX), operational expenditure (OPEX), and revenue generation, Net present Values (NPVs), Payback Period and Return on Investment (ROI), concluding in cumulative cash flows, for the three scenarios. The report also highlights significant environmental and social benefits, such as renewable energy production of 250 kWe for Scenario 1, a CO_2 emission reduction of 174.75 kg CO2eq/year, and the processing of 6,800 tons/year of biomass, which contributes to improved air quality through reduced fossil fuel combustion and better waste management. Similarly in Scenario 2, the

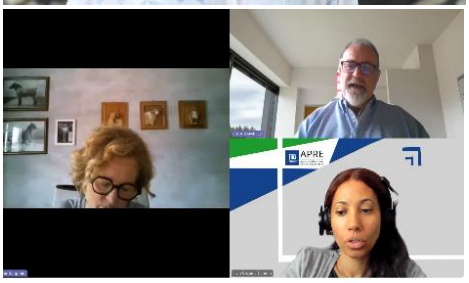
	renewable energy was calculated at 450kW, and CO2 emission reduction at 314.55kgCO2eq/year, while in Scenario 3 the corresponding numbers were equal to 150kWe and 104.85 kgCO2eq/year. Additionally, it addresses good corporate governance practices, suggesting measures to ensure transparency, accountability, and environmental stewardship in the biogas units' operations.

2.4.5 Italy

Most farms supported by the Italian Hub share the common need of installing a new biogas plant and improving energy efficiency, some for reducing energy costs, with a focus on maximizing the use of its livestock resources, others for energy production and waste reduction. Some face constraints from archaeological and heritage authorities. For some of the Italian farmers the primary need is understanding the financial opportunities for biogas. On the overall in the Italian livestock farms market, besides few regions, the adoption of Biogas plants has not been that spread yet, all of the awardees were in a very early stage of the process of implementing a plant.

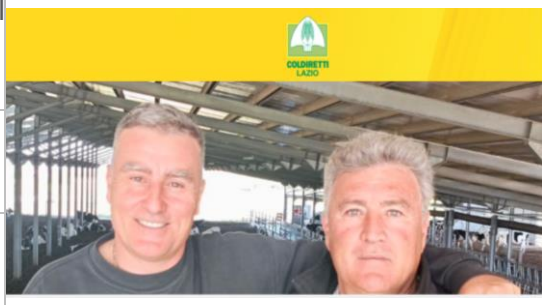
Project 1 (S7-Evaluation of Biogas Potential based on Preliminary Calculation)

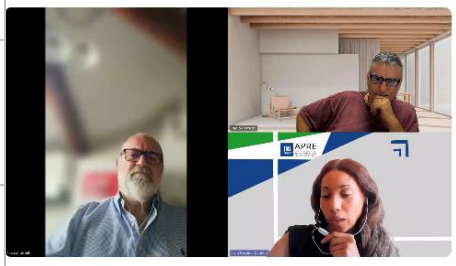
Awardee project description	Elisabetta Quaini manages a dairy farm *Barbiselle*, inherited from her family. With a strong personal investment in the business, including a significant mortgage, she is exploring ways to diversify income sources to enhance financial stability. Currently, the farm needs approximately 400,000 kilowatt-hours of energy annually. The farm has an existing photovoltaic system already installed. The farm is 250 hectares, all crops are grown to feed animals, (corn silage, wheat silage, moisture corn, alfalfa, Italian ray grass, sorghum) - Cattle Population: The farmhouses around 700 lactating cows and an additional 600 dry cows. The lactating cows are divided into high-production groups, primiparous groups, dry cows, and post-partum cows. - Facility Layout: The farm consists of two main barns for lactating cows and an additional barn for rearing heifers. A new barn is under construction
Support service provided	Evaluation of Biogas Potential based on Preliminary Calculation
Regional Hub	Italian
Duration of support	March 2024 - June 2024

Service provider partner	APRE	 
Contact persons	Elisabetta Quaini	
Type of organization	Livestock farm	
Activities and results achieved through the services	1. Single Large Plant: Installing a single biogas plant for all manure on the farm would streamline operations. However, regulatory requirements for plants over 100 kW complicate this option, involving additional registration and potential delays. 2. Dual Smaller Plants: Two smaller plants under 100 kW each (e.g., 75 kW and 90 kW) are economically more viable and less bureaucratically burdensome. They can be strategically placed to optimize manure collection and energy production without requiring registration with regulatory authorities. Economic Considerations: - Cost: A 70 kW plant costs approximately €650,000, this investment is expected to be amortized within four years. While a 90 kW plant could range from €900,000 to €1,000,000 it could be amortized in six years, with a guaranteed incentivized tariff of €0.23 per kWh for 20 years. - Operational Efficiency: The plants would be fully automated, with remote monitoring capabilities. The thermal energy generated can be used for farm operations, such as heating water for the milking robots and animals, further enhancing efficiency.	

Project 2 (S7-Evaluation of Biogas Potential based on Preliminary Calculation)

Awardee project description	Pizzo del Prete Farm is a well-established agricultural operation with substantial cash flows primarily derived from the production and sale of milk, which is well-compensated. Located in Cerveteri it is the first "compost barn" in Italy, a fully "robotized" barn, has been established to produce organic milk at the "Pizzo del Prete" livestock farm owned by brothers Pietro and Paolo Petruzzi. The two entrepreneurs have become a national example of sustainability and innovation thanks to the cutting-edge technologies they have applied to their operations. The farm has applied for the installation of a photovoltaic system and is awaiting approval from the relevant authorities. The farm is still in the very early phase of installing the system. The farm has 400 animals, he is considering installing a biogas plant that operates solely on livestock manure, without using any crops or other agricultural inputs. His primary goal is to address the challenges associated with the disposal of livestock waste. The farm has adequate facilities for livestock housing and waste management, although improvements are necessary. Furthermore, it is located in an area with archaeological constraints, necessitating careful assessment to ensure regulatory compliance.
Support service provided	Evaluation of Biogas Potential based on Preliminary Calculation
Regional Hub	**Italian**
Duration of support	**March 2024 – June 2024**
Service provider partner	**APRE**
Contact persons	**Andrea Petruzzi**
Type of Organisation	**Livestock farm**
Activities and results achieved through the services	Currently, the manure management system could be optimized to facilitate the use of digestate on fields throughout the year. This proposal includes installing a biogas plant with a capacity of 33-44 kW, featuring a 15-meter diameter digester and a motor unit housed in a container connected via pipes for loading and unloading.





	The farm will collect two to three loads of fresh manure daily to feed the digester. The resulting digestate will be highly fertilizing, odourless, and safe for field application after fermenting for four weeks. This process will make manure management more efficient and environmentally friendly. The expected payback period for the biogas plant investment is approximately six years, leading to 14 years of net profit. This will significantly enhance the farm's sustainability and economic viability. Petruzzi Farm is waiting for agricultural funds from the PSR to finance the biogas plant installation, as there are currently no specific incentives for biogas. A technical assessment has been requested to prepare for funding acquisition and to proceed with the installation as soon as the funds become available.

Project 3 (S7-Evaluation of Biogas Potential based on Preliminary Calculation)

Awardee project description	The Loffreda farm has 170 cattle, 800 sheep, and 200 goats. Additionally, another associated company manages 100 cows, 80 calves, 130 horses, and 240 pigs. The farm is subject to archaeological constraints and oversight by the heritage authority. The primary objectives are to produce energy and reduce the impact of livestock waste, with a strong emphasis on the benefits of a circular economy. There are archaeological and heritage constraints, as well as permits required from the park authority and the municipality to proceed. They want to know all the details so that they can forward them to the park authority. The needs are: 1. Determining the requirements for setting up the biogas plant, including the type of system (wet biogas plant or dry) and whether separation is needed beforehand, especially considering the sheep manure. 2. Identifying suitable locations for installation, aiming for a 100 kW autonomous system. 3. Deciding if the system should be paired with a separator, either upstream or downstream. The farm is looking into regional Rural Development Programs (PSR) and has already consulted with some technicians about the project.
Support service provided	Evaluation of Biogas Potential based on Preliminary Calculation
Regional Hub	Italian
Duration of support	March 2024 - June 2024

Service provider partner	APRE	 
Contact persons	Livio Loffreda	
Type of organization	Livestock farm	
Activities and results achieved through the services	The farm faces challenges with waste management for biogas production, particularly due to the small quantity and dense consistency of waste from sheep, goats, and horses. The current setup makes it difficult to pump and manage this waste efficiently. To address this, the farm should implement an unified system where all waste will be collected and mixed in a central tank, simplifying the process. The first step is to conduct a chemical analysis to evaluate the biogas potential of the available material and estimate its energy output in kW. He would need to collect samples of over a liter of manure from each species. Then by calculating the total annual tonnage and considering the stabling practices (such as horses being outside), a clearer estimate of biogas supply can be established. Although the farm might manage without a separator by storing and using digestate as needed, it was recommended to install a separator for easier management, which the farm is inclined to do. It was recommended that in the pre-tank, where manure is collected, a single mix could be made by combining all the materials. However, as when the mixture is agitated, some gas can be lost, so this should be done strategically, ideally right before loading. The size of the pre-tank should be carefully calculated. The loading system will draw material regardless of its consistency, which could be an issue if, for example, there is heavy rainfall that dilutes the contents. Additionally, there is a cogenerator powered by	

	biogas that is connected to a power supply, allowing the production of energy.

Project 4 (S3-Access to Finance)

Awardee project description	The Farm Fortini has 1,200 cattle, both large and small, agricultural fields with one farm covering 70 hectares and another farm covering 200 hectares. They have corn silage 40 ha, alfalfa 10 ha, wheat silage 20 ha. He would like to reduce the problem of manure management, reduce the farm energy consumption, and especially upgrade his farm by selling the excess energy, and therefore implementing biogas. We have interacted with a strategic consultant, and they have already received technical services, and they advised him to build a plant of at least 200 kW. They would only need to know more in details the financing opportunities for Biogas.
Support service provided	Access to finance
Regional Hub	Italian
Duration of support	March 2024 - June 2024
Service provider partner	APRE
Contact persons	Arrigo Milanesi
Type of organization	Livestock farm
Activities and results achieved through the services	The opportunities were presented to the awardee Milanesi, who is a business strategy consultant and made contact on behalf of the livestock farm Fortini that wanted to learn about financial opportunities. We held a meeting with GSE, the energy services management authority, which presented upcoming opportunities for selling the energy produced with biogas to the grid. They also introduced future openings for favourable tariffs per kWH, starting from the installation of plants with a capacity of 300 kW and not just up to 100 kW as it currently stands. The consultant benefited from the service, was

	able to ask questions, and is now ready to report the acquired information to his client.

Project 5 (S3-Access to Finance)

Awardee project description	The Allevamento Martin farm has 420 heads, dairy cattles. After two rounds of interviews for assessing their needs it was clear that the main goal for them for installing Biogas was first of all energy self-sufficiency and to sell biogas/methane or electricity to the grid. The farm is located on a slope in a mountainous area, so a flat area is needed for the installation, which is not adjacent, which has been a problem for a type of plant he considered installing in the past. The particola territory would need a small plant with a fitting shape that can adapt to a slope. He was exclusively interested in access to finance services; he needs to see if there are financial opportunities, otherwise he could not see any point in even considering to install the plant.	
Support service provided	Access to finance	
Regional Hub	Italian	
Duration of support	March 2024 - June 2024	
Service provider partner	APRE	
Contact persons	Marco Di Giammartino	
Type of organization	Livestock farm	
Activities and results achieved through the services	The financial opportunities were introduced to Marco di Giammartino, the livestock farm Allevamento Martin. He was seeking information on financial opportunities. In order to provide the financial service, we organized a meeting with GSE, the authority responsible for managing energy services, which outlined upcoming possibilities for selling biogas-produced energy to	

	the grid. Once we gathered this information we could provide the service with the help of the ALFA partner AzzeroC02. Future openings for advantageous tariffs per kWh (fid i tariff), applicable to plants starting from 300 kW capacity, as opposed to the current limit of 100 kW were presented to the awardee. In addition, some new opportunities were fitting the awardee due to the size of the farm and territory, the so-called Renewable Energy Communities (RECs, in Italian CERs), which include groups of collective self-consumers, prosumers and individual self-consumers at a distance. At the moment the Italian government issued a premium tariff, savings on distribution charges, and reduced network losses. Also there are capital grants available for energy communities in municipalities with fewer than 5,000 inhabitants, offering incentives of up to 40% of the investment cost for installations of new renewable energy plants within a REC with a maximum capacity of one Megawatt. The awardee intended to find out whether there are any issues hindering him from benefiting from this opportunity and he is convinced to pursue this path and proceed with creating or joining a REC in cooperation with the municipality where the farm is located.

2.4.6 Slovakia

Several farms and biogas plants in Slovakia share the need to upgrade or establish biogas plants to improve energy efficiency, manage livestock waste, and promote a circular economy. The primary goals include reducing energy costs, improving manure management, and optimizing feedstock use, in more advanced cases with a plant already installed, the focus is on transitioning to biomethane production. Many of these projects also faced other challenges, such as, grid connectivity, securing financing, and optimizing feed efficiency and desulfurization processes. Several plants are focused on upgrading technologies to enhance biogas and biomethane production efficiency and exploring new pretreatment methods to improve the quality of fertilizers.

Project 1 (S3-Access to Finance)

Awardee project description	The awardee is a farm/livestock association Chovmat F.U. in Rastislavice, Slovakia with livestock breeding approx. 4000 animals with approx. 320 m3 of slurry per month. They do not grow agricultural crops. They are interested in building a new biogas plant. Their aim is to use the biogas plant for self-consumption to reduce electricity consumption and heat for heating, as well as to reduce the problem of manure management as well as to introduce the good practice of circular economy.	
Support service provided	Access to finance	
Regional Hub	Slovakia	

Duration of support	March 2024 - June 2024	
Service provider partner	PEDAL	
Contact persons	Igor Uhliarik	
Type of organization	Livestock farm	
Activities and results achieved through the services	An initial online meeting was conducted with the awardee together with SBA based upon Need Analysis Questionnaire to identify their needs and matching with our services. The idea of installing the biogas planned was only in its initial phase (thinking about it and looking for more info, as well as funds), therefore the access to finance support was identified as the most suitable service by all sides (beneficiary, SBA and PEDAL). The additional information related to this service was collected from the awardee and the meeting was scheduled to go over, including to agree on the proposed Action Plan in order to be on the same page with expectations as well as timeline. The comprehensive report was prepared focusing mostly on national sources of funding, but also international, and the content of the report was presented to the awardee, - if it's sufficient and giving the space for any additional questions and requirements, - by PEDAL via an online progress meeting. The awardee agreed to it and the final version of the service was then sent to him in the form of pdf report via email together with the request to fill out the feedback questionnaire. A report - Access to Finance support - contained a tailored list of possible funding sources at national and European level for his potential biogas project. The report also included an additional service - list of possible subcontractors of feedstock for his biogas plant in the surrounding area (within 50 km from his farm) and a general document - an overview of the biogas market in Slovakia.	

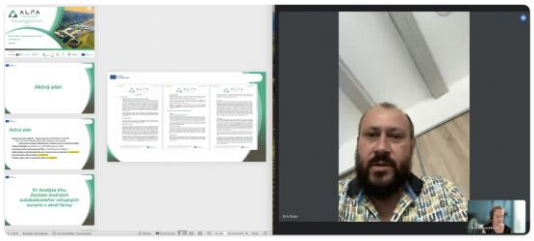
Project 2 (S3-Access to Finance)

Awardee project description	The awardee is a company EHOSS. EHOSS is RND manufacturer of engineering equipment for farms and stables. EHOSS designs equipment for the automatization of feeding and animal care processes, recycle animal manure and supply feedstock to consumers. Their Manure Management Technology saves the energy value of animal manure. It slows down the process of decay of elements, making it more usable for biogas production. Besides this, it also eliminates additional expenses on manure disposal, unsanitary conditions and environmental pollution for sides where manure is accumulated. The technology is manufactured directly in Bratislava. Logistics, production of the technology and research are provided by EHOSS. One of the challenges EHOSS face is finding funding opportunities

	to co-finance their technology or to provide opportunities for their clients - farmers/owners of biogas plants to co-finance their technology
Support service provided	Access to finance
Regional Hub	Slovakia
Duration of support	March 2024 - June 2024
Service provider partner	PEDAL
Contact persons	Daria Pylypas
Type of organization	Livestock farm
Activities and results achieved through the services	An initial online meeting was conducted with the awardee together with Slovak Biogas Association (SBA) based upon Need Analysis Questionnaire to identify their needs and match with ALFA services. As the awardee was not one of our typical examples within our target group, but totally fit into our project, we had to tailor-made the services in discussion. We've agreed on Access to finance support service with additional partial services added during the second online call scheduled. The Action Plan with the proposed timeline was agreed on as well as if anything needed, another ad hoc online meeting will be held. During the completion of the service, continuous email communication was going on, as well as additional ad hoc meeting was scheduled. During the online progress meeting, the draft of the report was presented to the awardee, which the awardee agreed to. The final version of the service - a pdf report - was then sent to the awardee together with a feedback questionnaire. A report - Access to Finance support contained a tailored list of possible funding sources at national and European level to help out finance their technology/project. The report also included an additional service - List of potential collaborations, List of biogas plants supported in the framework of the Recovery Plan 2023 and List of SBA promotional services. The awardee benefited from a tailor-made list of funding options for their project, considering their concerns, preferences and the target end-user of

	their technology as well as a list of potential collaborations focused on further laboratory research of their technology.

Project 3 (S1- Market Research)

Awardee project description	The awardee is a farm/agricultural cooperative in Vráble, Slovakia with 500 cows. Annual manure production is approximately 4000–5000t (straw and cow dung). The farm also grows wheat, oilseed rape and maize on an area of 1200 ha. There are 15 employees, 10 of whom are women. The aim of the project is to build a new biogas plant. The biggest obstacle they face is the connection to the grid. The awardee is interested in learning about the latest technical "best practices" from abroad, as well as trading and buying possibilities of biomethane from abroad.	
Support service provided	Market Research	
Regional Hub	Slovakia	
Duration of support	March 2024 - June 2024	
Service provider partner	PEDAL	
Contact persons	Erik Solár	
Type of organization	Livestock farm	
Activities and results achieved through the services	An initial online meeting was conducted with the awardee together with Slovak Biogas Association (SBA) to identify his needs and match with our services, and an Action Plan with proposed timeline was established. The awardee then submitted a completed Need Analysis Questionnaire with further information on the selected service and agreed to the Action Plan. Following the completion of the service report by PEDAL, an online progress meeting was held where a presentation with a draft service report was presented to the awardee, which the awardee agreed to. The final version of the service was then sent to the awardee together with a feedback questionnaire. A report - Market Research - was provided to the awardee, which contained PESTLE Analysis of the biogas market in Slovakia. The report also included an additional service - List of possible subcontractors of feedstock for his biogas plant project in the area around the farm within 50 km. The awardee was also provided with a List of companies trading in green certificates from SBA.	

	The awardee benefited from market research analysis of attractiveness of the biogas market in Slovakia and recommendations to consider before starting to build a biogas project as well as a list of potential feedstock sources to increase the volume of his biogas project.

Project 4 (S1- Market Research)

Awardee project description	The awardee is an animal (dairy farm) and crop production farm with a plan to build a biogas plant in Slovakia. Currently, an upgrade of the biogas plant with an installed capacity of 1.5 MW is planned. They are also engaged in increasing the planned capacity to the maximum potential, to improve the economics of the project. Their key activity/main aim is to collect feedstock from nearby agricultural cooperatives, bakeries and dairies within an ideal distance of 40 - 50 km. They have their own mode of transportation to transport the feedstock to their farm. The main business challenge is to secure sufficient raw material inputs for the expansion of the biogas plant project.
Support service provided	Market Research
Regional Hub	Slovakia
Duration of support	March 2024 - June 2024
Service provider partner	PEDAL
Type of organization	Livestock farm
Activities and results achieved through the services	An initial online meeting was conducted with the awardee in collaboration with the Slovak Biogas Association (SBA) to identify his needs and align them with our services. During this meeting, an Action Plan with a proposed timeline was established. The awardee subsequently submitted a completed Need Analysis Questionnaire, providing further details on the selected service and agreeing to the Action Plan. Given that the awardee was already in the feasibility study phase, he possessed considerable knowledge, necessitating a tailor-made service. This included assistance to provide tools in persuading the municipality to support the construction of a biogas plant in their area, and providing a list of bio-waste producers within a 50 km radius who might supply feedstock with high biogas potential. Following the completion of the service report by PEDAL, an online progress meeting was held where a draft service report was presented to the awardee and subsequently agreed upon. The final version of the service report, along with a feedback questionnaire, was then sent to the awardee. The report,

	titled "Market Research," included a PESTLE Analysis of the biogas market in Slovakia and an additional service comprising a list of potential feedstock subcontractors within a 50 km radius of the farm. Additionally, leaflets in Slovak were provided to help promote biogas solutions and address negative perceptions and resistance from local governments. The awardee benefited from the market research analysis, which offered insights into the attractiveness of the biogas market in Slovakia and received recommendations to consider before commencing the biogas project. The tailored list of potential feedstock sources focused primarily on agricultural feedstock and biodegradable waste, aligning with the client's specific needs.

Project 5 (S7-Evaluation of Biogas Potential based on Preliminary Calculation)

Awardee project description	The awardee is farm / livestock association AGROCONTRACT Mikuláš in Dubník, Slovakia. They have 2 projects. Within the 1st project they operate a 1 MW biogas (with potential to extend to 2 MW) => due to the outdated and overstretched electricity network, they cannot get approval to connect to the grid to supply it with a surplus of 300 - 500 kW. They seek technical expertise/ guidance in feed efficiency of biogas plant - what to put in (meaning nutrition value of the cow feed in order to produce efficient "feedstock" - e.g., biomass/manure, slurry etc.) in order to get stable biogas production and to avoid biogas production fluctuation (once a lot, need to burn it/other times not enough). And in the desulfurization process – how to reduce the amount of sulphur in biogas (in the most efficient way). The 2nd project is a plan to build a new biomethane plant from scratch in a 2 MW local source with biomethane supply to the grid - no problem to connect to the gas grid. A high pressure gas pipeline runs 600 m from the planned biomethane development. The consultation during project preparation for higher efficiency of the investment/RoI is needed. They seek technical expertise / guidance in feed efficiency of biogas plant and biomethane plant from livestock by-products, biogas quality.	
Support service provided	Evaluation of Biogas Potential based on Preliminary Calculation	
Regional Hub	Slovakia	
Duration of support	March 2024 - June 2024	

Service provider partner	AzzeroCO2 and CERTH	AGROCONTRACT MIKULÁŠ a.s. 
Contact persons	Marián Záhumenský	
Type of organization	Farm/Livestock cooperative	
Activities and results achieved through the services	Based on the initial call with the awardee and the completed Need Analysis Questionnaire, the technical service requirements were further discussed during a follow-up online meeting with potential service providers - CERTH and AzerroCO2. This meeting aimed to identify and specify the awardee's needs in order to provide him with a tailor-made service. The "Evaluation of Biogas Potential Based on Preliminary Calculation" was agreed upon, which included suggestions for desulphurization upgrading (methodology and technologies provided by AzerroCO2) as well as guidelines for creating a high-quality biogas mixture with low sulphur content using dairy manure, sorghum, corn, corn stover, soybean straw, and wheat straw in optimal proportions. An Action Plan with a timeline was proposed and agreed upon. Both technical project partners worked on their respective parts, and upon completion of the service, both reports were sent to the awardee along with a feedback questionnaire. The report, titled "Evaluation of Biogas Potential Based on Preliminary Calculations," was provided to the awardee and included data on sulphur content elimination in the overall biogas mixture. The awardee benefited from customised "recipes" and specific feedstock mixtures that could potentially eliminate the sulphur content in the final biogas mixture. The report also offered an overview of other potential methods for sulphur elimination in the biogas mixture.	

Project 6 (S6-Concept Design and Development)

Awardee project description	The awardee is an existing biogas plant in Borcová, Slovakia with a plan of upgrading to biomethane production. The purpose of the project is to clean and treat the biogas produced by the existing technology to a quality that is suitable for supplying this product to the distribution network. The production of biomethane is identical to the production of biogas by anaerobic digestion in biogas plants. The principle is the installation of a membrane separation plant and the installation of accompanying process equipment such as a compressor, metering station, connection and other facilities. The transformation also includes a change in the feedstock composition. Increasing the proportion of both municipal and agricultural waste. This entails the completion of a new fermenter, which will increase the process retention time, which is necessary for the new input mix. Awardees main need is the descriptions of possible pretreatment methods and an optimization of the quality of the degassed biomass, so that the value of the fertiliser is improved. A technical description of pretreatment technologies and parameters that affect fertiliser quality could be an option. Their priority is to help with financing and with the concept design of the biogas plant. Alternatively, a similar note on the possibilities and economics of establishing an upgrade facility.	
Support service provided	Concept Design and Development of Biogas System	
Regional Hub	Slovakia	
Duration of support	March 2024 - June 2024	
Service provider partner	FBCD	
Contact persons	Vladimír Šošovička and Matej Štefánek	
Type of organization	Biogas plant	
Activities and results achieved through the services	An initial online meeting was conducted with the awardee together with PEDAL and FBCD (Food & Bio Cluster Denmark) to identify awardees' needs and match with our services, and an Action Plan with proposed timeline was established. The awardee then submitted a completed Need Analysis Questionnaire with further information on the selected service and agreed to the Action Plan. Following the completion of the service report by FBCD, a draft service report was sent to the awardee via email, which the awardee	

	agreed to. The final version of the service was then sent to the awardee together with a feedback questionnaire. A report - Concept design and development for biogas systems - was provided to the awardee, which included a technical description of pretreatment technologies and parameters that affect fertiliser quality. The awardee benefited from the concept design and development for biogas systems report which shed light on conditions in connection with pretreatment technologies for different biomasses that are thought to be used in the biogas plant, possibilities for improving the quality of the degassed biomass as fertiliser and information on upgrade technologies.

Project 7 (S9-Consultancy on Implementation and Monitoring of Biogas Solution)

Awardee project description	The awardee is a biogas plant in Huncovce, Slovakia. The project aims to convert the existing biogas plant to biomethane production with injection into the high-pressure gas pipeline/network, to increase the efficiency and economy of the feedstock used, following the increase in the volume of advanced fuels and minimising the use of purpose grown crops and to increase biogas storage capacity.
Support service provided	Consultancy on Implementation and Monitoring of Biogas Solution
Regional Hub	Slovakia
Duration of support	March 2024 - June 2024
Service provider partner	CERTH
Contact persons	Michal Čarák
Type of organization	Biogas plant
Activities and results achieved through the services	A preliminary online meeting was held with the awardee with PEDAL Consulting and CERTH to assess the awardee's needs and align them with the services. As a result, an Action Plan with a proposed timeline was developed. The awardee then completed and submitted a Need Analysis Questionnaire, providing additional details about the selected service and confirming agreement with the Action Plan. Once CERTH finalised the service report, the completed version was sent to the awardee, accompanied by a feedback questionnaire. The awardee received a report titled "Consultancy on the Implementation and Monitoring of Biogas Solutions". The consultancy service for implementing and monitoring biogas solutions focused on optimising biogas yield and developing practical guidelines for

	efficient production. Key activities included identifying materials to replace purpose-grown crops with advanced fuels like manure and agricultural by-products and creating detailed diagrams illustrating biomethane production potential per tonne of various substrates. Sample recipes combining different substrates, such as dairy manure, corn silage, and vegetable oil, were formulated to maximise biogas yield. The report also provided comprehensive guidelines on managing critical factors like solid-to-water content, pH levels, C/N ratio, and organic loading rate, essential for optimising biogas production. Detailed evaluations of various biogas upgrading technologies, including Pressure Swing Adsorption, Membrane Separation, and Chemical Scrubbing, were provided. These insights helped establish a practical implementation framework for biogas solutions, ensuring that theoretical guidelines could be effectively applied in real-world scenarios to enhance biogas production and upgrading efficiency.

Project 8 (S9-Consultancy on Implementation and Monitoring of Biogas Solution)

Awardee project description	The awardee is a biogas plant EnergoTerra in Poprad, Slovakia. The project aims to increase the efficiency and economy of operation in the production of electricity and heat. And also to reduce the volume of feedstock from purpose-grown crops and increase the share of advanced fuels in favour of manure and slurry, non-feed residues and agricultural by-products. An associated objective is to increase the recovery rate of biodegradable waste. Other objectives are to maintain biogas production and to improve utilisation of e.g., the heat (e.g. a review of their disposal of heat). Key activities are the renewal of technology and the inclusion of feedstock treatment processes, the increase of biogas storage capacity and the renewal of the thermal management of the plant.	
Support service provided	Consultancy on Implementation and Monitoring of Biogas Solution	
Regional Hub	Slovakia	
Duration of support	March 2024 - June 2024	
Service provider partner	CERTH	
Contact persons	Michal Čarák	
Type of organization	Biogas plant	

Activities and results achieved through the services	An initial online meeting was conducted with the awardee together with PEDAL Consulting and CERTH to identify awardees' needs and match with our services, and an Action Plan with proposed timeline was established. The awardee then submitted a completed Need Analysis Questionnaire with further information on the selected service and agreed to the Action Plan. Following the completion of the service report by CERTH, the final version of the service was then sent to the awardee together with a feedback questionnaire. A report - "Consultancy on the Implementation and Monitoring of Biogas Solutions"- was provided to the awardee. The awardee benefited from a detailed report on implementation and monitoring of biogas solutions of awardees project, taking into account project specifications. In particular, the report provided comprehensive guidance on optimising digestion processes, focusing on selecting appropriate substrates and determining optimal conditions, such as temperature, pH, and carbon-to-nitrogen ratio etc.. It also offered an in-depth assessment of biomass pretreatment technologies and biogas upgrading techniques. Additionally, the report included recommendations for enhancing digestate carbon content by managing animal diets and manure storage conditions effectively.

2.4.7 *Spain*

Several farms and cooperatives across Spain share similar challenges in developing biogas plants. Their primary needs focus on financial and business support, including access to funding, market strategies, and optimizing biogas production. A common goal to some projects is to upgrade biogas to biomethane for energy efficiency and self-sufficiency, as well as improving the economic viability of digestate management, particularly the liquid fraction. Some of technical challenges include optimizing nutrient recovery from digestate, transportation costs of manure and digestate, and analysing the optimal feedstock mix. Additionally, valorising CO2 and addressing regional constraints are other key concerns for these projects.

Project 1 (S3- Access to Finance)

Awardee project description	Alcarrás Bioproductors is an Agrarian Transformation Society made out of 150 families of livestock farmers in need of technical and business and finance support. They have a project where they want to install a biogas digestor with energy co-generation and upgrading to biomethane. They are currently in the phase of selecting co-generating engine, and they were mostly interested in finding public financing sources in order to continue moving their project forward.	
Support service provided	Access to finance	
Regional Hub	Spanish	

Duration of support	March 2024 - June 2024	
Service provider partner	SIE	
Contact persons	Sami Rtimi	
Type of organization	Agrarian Transformation Society (SAT)	
Activities and results achieved through the services	Sami Rtimi was contacted as the representative of Alcarrás Bioproductors. With the needs analysis questionnaire and one meeting, the Spanish ALFA hub was able to better understand their situation and what services would fit them best. The Service Action Plan was defined during the metting and later sent to Sami for his records, with the indication of what would be delivered and when. Email exchanges were the main way of communication during the period between calls when clarification was necessary. Both parties agreed that Alcarrás Bioproductors would receive the Access to Finance support service, which would include both European and Spanish opportunities for funding in the public sector. As an extra petition, Sami asked if the Spanish hub could orient him with biogas prices in the country, for this the Spanish hub contacted the Spanish Biogas Association for some input in this regard. A link to a database on prices was provided, together with the list of funding opportunities and the DST link for future reference. A list of consultancies to follow-up the application process was provided. The report was sent together with the link to the survey to obtain their feedback.	

Project 2 (S3- Access to Finance)

Awardee project description	LIFE funded project ending in June 2024 (LIFE19CCM-ES-001206), with the main objective to demonstrate the feasibility of a new model of livestock waste management, through treatment and subsequent use, including technical-economical and environmental aspects. The project is developed in a pig fattening farm managed by COPISO Cooperative. The prototype built uses microalgae biotechnology for the upgrading and biomethane production, with the capacity to fuel two light vehicles. The needed support was described to be in the business and finance side, since the technology has been developed successfully during the project, but they are missing the approach towards target markets, access to finance, corporate and sustainable finance and business modelling.

Support service provided	Access to finance	
Regional Hub	Spanish	
Duration of support	March 2024 - June 2024	
Service provider partner	SIE	
Contact persons	Marcelo F. Ortega Romero	
Type of organization	LIFE PROGRAMME project	
Activities and results achieved through the services	Two meetings were organized with the LIFESMART Agromobility project (LIFE programme) team, one in order to explain the opencall and the services offered (where they stated clearly what they needed from us – access to financing opportunities to continue their project), and another one more dedicated to the service itself, where the questionnaire was completed with the necessary questions to carry out the Access to Finance service, and to agree on the SAP in regards to contents and dates of delivery. Email exchanges were the main way of communication during the period between calls. Both parties agreed that they would receive the previously mentioned service, with a focus in both public and private opportunities, and not limited to Europe, with a special interest in a global approach. Opportunities were identified with a global, European and national scope, giving a holistic overview of the open calls that could be of use. A list of consultancies to follow-up the application process was provided. The report was sent together with the link to the survey to obtain their feedback.	

Project 3 (S6-Concept Desing and Development of Biogas Systems)

Awardee project description	New project, biogas plant to be built in Badajoz, they have processed all the permits and authorization necessary for the construction and are waiting for approval from the Junta de Extremadura (autonomous community representative that manages these requests). They are investing in biogas because they have other plants in this region and the farmers are demanding more solutions for livestock and agricultural waste management in these regions, especially regarding pig and poultry manure and waste coming from olive wastewater (in addition to this plant, they have 3 more projects for the future). They also want to include organic waste and

	slaughterhouse waste, but they are waiting on the authorizations necessary to be able to use this in the plant. Their technical lead is fluent in English and can be the contact point for the technical services (which is their main interest at this stage). They have projected the upgrading of biomethane for this plant. They have listed their biggest challenges as: 1) Digestate: challenge related to its utilization as fertilizer (they are currently working with an agronomist to identify in which lands the digestate composition they produce can be used on). They have difficulty with the transportation of the digestate (more than 230,000 tons need to be transported from one place to the other between digestate and manure), this is a particular issue of this region because the farms are particularly oversized in terms of hectares, which makes it difficult for transportation because everything is very far away (The operational part depends on the regional characteristics and the regional fertilizer regulations, harder to provide advice). 2) Transport: due to the oversizing of the farms in the region, transporting manure and digestate around takes more than 1M euro a year, so they are looking for better solutions to decrease the impact it can have on the profitability of the plant. 3) Mass balance: they need to analyse the dependance they have on olive wastewater (which produces 10 times more biogas than pig manure, so it really increases efficiency when you introduce it in the mix), since it's a seasonal waste so its not available the whole year (they are having conversations with olive producers nearby to get the feedstock they need). The main challenge is that they need to analyse the optimal mix between pig, poultry manure and also olive wastewater to get the best outcome. (Depends on the specific technology, clarified during technical meeting). 4) CO2: They are looking for ways to valorize it, one of the options available is to book the services of a company that has technology in place to produce more biogas with the produced C02 via hydrogen plant technology. (Research issue, not sure yet, no state of the art, no market. Denmark is using this for coca-cola or CO2 liquefaction + we can offer best practice to show how its done)
Support service provided	Concept design and Development of Biogas Systems
Regional Hub	Spanish
Duration of support	March 2024 - June 2024

Service provider partner	A0CO2	
Contact persons	Rafael Corro	
Type of organization	Energy supplier	
Activities and results achieved through the services	A specific work has been done to identify technological solutions to improve the quality of biogas produced in both existing and new plants. A comprehensive overview of available upgrading and desulfurization technologies was drawn up. The reporting can be used in connection with a decision on which technological solutions are most relevant for the plants in question.	

2.5 Lessons Learnt

After the sessions for internal and external validation, the first round's performance revealed key challenges in the service provision:

- **Awardees had more needs** than initially expected: external stakeholders, such as biogas associations and advisory board members need to be included.
- Some awardees were not aware of their specific needs
- **Long response times from awardees:** ALFA Hubs and service providers coordinated follow-ups and extra calls to address this issue.
- For the second round, it will be emphasized: clear deadlines, how much involvement is expected from applicants.
- Sharing previously reported services examples
- Shorting the application procedure
- **Customising services** to better fit specific needs
- Using ALFA hubs as mentors to help applicants choose the right services, or implementing a decision-making process
- **Collaborating among partners** to provide comprehensive services
- Provision of list of consultancies for deeper analysis, when it falls out of ALFA services

By understanding these challenges, minor adjustments were made to reporting templates, and a significant new service (#11) was introduced for the upcoming second round. Details are reported in D2.5 " ALFA market uptake support measures – Interim Version".

3. Capacity Building

Capacity-building activities have been a key asset of the ALFA project to provide the broader community with new knowledge, deepen their understanding of biogas technologies and strategies for reducing greenhouse gas emissions in the context of livestock farming. The capacity-building activities as outlined in Task 3.4 were divided into two strategies: developing **Online International Webinars** and **Onsite Seminars.** Topics from various fields, within CO2 capture technology, green financing, and biogas sustainability were involved, so that the arranged events could upskill the stakeholders and offer valuable insights into innovative solutions for addressing the challenges of the green transition. Moreover, these activities facilitated the exchange of practical knowledge between industry experts and participants, enabling them to explore new opportunities for self-sufficiency and energy production at the local level. In terms of resources and materials, a "best practices" guide developed in T2.4 will be a valuable asset for both webinars and seminars.

The planned **Seminars** not only increased awareness of biogas solutions but also helped stakeholders navigate the financial and technical aspects of implementing these technologies. In doing so, they fostered collaboration and knowledge sharing, empowering participants to make informed decisions and contribute to the development of a sustainable biogas market. The **Webinar** was held online further extending the reach of the event, allowing for continued dissemination of information to a wider audience, maximizing the impact of the capacity-building efforts.

3.1 Webinars

International webinars, developed to attract an international audience from the livestock industry, are held online and in English. They are short programmes (1 to 2.5 hours) and have a specific topic. Each webinar's topic is addressed by at least one partner, depending on their field of expertise. Interaction activities are organised as well. SIE is in charge of the organisation, structure and deployment of the webinars (creating the agenda, the registration form and the Zoom seminar, organising a trial with the speakers, introducing, closing and moderating the proper webinar, etc.), while White Research are responsible for their promotion in the project's social media, and the partner(s) involved in every webinar of the specific content explained. Although to this date only one webinar has been deployed, five more topics have been agreed by the consortium. The indicative topics and the webinar that was designed are explained in the Tables below.

Table 1. Webinars indicative topics and partners

Topic	Partner that suggested it
Challenges and needs for the uptake of biogas in livestock farming	WR, EBA
Participatory process to involve citizens and raise awareness	A0CO2

ALFA support services	Q-PLAN
Review of successful cases	APRE/CERTH/SIE
Waste management/treatment and biogas plants	PED
The use of straw and grass for biogas production	FBCD

Table 2. First webinar details

Event description	An online webinar focused on the challenges and needs for the uptake of biogas in livestock farming across Europe.
Title	Challenges and needs for the uptake of biogas in livestock farming
N. of attendees	41
Date	May 23rd 2024
Partners involved	WR, EBA, SIE
Activities and results carried on through the webinar	There were four speakers that carried on the following presentations: Welcome and introduction (Daniel Matilla, SIE). Research activities in the ALFA project (Pol Camps, WR). Biogases in Europe (George Osei Owusu, EBA). Results from ALFA surveys (Pol Camps and Evangelia Tiaka, WR). Q&A and discussions (Daniel Matilla, SIE) The session went well and received positive feedback. Attendees asked questions and participated in the Mentimeter crafted by WR for the session, an interactive platform for attendees to give their opinion, share their beliefs and ask their questions. All this deployment can be seen in the recording of the session, uploaded to the ALFA YouTube channel. After the session, SIE received the contact from a Spanish advisor who was interested on the project and on putting in contact ALFA with different livestock associations and livestock farmers.

3.2 Seminars

Seminars cover different topics that may interest the audience and are usually done in the context of a major event (such as a livestock fair or an energy fair). Seminars are one-day actions (more than 4 hours), in-person (with a possibility for the hybrid format), and mainly organised and promoted by every Hub manager, with SIE support in terms of organisation and WR support in terms of promotion. Seminars have a regional scope and are organised by every hub. They are understood to be local, addressed to a more localised audience, that act in every specific Hub's area and feel more comfortable using the local language. Two regional seminars have been deployed, in the Italian Hub and in the Danish Hub. In Table 5 below can be seen the seminars that have already been scheduled. In Table 6 the information about the Italian seminar deployment, and in Table 7, the description of the Danish seminar.

Table 3. Seminars forecast

Regional Hub	Partner in charge	Context	Date
Slovakia	PEDAL	Stand-alone seminar, but as a part of the European Biomethane week (PED & SBA will register our seminar as a part of this week's events	15th Oct 2024
Spain	SIE	Seminar will be held in Sepor, a livestock fair in Lorca (Murcia).	30th Oct 2024.
Denmark	FBCD	Seminar in Denmark on the use of degassed biomass as fertilizer.	06th Nov 2024

Table 4. Italian Hub seminar details

Seminar description	This seminar was organised in the context of a major event: a Machinery and Agriculture Fair, MO.ME.MA where many farmers gather every year for decades. It was a great opportunity for ALFA and for the speakers to find a specialized audience and get in touch with many farmers, and livestock farmers. Having our event inside such an event with many attendees facilitated our chances of establishing contact with stakeholders that might be interested on other project's activities.	
Title	"Prospettive avveniristiche per lo sviluppo del biogas in Italia ed in Europa" ('Futuristic prospects for the development of biogas in Italy and Europe').	
N. of attendees	54	

Date	May 3rd 2024	
Partner	APRE	
Activities and results carried on through the event	Apart from APRE representing the ALFA project, there were four more speakers: Lorenzo Maggioni (Institute of Atmospheric Pollution Research, IIA CNR); Emanuele Vicentini & Chiara Agazzi (Green Evolution); and Luca Zambelli (Expert consultant on sustainability in biogas systems). The event went well and created interest among the public. Speakers were happy to be able to share information that they considered is not enough taken into account. They were impressed by the project's aim of spreading information about the advantages of biogas and that we are making an effort in increasing awareness. They were happy that our event was televised by a local TV. The event was successful, all attendees increased their knowledge about biogas and the speakers had opportunities of sharing more about their work and their field. The meeting was recorded, so we wish to capitalize from this experience and gather more knowledge in order to transfer this knowledge to our awardees. It was useful to participate in this meeting before actually deploying the services, because this activity helped us in having a better insight in the field of Biogas. It was not very easy to gather attendees online, so it was crucial to be inside an already organized event, where it was easier for us to engage the right stakeholders.	

Table 5. Danish Hub seminar details

Seminar description	The seminar was arranged by Food & Bio Cluster Denmark. The focus was on agriculture's options for countering a future CO2 tax, and providing concrete answers as to how Danish agriculture can reduce greenhouse gases.The green transition was on the agenda with the help of experts. At the event, various topics were discussed within CO2 in agriculture, including utilization of biogenic CO2 and financing of the green transition. Welltec has developed a technology that, with unconventional collection technologies, is able to capture the excess CO2 from exhaust gas from gasengine. Nykredit gave an insight into how the financial sector works with Leasing and financing for the green transition. Spiras gave an insight into the farmer's opportunities to be self-sufficient and to be an energy supplier to the local community. At Gråsten Landbrugsskole.
Title	Agriculture’s opportunities in the green transition
N. of attendees	55
Date	June 12th, 2024, 9.30-15.00
Partner	FBCD
Activities and results carried on through the event	At the seminar, six different professional presentations were given and an inspection of the biogas plant and the new plant for collecting CO2 from engine installations was carried out. The seminar was concluded with collection and perspective seen from the perspective of agriculture from Christian Lund, chairman of Agriculture & Food, Denmark, Cattle.

3.3 Feedback and Lessons Learnt:

- Addressing global topics that relevant for all partners
- Enhancing promotion for webinars through partners’ networks
- Using livestock fairs as leverage or farmer associations and other types of organisations as allies
- Selecting convenient timing for the regional seminars (writing a calendar for different countries, that shows busy months of the farmers in each region)
- Focusing on relevant and innovative topics and solutions
- Making seminar sessions interactive to avoid fatigue

4. Awareness Raising Campaigns

4.1 Description

The aim of the Awareness Raising Campaign (ARC) as a whole is to maximise the impact, the visibility and the main messages of the ALFA project. The ALFA ARC has been conceptualised by APRE, and customised for the different regions, resulting in six versions, one for each ALFA HUB. The campaign has been organised into two 10-month rounds, covering the last two years of the project lifespan. The first round started at M14 and ended at M23.

As required by the fundamental principles of any type of awareness raising campaign, the ALFA ARC has its own general narrative, *ad hoc* claim and distinctive hashtags: those elements are common to all Hubs and were used as guidelines for each hub to implement the first round of their own regional ARC. In fact, despite the fact that the specificity of the awareness-raising measures has been based on the context of each hub, it is important to underline that the ALFA ARC, despite its six ramifications, has been conceptualised by APRE, with a spirit and a strategy made of common messages and objectives.

The ALFA ARC, titled *"Together for biogas: what goes around, comes around…in circular economy!"*, has been established by APRE and carried out by the six ALFA HUB with the following objectives in mind:

- **Addressing social barriers** to the general acceptance of biogas, in particular the misconceptions of citizens and their negative perceptions surrounding biogas systems (e.g., concerns about odour, noise, or environmental impacts), **through accurate information and positive narratives highlighting the advantages and sustainability**. Therefore, the main goal of the ARC **is to improve the societal acceptance of biogas facilities amongst citizens by 25%** (or above).
- **Raising awareness about biogas systems and their benefits and fostering acceptance of farmers** to incentivise a wider group of biomass owners to produce and bring biogas to market.
- **Informing policy makers around criticalities, barriers and needs perceived by other stakeholders,** mostly farmers (e.g., uncertain policy landscape; unsupportive regulatory framework; poor supply chain coordination; complex administrative and legal procedures).
- **Communicating** to farmers the **existing possibilities of financial support** to compensate for the high initial investment costs for the implementation of biogas systems, and informing policy makers of the need to simplify the procedures for accessing financial support.
- Making farmers more aware of **the financial benefits of biogas,** in order to overcome their reticence due to the perceived investment risks.

The target groups addressed by the awareness raising measures have been:

- Livestock farmers who have not yet implemented biogas plants.
- Governmental agencies and policy makers, national and EU authorities.
- Biogas supply chain entities (e.g., biogas producers, national energy providers. Civil society (e.g., citizens, associations).
- Professionals and researchers
- Other EU-funded projects

4.2 KPIs and Monitoring activities

The Status of the activities carried out throughout the 1st round of the ARC from M14 to M23 can be seen in the Table 6 below:

Table 6. Deployment activities and reached targets for the ARC

Activities	Targets	Reached
Defining and segment specific target audiences for the campaigns.	1. Increased social acceptance of biogas facilities in civil society (>25%) 2. Increased women and young farmers involvement in biogas value chain (>10%) 3. Stakeholders with enhanced awareness of socioeconomic and environmental benefits of biogas (>10.000)	1. It will be measured via online survey at the end of the second round of the ARC, based on the baseline set with the initial servey 2. From the results of the implemented activities, it is realistic that at the end of the project the ratio of women farmers (>40) involved in ALFA Hubs will be 10% higher that the respective ratio in each target region 3. Through the activities carried out, services, capacity building, dissemination, ALFA project reached more of 10.000 stakeholders, generating awareness of socioeconomic and environmental benefits of biogas
Utilizing a mix of communication channels, including traditional media, social media, events, and printed materials, based on regional preferences and coordinating deployment activities to maximize visibility and create an impression.	Dissemination activities in combination with local awareness raising campaigns: 1. Social media followers (>1000) 2. External events attended (≤15) 3. Promotional material distributed (>300)	1. 1000+ Followers have been reached 2. 24 external events have already been attended only in the 1st round 3. > 1000 flyers, leaflets, brochures have been distributed to the participants of ALFA project´s and external events
Leading the deployment of at least two awareness-raising campaigns per round, tailored to regional needs	12 (1 per region per round)	1st round of the ARC completed for the six Hubs.

From the Table 6 above, it can be seen that target have been reached; in particular, we shed light on the one KPI yet to be reached, because it is to be compared at the end of round of the ARCs. On

online survey (via social media) carried out, before running the campaign, to the general public to act as a baseline to understand the level of acceptance of biogas before the campaign. The survey will be repeated at the end of second round of the ARC (in all its six versions), to measure the actual achievement of the man KPI for the campaign, i.e. the improvement the societal acceptance of biogas facilities among citizens by 25%. Here below an example of few of the questions that will be sent to the stakeholders in the six Hubs after the end of the rounds:

● *Have you gained new knowledge about biogas solutions using manure through this campaign?*

● *Has your perception or acceptance of biogas solutions using manure changed as a result of this campaign?*

● *Did the campaign provide useful information that influenced your understanding or decision-making regarding biogas solutions?*

Being APRE in charge of collecting all input from partners, an excel file has been provided as a tool for each HUB Manager to be used for monitoring the ARC in their country. Shared in the project repository and containing two different sheets for each round of the ARC, each regional monitoring file has been filled and regularly updated by HUB managers with regards to the first round of the campaign. In addition to the progress in the official related project KPIs achievement, the file kept track also of other relevant indicators, necessary to formulate a detailed quantitative analysis of the ARC implementation, e.g., events (number of events, number of participants, their overall satisfaction); case studies/success cases/field visit; social media (number of posts, average engagement per posts, total reach, perception change). The monitoring file is shown in the picture below.

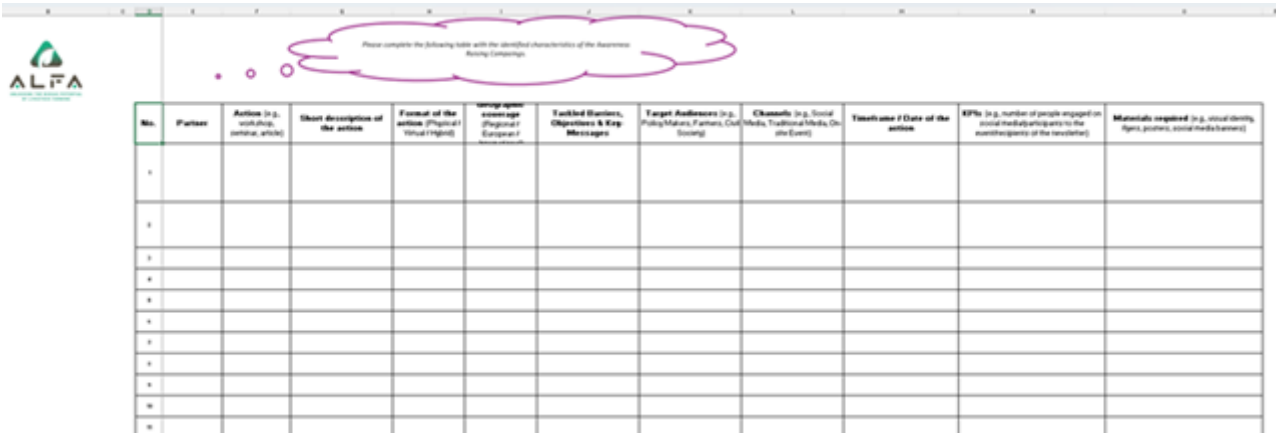


Figure 3. The ARC monitoring file

4.3 1st Round Timeline

The timeline for the first round of the Raising Awareness Campaigns spans from Month 14 (December 2023) to Month 23 (August 2024). The campaign plan has been structured as an action plan, visualized through a Gantt diagram attached below:

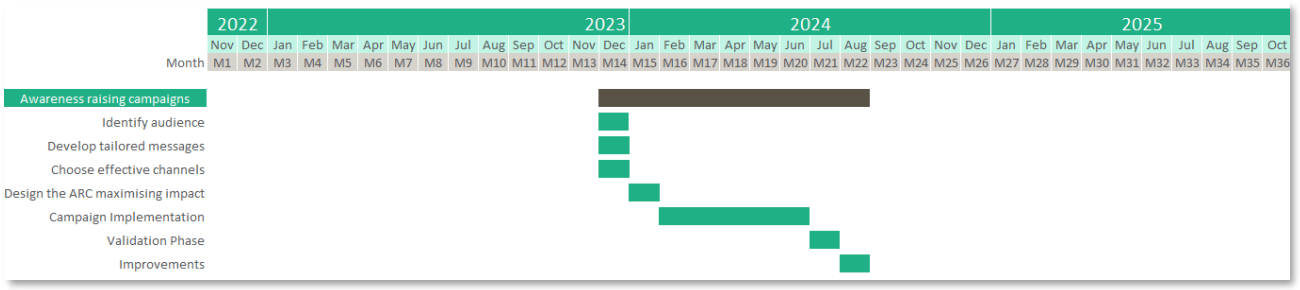


Figure 4. Gantt for the 1st Round of the ARC

4.4 Different versions of the ARC Implementation per HUB

The Awareness Raising Campaigns were tailored and adapted into different versions based on the specific needs and characteristics of the Hub, in each participating country. Each campaign was customized to address local conditions, considering factors such as prior knowledge of biogas and biomethane, national regulations, and market dynamics. This approach enabled the development of targeted strategies that effectively raised awareness and encouraged greater participation from key stakeholders in each national context.

4.4.1 Belgium

In the first round of ALFA's Awareness Raising Campaigns (ARCs), the Belgian Hub has focused on raising awareness about the benefits and misconceptions of biogas primarily among farmers, local policy-makers, relevant researchers and citizens as a whole. White Research (WR) has conducted 4 types of activities, prioritising time-intensive but high-impact and 'on-site' actions to maximise outreach, given that the main targeted stakeholders had proven difficult to reach. In addition, WR selected activities that also generate enough attention, since the types of messages that have the potential to overcome engrained misunderstandings about the potential benefits of biogas in livestock farming need to be relatively extensive and complex. More specifically, the ARC activities in the Belgian hub consisted of (i) organising a half-day event at a farm that has an operational biogas plant, (ii) publishing two papers at one of the leading conferences in the sector (EUBCE), as well as (iii) participating in the conference with a presentation in a panel session and a poster, to explain the key messages of each of the two papers, and (iv) digital communications to reach a broader audience, including a social media post and a website article.

Partner involved	**WHITE RESEARCH (WR)**
Total n. of actions	**5**

TYPE OF ACTION	DETAILED DESCRIPTION (Message)	TYPE of TARGET AUDIENCE & Total numbers of users reached/involved with the Action
Posts on social media channels	Post calling participants to complete the survey via WR's SMA: Power from waste, clean from dirt	3.750 followers Civil society
Participation in events organized (online/ presence)	Visit at a Belgian farm that successfully installed a biogas plant, combined with an information session about ALFA's support services. 	14 external to ALFA
Presentations	Oral presentation in an expert panel session at the EUBCE conference, together with an accompanying Q&A, and the online open-access publication of a paper about the challenging factors for biogas uptake, focusing on Belgium. 	30 participants
Presentations	Creation and exhibition of a dedicated poster at the EUBCE 2024 conference, together with an accompanying presentation/Q&A during a dedicated slot, and the online open-access publication, of a paper about the factors affecting social acceptance of biogas production in livestock farming.	20 Participants

Website post	Article on the ALFA website to complement the posts from the ALFA social media accounts	400 views
Geographic coverage	Belgium, Europe	

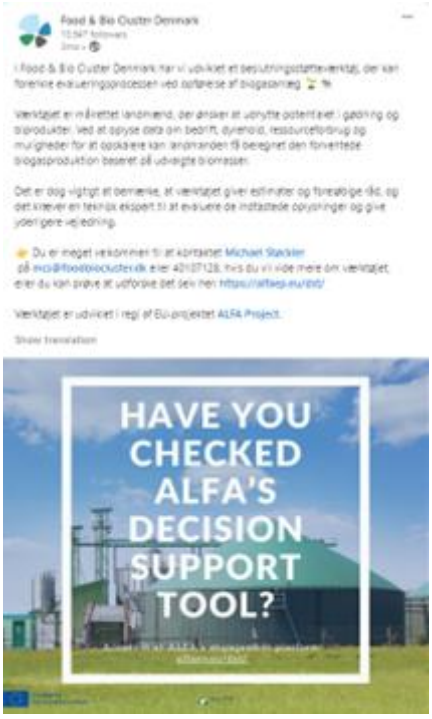
4.4.2 Denmark

As a leading biogas nation, where 40% of the gas in the Danish gas grid is supplied from biogas production, biogas technology and production are already very well integrated in Danish agriculture. That said, as a country and an organisation working directly on the topic, we support initiatives to promote the spread of biogas production in Europe.
In the ALFA project, we have therefore focused on promoting this European initiative (the ALFA project itself) and helping to spread the word about the benefits of biogas production. Thus, the ARC activities in the Danish hub have mostly consisted of online activities - articles on FBCD's website and posts on LinkedIn – and participation in and organisation of events and conferences to interact with and engage the Danish industry, research communities and authorities to push development forward. In particular, we have promoted the ALFA project itself, the Open Call and the Decision Support Tool on our communication channels, and, at events, we have delivered several presentations on both the ALFA project and biogas production in general. We have also participated in several interesting external conferences with biogas as a topic, where we have shared our experience and expertise.

Partner involved	**Food & Bio Cluster Denmark (FBCD A/S)**	
Total n. of actions	**29**	
TYPE OF ACTION	**DETAILED DESCRIPTION (Message)**	**TYPE of TARGET AUDIENCE & Total numbers of users reached/involved with the Action**

Post on social media channels	**10 posts on FBCD's LinkedIn account, promoting the ALFA project, initiatives and activities** 1: Promotion of FBCD's role in the new European ALFA project: LinkedIn post 2: Promotion of the ALFA questionnaire to explore the main obstacles, needs and stakeholder perceptions behind the uptake of biogas in agriculture: LinkedIn post 3: A reminder of the ALFA questionnaire to explore the main obstacles, needs and stakeholder perceptions behind the uptake of biogas in agriculture: Linkedin post  4: Showcasing the results of the ALFA questionnaire: linkedin post 5: Post about the co-creation workshop organised by FBCD in collaboration with Aarhus University: Linkedin post	**FBCD LinkedIn account followers: 10,369** representing the industry, research communities, innovators, investors, national, regional and local policy-makers and authorities. Statistics in total: 7,404 impressions of the 10 posts all together

	 6: Promotion of the ALFA Open Call for biogas projects: Linkedin post 7:Reminder of the ALFA Open Call for biogas projects: linkedin post 8: Announcement to draw attention to the fact that the Open Call application deadline will be postponed: linkedin post 9: Promotion of the Decision Support Tool: linkedin posts	

	 10: Promotion of the ALFA Mentorship Program: Linked in post	
Presentations	5 presentations promoting the ALFA project given at conferences, workshops and events	Research communities, farmers, industry, national policy-makers and authorities Total number of users reached: 702
Participation in events organized (online/ presence) / Workshops	Participated in / organised 5 events, promoting biogas in Denmark  	Research communities, farmers, industry, national policy-makers and authorities Total number of users reached: 702

	 *Photos from the ALFA project co-creation workshop at Aarhus University, August 2023*	
Newsletter	6 newsletter mentions, promoting the ALFA project, initiatives and activities  **EU-projekt skal fremme udbredelsen af teknologier til biogasproduktion baseret på animalsk affald** **Bio**: Europa kan fordoble produktionen af biogas og biometan inden 2030 ved at udnytte de enorme mængder animalsk affald, der er til rådighed. Men potentialet er stort set stadig uudnyttet. Projektet ALFA skal fremme udbredelsen af teknologier, der anvender animalsk affald til biogasproduktion. Læs mere om ALFA-projektet her *Promotion of the ALFA project in FBCD's, February 2023*  **Få støtte til etablering eller forbedring af biogasanlæg** Læs mere her *Promotion of the Open Call in FBCD's newsletter, January 2024*	Industry, research communities, innovators, investors, national, regional and local policy-makers and authorities Total numbers of users reached: 232

Articles	4 articles/news items promoting the ALFA project on the FBCD website. 1: ALFA project description (https://www.foodbiocluster.dk/projekter/alfa) 2: "Nyt EU-projekt skal fremme udbredelsen af teknologier, der anvender animalsk affald til produktion af biogas" *("New EU project to promote the deployment of technologies using animal waste for biogas production")* (https://www.foodbiocluster.dk/nyheder/nyt-eu-projekt-skal-fremme-udbredelsen-af-teknologier-der-anvender-animalsk-affald-til-produktion-af-biogas) 3: "Hvordan fremmer vi udbredelsen af biogasanlæg baseret på husdyrbrug i EU?" *("How do we promote the deployment of livestock biogas plants in the EU?")* (https://www.foodbiocluster.dk/nyheder/hvordan-fremmer-vi-udbredelsen-af-biogasanlaeg-baseret-paa-husdyrbrug-i-eu?Action=1&M=NewsV2&PID=44109) 4: "Få gratis hjælp til etablering eller forbedring af biogasanlæg" *("Get free help to establish or improve your biogas plant")* (https://www.foodbiocluster.dk/nyheder/gratis-hjaelp-til-biogasanlaeg)	Research communities, farmers, industry, national, regional and local policy-makers and authorities Total numbers of views: Article 1: 55 Article 2: 40 Article 3: 66 Article 4: 76
Blogpost	1 contribution for the ALFA Biogas Forum explaining how to limit and control methane emissions from biogas plants in Denmark (https://alfaep.eu/community/alfa/crucial-to-limit-and-control-methane-emissions-from-biogas-plants/#post-11)	Users of the ALFA Biogas Forum Statistics from the Biogas Forum: 3 Reactions 59 Views
Poster	1 ALFA project poster has been centrally positioned in FBCD's premises in Viborg, exposing the ALFA project to all visitors of the house.	Industry, education/training, civil society, regional and local policy-makers and authorities, innovators, SMEs within food and bioresources

	  *The ALFA project poster in the hall of FBCD's premises in Viborg*	No statistics can be provided on this.
Geographic coverage	Denmark	

4.4.3 Greece

The Awareness Raising Campaign (ARC) in Greece, titled "Together for biogas: what goes around, comes around…in circular economy!" and "Driving clean energy to the fullest: let's allow biogas to express its true potential!" (the greek titles actually used are "Ας μάθουμε περισσότερα για τις δυνατότητες της κτηνοτροφίες στην παραγωγή βιοαερίου" and "Κτηνοτροφία και Περιβάλλον: Η επανάσταση του Βιοερίου") aims to **enhance societal acceptance of bioga**s through strategic **online actions and on-site events**. Q-PLAN, manager of the Greek ALFA Hub, with the support on occasion from CERTH, undertook activities designed to increase **public awareness and support** for biogas and therefore facilitate **societal change.**

A major component of the Greek ARC involves **social media campaigns**. These campaigns utilise posts with visuals, and infographics, to increase public awareness about biogas. The Greek Hub collaborated with the Hellenic Association of Biogas Producers (HABIO), as HABIO is already running an awareness campaign in cooperation with the European Biogas Association (EBA), titled **"Beyond Biogas"** (Greek title actually used "Βιοαέριο: Πολύ περισσότερο από ενέργεια", ensuring a unified and effective approach to biogas advocacy in Greece that enhances the outreach and effectiveness of the campaigns.

Forum engagement is another key strategic component within the ARC. By participating in the ALFA forum, the campaign reaches audiences who are already interested in renewable energy and biogas, providing them with up-to-date information. Additionally, **attending on-site events** and conferences allows the campaign to promote biogas directly to stakeholders, creating opportunities for face-to-face engagement and the dissemination of ALFA results.

The campaign addresses several **misconceptions and barriers** to biogas adoption. One of the barriers, that is tackled is the perception of high initial investment costs and the lack of **financial support** for biogas projects. By highlighting the economic benefits of biogas, such as cost savings and energy independence, the ARC aims to demonstrate the feasibility and long-term financial advantages of biogas systems. Furthermore, the campaign highlights the **environmental benefits** of biogas, emphasising its role in waste management and greenhouse gas reduction, and the overall circularity by design of biogas units. **Social barriers**, particularly **negative perceptions** surrounding biogas systems, are also addressed through the dissemination of information about their benefits, fostering acceptance among farmers and incentivising a wider group of biomass owners to produce and bring biogas to market.

To further support the adoption of biogas, the campaign communicates existing possibilities for financial support to farmers. By making farmers more aware of the financial benefits and available support, the ARC seeks to overcome their unwillingness due to perceived investment risks.

The campaign also highlights **biogas as an integral part of the bioeconomy and circular economy.** This message is directed not only at farmers and livestock producers but also at the wider community, including civil society, professionals, researchers, and other EU-funded projects, emphasising the socio-economic benefits of biogas for each stakeholder in the value chain.

The general target groups for the ARC include **livestock farmers** who have not yet implemented **biogas plants, biogas supply chain entities, civil society, and associations**.

Partner involved	Q-PLAN International (Q-PLAN) and Centre for Research and Technology Hellas (CERTH)	
Total n. of actions	Nineteen (19)	
TYPE OF ACTION	DETAILED DESCRIPTION (Messages)	TYPE of TARGET AUDIENCE & Total numbers of users reached/involved with the Action

<table>
<tr>
<td>Posts on social media channels
[6 topics covered in total,
18 posts on three social media]</td>
<td>Communicating to farmers the existing possibilities of financial support (ALFA Forum)
Making farmers more aware of the financial benefits of biogas (ALFA Forum, Social Media)
Biogas as part of bioeconomy and circular economy (ALFA Forum, Social Media)
 

Socio-economic benefits and advantages of biogas (Social Media)
 

Addressing social barriers to the general acceptance of biogas (ALFA Forum)
Demonstrating the practical applications and success stories of biogas projects (ALFA Forum, Social Media)</td>
<td>Farmers, Civil Society
Q-PLAN Social media accounts followers: 4017</td>
</tr>
<tr>
<td>ALFA Forum
[10 posts]</td>
<td></td>
<td>Farmers, Civil Society
Forum members: 104
Average views per post: 70</td>
</tr>
</table>

ALFA Forum [10 posts]	Farmers, Civil Society Forum members: 104 Average views per post: 70	
Participation in events organised, incl. presentations [3 events participation]	Event attendance, in the context of the annual Verde.Tec exhibition about the environment (the Hellenic Association of Biogas Producers conducted a General Assembly, during which a general discussion was held about biogas in Greece.  Presentation at the "Innovative Biomethane Production Routes in Europe", a workshop under the BIOMETHAVERSE project  Presentation at the Bio Rural Workshop.	Industry, other business The number of participants in the events is not known as they were organised outside of the ALFA consortium. However, initially, 150 leaflets and bookmarks were printed, and >90 have been distributed (including events prior to the official kick-off of ARC)
Geographic coverage	Regional and European	

4.4.4 taly

The Italian hub adopted the title of the ARC "Together for biogas: what goes around, comes around…in circular economy!" Translated into Italian as: "Insieme per il Biogas!"

In the first round of ALFA Awareness Raising Campaign, the Italian Hub focused on raising awareness about the benefits and misconceptions of biogas among farmers, local, researchers, and the general public through high-impact, on-site actions. Recognizing that online activities were not effective in reaching our audience, we adopted the double online-offline approach of the ARC strategy, giving prominence to in-person activities, participating in events, and expanding our network. Nevertheless, the physical activities have been reflected, enhanced, and amplified through

online activities. In particular, the Italian HUB established a fruitful synergy with the web magazine “Ruminantia”, which has a strong community clustering different targets potentially interested in ALFA messages: not only farmers and livestock farmers, but also biogas technology manufacturers, representatives of the entire Italian agri-food supply and value chain, but also figures related to animal flocks wellbeing (e.g., vets, animal protection associations). Furthermore, the articles have been then promoted through Ruminantia’s social media pages, with dedicated posts, multiplied by many associates of its community.

In the first round of the ARC, the Italian Hub focused primarily upon few selected key messages that are listed below:

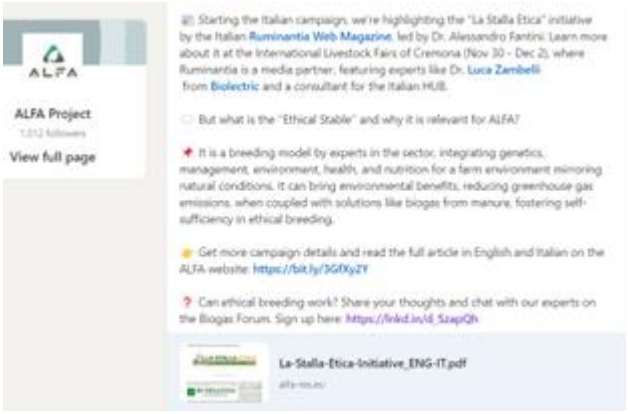
The need for a participatory process (for new plant implementation) that includes the population of the affected areas and neighbouring farmers.

Focus on the environmental benefits of biogas (civil society as audience).

Information about the real impact of small electric biogas plants, much more realistic for the majority of Italian farms (small and medium-sized)

According to the type of messages among the ones listed above, it has been conveyed to a specific audience and a given means of communication has been used. The table below shows how the Italian Hub has combined the type of action with the Messages selecting the proper target audience.

TYPE OF ACTION	DETAILED DESCRIPTION (Messages)	TYPE of TARGET AUDIENCE & Total n. of users reached /involved with the Action
Posts on social media channels and Biogas Forum 16 posts on three social media.	Post via APRE created #APREprogetti a dedicated series of posts to promote the results of APRE projects where APRE regularly posted ALFA updates on LinkedIn, and Facebook.  Message: Promotion of the environmental benefits of biogas systems. On the occasion of the APRE	Farmers, Civil Society APRE Linkedin accounts followers: 14.000 #Apreprogetti average views on Linkedin, Facebook, per each post: >1000

	capacity Building event, the benefits of Biogas have been presented to a specialized audience and the ALFA DST has been introduced to the farmers. APRE Seminar APRE partnered with the magazine Ruminantia to identify the characteristics of an ethical barn and to highlight and disseminate these features with the aim of increasing their adoption in the sector. The main messages are Biogas in circular economy, sustainability and self-sufficiency of farms, social acceptance. The Ethical Stable  Many posts were dedicated to increasing awareness and providing Support for biogas implementation, as the ones about the open call.	
Posts on the Biogas forum	2 Posts on the Biogas Forum (one by APRE about the **Ethical Stable**) (and one by AzzeroC02 "**Can Biomethane play a major role in the mobility and transportation sectors**?")	Civil Society, Policy Makers, Experts. Biogas Forum members: 104
Participation in events organised, incl. presentations [3 events participation]	APRE participated in the 8th edition of **BiogasItaly 2024**, representing the project. The event was organised by the CIB - Consorzio Italiano Biogas whose topic is: "Carbon-negative agriculture to produce more while consuming less."	Farmers, Civil Society, investors. >2000 visitors daily at Biogas Italy >200 visitors at Riscarti >3000 visitors daily at Mo.Me.Ma

APRE participated in the RiscArti Festival, a significant bioeconomy event. ALFA project was presented and APRE actively engaged with the audience aiming to **break down barriers and dispel misconceptions about biogas to increase the general acceptance of biogas.** This event was a joint activity in s**ynergy with other EU funded projects** within Bioeconomy.

Awareness raising event at (MO.ME.MA Fair of agricultural and livestock machines in Tarquinia, Italy) **Support for biogas implementation,** authorisation process criticalities, **NIMBY**, animal welfare, **environmental and socio-economic benefits of biogas.** (See picture in the Seminars section)

https://fieraditarquinia.it/

2 Newsletters	Two Newsletters have been sent out to provide **Support for biogas implementation** to a specialised audience collected throughout the networking activities. The first newsletter was sent on the 15th of January to spread the Open Call to the livestock farmers. The second newsletter was sent on the 13th of February for the extension of the Open Call.	Livestock Farmers, Farmers associations, Agriculture Research organization, the whole Biogas value chain. Subscribers: 80.
6 Articles	Article on interviewing the Pincella farm, for promoting Gender equality in the biogas sector. Showcasing a success case of cost savings and energy independence through biogas.  –> Women in livestock farming 1 Article to promote ethical methodologies in Livestock farming. “La Stalla Etica” saw the light as an attempt to restructure milk production (the “ethical milk”, as the final product) https://alfa-res.eu/wp-content/uploads/2023/11/La-Stalla-Etica-Initiative_ENG-IT.pdf 2 Articles on Ruminantia Web Magazine about the ALFA Open call and the extension. Communicating existing possibilities of financial support for the implementation of biogas systems.	400 page views ca. Civil society, Livestock farmers, Farmers, Dairy Sector value chain.

	 https://www.ruminantia.it/prorogato-il-bando-alfa-per-il-sostegno-a-progetti-per-il-biogas-nel-settore-zootecnico-nuova-scadenza-per-le-domande-fino-al-29-febbraio/ • Article on Ruminantia specialised magazine to promote our Capacity building event: https://www.ruminantia.it/il-progetto-alfa-alla-fiera-delle-macchine-agricole-di-tarquinia-venerdi-3-maggio/ • Article on ALFA website on the Capacity building seminar in presence in the Tarquinia Fair of Machinery and Agriculture https://alfa-res.eu/apre-capacity-building-seminar/	
1 Fields Visit	Interviewing The Pincella Farm at their venue in Mantua, Italy. Collecting info from a successful case in order to promote and showcase a practical application of a biogas plant.	Livestock farming

4.4.5 Slovakia

The Awareness Raising Campaign (ARC) in Slovakia, was held in line with the common ALFA campaign, titled "Together for biogas: what goes around, comes around… in circular economy!" (in Slovakia using the short version - **"Together for biogas" - translated to Slovak: "Spoločne za bioplyn!"). The aim of the campaign was not only to target the general barriers** (common to all HUBs), but the most critical ones for the Slovak area, such as:

- Lack of knowledge about biogas systems and their benefits.
- Negative perceptions and misconceptions surrounding biogas systems such as concerns about odour, noise, or environmental impacts.
- Financial constraints stemming from high initial investment costs.
- Complex administrative and legal procedures associated with implementing biogas systems.

In the first round of ALFAs Awareness raising campaign (ARC) PEDAL Consulting s.r.o. (PEDAL) has focused mainly on the first two above-mentioned barriers, **meaning on raising awareness**

about biogas within the Slovak population - what is it (biogas in the nutshell), misconceptions and prejudice about biogas, benefits of biogas etc. The last two are scheduled for the second round.

The PEDAL team, as the manager of the Slovak ALFA Hub, in collaboration with the Slovak Biogas Association (SBA), initiated activities aimed at **enhancing public awareness about biogas**. The communication plan was developed with a list of topics and subtopics, format, communication tools and channels, as well as the campaign timetable. The topic scope of the regional campaign was based, as mentioned above (country specific), on results from Framework and value chain conditions affecting biogas uptake in livestock farming desk research, Regional Experts and Stakeholder Questionnaire and the Co-creation workshop in Slovakia. During the Co-creation workshop, organised by PEDAL, major social barriers were identified in order to implement biogas solutions, including lack of awareness, lack of information by citizens, resistance to change, low social acceptance, odour and noise complaints.

Based on these facts, the main problem and the main focus of the first round of the campaign was identified, namely lack of information/unawareness. Then specific sub-topics were defined, namely Biogas in a nutshell, Biogas myths: prejudices and misconceptions and Benefits of biogas solutions: from environmental to societal. The topics of the campaign also reflected the findings of the Slovak Biogas Association. The target group consisted mainly of the general public, farmers and local government.

ARC activities in the Slovak hub consisted mostly of **use of online tools** - articles on the PEDAL website, social media posts related to the articles published via social media platforms (LinkedIn, Facebook, Twitter and Instagram) as well as videos with the same topics produced by PEDAL in cooperation with SBA, published on platform YouTube and distributed via different channels. On social medias the campaign was shared under the common hashtag #SpoločneZaBioplyn (in English: #TogetherForBiogas). All subtopics were elaborated in the form of **website articles**, **social media posts, videos as well as four leaflets reflecting the selected topics.** Information about Biogas in a nutshell was also shared by SBA, published in **SBAs monthly newsletter** and distributed among SBA members.

As part of the campaign the leaflets in the Slovak language were produced, reflecting the topics and content in the online version. The leaflets are being progressively posted on the PEDAL website. Their content was also translated into English language and they are produced in editable and printable (editable pdf) versions for other partners being handy if needed in the future. Also they will be distributed among the general public during the upcoming physical events and available for use by SBA and/or other relevant stakeholders as well.

Partner involved	**PEDAL Consulting s.r.o. (PEDAL) together with Slovak Biogas Association (SBA)**
Total n. of actions	49

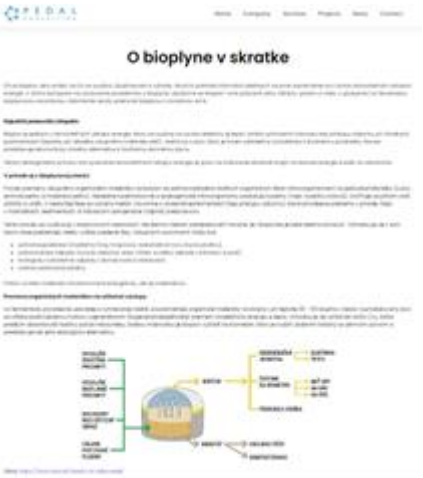
TYPE OF ACTION	DETAILED DESCRIPTION (Message)	TYPE of TARGET AUDIENCE & Total numbers of users reached/involved with the Action
37 Posts on social media channels - 1 Newsletter - 3 Articles - 4 Videos - 4 Leaflets	Posts in the Slovak language published on PEDALs social media channels (LinkedIn, Facebook, Twitter, Instagram) covering all 3 topics. 	General public, farmers, industry and local government 2 261 impressions N/A, but all members of Slovak biogas association 68 views 150 views N/A, 4 leaflets

	 PEDAL Consulting Obnoviteľný, stabilný a regulovateľný zdroj energie. Z hľadiska produkcie CO2 neutrálny. Viacerými spôsobmi pomáha znižovať emisie skleníkových plynov. Používa sa na výrobu tepla a elektriny. Vedľajší produkt jeho výroby má ešte širšie využitie a dokáže nahradiť fosílny zemný plyn. Viete, o čom je reč? O BIOPLYNE! Vo výpočte ďalších prednosti by sme mohli pokračovať ďalej... Ak vás táto téma zaujíma, pozývame vás prečítať si súhrnný článok so základnými informáciami: Čo je bioplyn, ako vzniká, na čo sa využíva. Zaujímavosti a výhody. Stručný prehľad informácií ideálnych na prvé zoznámenie sa s týmto obnoviteľným zdrojom energie. https://lnkd.in/dVFyq9aD Článok publikujeme v rámci kampane na zvýšenie povedomia o bioplyne „Spoločne za bioplyn" projektu ALFA Project, v spolupráci so Slovenská Bioplynová Asociácia. Odomknite skrytý potenciál bioplynu s iniciatívou ALFA! #SpoločneZaBioplyn #ALFAproject #bioplyn #CanIUsePlouCan Máte záujem s nami spolupracovať? Pozrite si náš Reciprocity program - #GrowTogether: https://lnkd.in/dMgGkrRj ALFA PEDAL O BIOPLYNE V SKRATKE Kampaň ALFA projektu "Spoločne za bioplyn" Zoznámte sa s bioplynom: Čo je bioplyn Ako vzniká Na čo sa využíva Zaujímavosti a výhody Bioplyn v číslach	

Information about Biogas in a nutshell video published in Slovak Biogas Association monthly newsletter.

Articles in the Slovak language published on PEDALs website:

Biogas in a nutshell/ O bioplyne v skratke



	Biogas myths: prejudices and misconceptions/Mýty o bioplyne: Predsudky a mylné predstavy  Mýty o bioplyne: Predsudky a mylné predstavy Benefits of biogas solutions: from environmental to societal/Benefity bioplynových riešení: Od environmentálnych po spoločenské  Benefity bioplynových riešení: Od environmentálnych po spoločenské 4 Videos in the Slovak language published on YouTube and promoted via SM media channels of PEDAL and SBA. Together for Biogas - Biogas in a nutshell/Spoločne za bioplyn – O bioplyne v skratke  ALFA KAMPAŇ NA ZVÝŠENIE POVEDOMIA O BIOPLYNE: „Spoločne za bioplyn" O BIOPLYNE V SKRATKE	

	Together for Biogas - Benefits, uses and interesting facts/Spoločne za bioplyn – Výhody, využitie a zaujímavosti  Together for Biogas - Prejudices and misconceptions/Spoločne za bioplyn – Predsudky a mylné predstavy  Together for Biogas - Benefits of biogas solutions/Spoločne za bioplyn – Benefity bioplynových riešení  4 Leaflets in the Slovak language, reflecting the topics covered in the first round of the campaign; prepared in pdf format for printing and available for editing (incl. translation into EN language) for all partners.	


ALFA
BIOPLYN


ALFA
BIOPLYN


ALFA
BIOPLYN

	  	
Geographic Coverage	Slovakia	

4.4.6 Spain

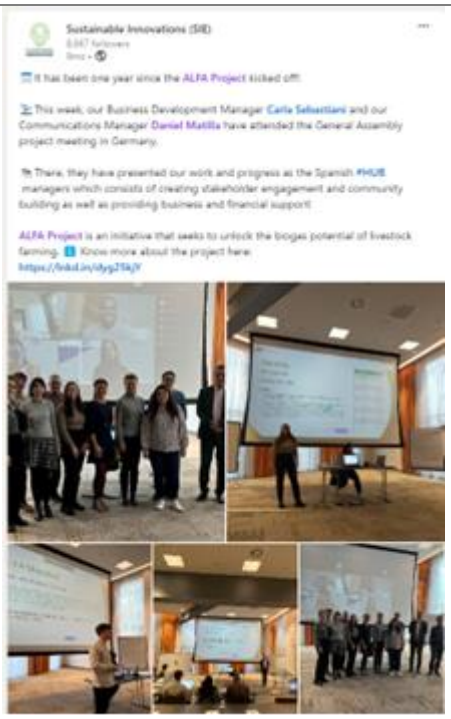
The Spanish Hub actions have been more related to creating awareness about the project itself, through Sustainable Innovation's networks and other means, and also to establish contact with stakeholders in the region (being the most significative AEBIG, the Spanish biogas association, and IDAE, the Spanish ministry toward energy transition). The next step has been promoting the services and the open call: the communication efforts have focused on this, but combining the promotion of those services with information about biogas and about biogas in Spain specifically. On social media, SIE has promoted the project in several different posts, both speaking about the project itself or through sharing information about biogas (for example, infographics or the pictures of the different in person and online meetings).

Press releases have been also key in promoting the project within the media, and have had some impact (for example, a post on a national online media was published, speaking about biogas and the ALFA project and the open call). The second press release, about the open call, was not only sent to media, but also to livestock associations in the country, followed by phone calls to explain about ALFA and the project. In total, 22 associations were contacted and asked to inform their partners about the project. Future actions will intensify posts in social media, as well as informational content, as in this period the efforts have been condensed in few but significant actions (such as webinars, roundtables, etc.).

Partner involved	**Sustainable Innovations (SIE)**	
Total n. of actions	29	
TYPE OF ACTION	**DETAILED DESCRIPTION** (Message)	**TYPE of TARGET AUDIENCE & Total numbers of users reached/involved with the Action**
Social media post	Post about ALFA's kick-off meeting in three platforms: LinkedIn, X and Instagram.  	Civil society, media, industry More than 8000 followers on LinkedIn, more than 500 on Instagram, more than 1200 on X (formerly Twitter)

Press release	Press release announcing SIE's participation in the project, and explaining the project.  SUSTAINABLE INNOVATIONS, HUB MANAGER FOR SPAIN IN ALFA, A PROJECT FOR SCALING UP THE MARKET UPTAKE OF RENEWABLE ENERGY SYSTEMS	Sent to 300 media
Social media post	Post to promote the Spanish ARC survey, both on LinkedIn and X  Sustainable Innovations (SIE) Atención a todos los miembros de la cadena de valor del biogás Desde Sustainable Innovations (SIE) hemos recibido financiación de la Comisión Europea (programa Horizonte Europa) para el proyecto ALFA Project el cual tiene el fin de apoyar y aumentar la adopción de tecnologías relacionadas con el biogás y el biometano en países como #España, #Italia, #Grecia, #Eslovaquia, #Bélgica y #Dinamarca. Para ello estamos recollectando respuestas a través del cuestionario adjunto, el cual nos ayudará a identificar mejor las barreras y conductores de la adopción de estas tecnologías en toda España. Si eres parte de la cadena de valor del biogás/biometano, o eres conocedor del tema, no dudes en dejarnos tu respuesta haciendo clic en el enlace de abajo ! https://lnkd.in/dpYMbuJ5 #sostenible #biogas #biometano #ganaderos Show translation LinkedIn	Civil society, media, industry More than 8000 followers on LinkedIn, more than 1200 on X (formerly Twitter)
Social media post	Post to promote the ARC survey, both on LinkedIn and X	Civil society, media, industry More than 8000 followers on LinkedIn, more than 1200 on X (formerly Twitter)

		
Social media post	Post about the first ALFA's GA, on LinkedIn, X and Instagram 	Civil society, media, industry More than 8000 followers on LinkedIn, more than 500 on Instagram, more than 1200 on X (formerly Twitter)
Social media post	Post about the second ALFA's GA, on LinkedIn, X and Instagram.	Civil society, media, industry More than 8000 followers on LinkedIn, more than 500 on Instagram, more than 1200 on X (formerly Twitter)

		
Social media post	Post about the first ALFA review meeting, on LinkedIn, X and Instagram 	Civil society, media, industry More than 8000 followers on LinkedIn, more than 500 on Instagram, more than 1200 on X (formerly Twitter)
Post in specialized media	A post about biogas in Spain was published in a specialized media (OK Green) 	Civil society, media, industry. Audience can't be measured as it is confidential information from this media, but it is one of the most-read online media in Spain (source)

Press Release Open Call	A press release describing and promoting the Open Call was sent to Spanish Media  El proyecto ALFA abre una convocatoria de asesoramiento integral y gratuito para proyectos de biogás en la industria ganadera	Civil society, media, industry. Sent to 300 media.
Press Release Open Call	A press release describing and promoting the Open Call was sent to Spanish Media  El proyecto ALFA abre una convocatoria de asesoramiento integral y gratuito para proyectos de biogás en la industria ganadera	Civil society, media, industry. Sent to 300 media.

Social Media: 5 facts about biogas	A creativity was shared through SIE's social media channels, both in Spanish and English 	Civil society, media, industry More than 8000 followers on LinkedIn, more than 500 on Instagram, more than 1200 on X (formerly Twitter)
Social Media: Open Call	Promotion of the Open Call through SIE's LinkedIn and Twitter 	Civil society, media, industry More than 8000 followers on LinkedIn, more than 1200 on X (formerly Twitter)
Direct calls to Spanish livestock associations	SIE called Spanish livestock associations to promote both the open call and the project	22 livestock associations contacted
Attendance to Genera fair (Madrid)	SIE attended Genera fair, a fair on renewable energy. There, they have the opportunity to speak about the project and, indeed, established the first contact with IDAE.	Policymakers, public institutions No data available, but more than 10 people reached about the project in person.

Roundtable with national authorities	Meeting with IDAE, the Spanish Energy Institute, part of the Ministry for environmental transition and demographic challenge	Policymakers, public institutions 4 participants from IDAE
Video creation: What is biogas?	An informational video explaining biogas and its applications and benefits. 	Civil society, media, industry. To be published in September.

4.5 Feedback and Lessons Learnt:

- Creating traditional awareness materials like leaflets and fair presentations or articles in relevant magazines, along with the ALFA project's outcomes and the benefits of support measures
- Using direct contact methods and exploring alternative channels like Telegram or WhatsApp
- Engaging with farmers through livestock fairs and associations, or farmers that are already cooperating around one bigger plant
- Enhancing promotion for webinars through partner networks
- Creating also on-site events to engage them

5. Lessons Learnt and Next steps

The project has successfully addressed both the business and technical needs of the selected farmers through tailored financial, business, and technical support services. Alongside targeted seminars and webinar participants have gained practical knowledge and skills crucial for implementing and managing biogas solutions. The project has raised awareness by creating traditional materials such as leaflets, fair presentations, and articles in relevant magazines, showcasing ALFA's outcomes and the benefits of its support measures. The well-executed awareness campaigns will **significantly improve public acceptance of biogas facilities**, towards reaching the goal of the 25% increase in citizen acceptance by the end of the 2nd Round. Moreover, the project will be proven to be potentially **scalable and replicable**. By deploying its initiatives across the national Hubs in six countries with varied farming and biogas conditions, the solutions have **shown adaptability across different frameworks and environments.** This ensures that the project's outcomes can be **effectively applied in diverse contexts, broadening its overall impact**.

Thanks to the iterative cycle approach of the project, it is possible to collect any lessons learnt from the 1st round and integrate them in the 2nd round. In particular, in the services provided, each Hub

often realized that the awardees had more needs than expected, requiring multiple forms of support. In response, service providers collaborated with external stakeholders to offer additional resources and guidance. Partners teamed up across Hubs and combined their expertise for deeper assessments and documented requests, leading to the proposal of new services, especially in technical areas, to better meet these needs.

Additionally, through the experience each and every Hubs learned in the **first round of the ARCs**, the feedback gathered from the participants of the performed activities and partners will be applied in the next round. For a more effective engagement across different hubs, **the consortium valued a tailored, context-specific approach adapting the strategies to stakeholder preferences**. The consortium will intensify activities such as seminars, field visits, and mutual learning workshops still keeping an online amplification.

Given the close interaction with stakeholders and unfolding of the activities in the 1st round, the consortium is completely well equipped to face the 2nd round of deploying market uptake support measures and ARCs and it is scheduled to be launched in 2025.

The **Next steps** of the ALFA project will focus on launching the 2nd round of **service provision**, marked by the opening of a new **Open Call** for applications in November 2024 (M25). The open call will provide opportunities for at least another 25 projects to join the initiative, adding the 1st round 25 projects and aiming to achieve the overall target of supporting at least 50 projects in total accomplishing its goal and further its mission of promoting biogas solutions across Europe.

In parallel, the project will intensify its **Capacity-building** efforts by organizing a series of new webinars and seminars, scheduled already for the autumn 2024, and at the end of the project there will be held six on-site seminars in total, across all six regional hubs. These events will engage a wider network of stakeholders, offering valuable insights and knowledge sharing to support the green transition in the livestock and biogas sectors.

Finaly the **Awareness Raising Campaigns**, during the 1st round-from December 2023 (M14) to September 2024 (M23)- carried out contributed to support all the project targets. The forthcoming stage in the ALFA project's ARCs continue with implementing a series of activities such as dissemination of information in various formats and channels to trigger behavioural change, enhance the overall visibility of biogas solutions in the livestock sector, address information gaps, **promote acceptance and engage** the public actively in order to produce the **maximum impact**.

6. Annexes

6.1 Annex I: Pre-ARCs survey

* What is your country of residence?

- ☐ Belgium
- ☐ Denmark
- ☐ Greece
- ☐ Italy
- ☐ Slovakia
- ☐ Spain

* Does a biogas plant create socio-economic benefits?

- ○ 1 - Biogas development has a negative impact on citizens' socio-economic conditions.
- ○ 2 - Biogas development has a moderately negative impact on citizens' socio-economic conditions.
- ○ 3 - Biogas development has a neutral impact on citizens' socio-economic conditions.
- ○ 4 - Biogas development creates a moderate benefit on citizens' socio-economic conditions.
- ○ 5 - Biogas development creates a strong benefit on citizens' socio-economic conditions.

* Does a biogas plant create environmental benefits?

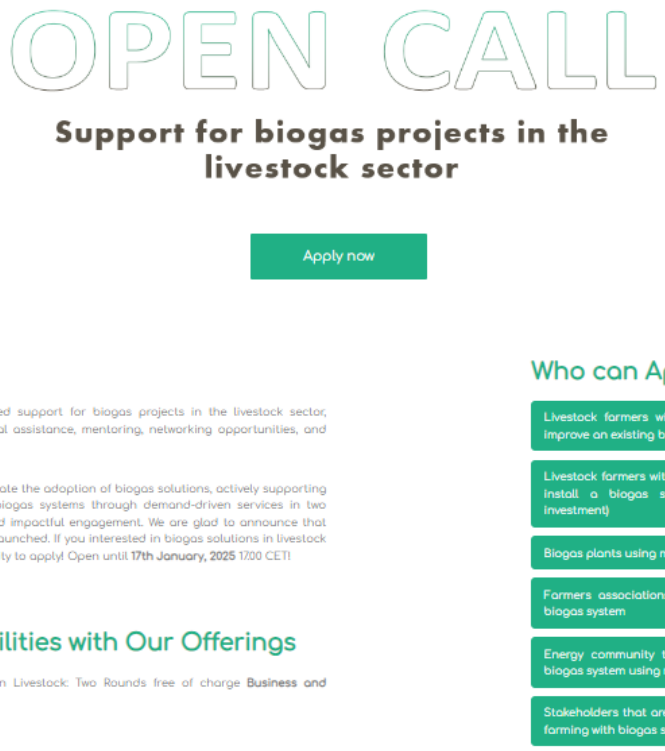
- ○ 1 - Biogas development has a negative impact on the environment.
- ○ 2 - Biogas development has a moderately negative impact on the environment.
- ○ 3 - Biogas development has a neutral impact on the environment.
- ○ 4 - Biogas development creates a moderate benefit on the environment (e.g., lower CO2).
- ○ 5 - Biogas development creates a strong benefit on the environment (e.g., lower CO2).

* Does a biogas plant contribute to create a sustainable and inclusive agriculture (e.g., gender inclusive)?

- ○ 1 - Biogas development has a negative impact on the creation of a sustainable and inclusive agriculture.
- ○ 2 - Biogas development has a moderately negative impact on the creation of a sustainable and inclusive agriculture.
- ○ 3 - Biogas development gives a neutral contribution to the creation of a sustainable and inclusive agriculture.
- ○ 4 - Biogas development gives a moderate contribution to the creation of a sustainable and inclusive agriculture.
- ○ 5 - Biogas development gives a strong contribution to the creation of a sustainable and inclusive agriculture.

Soumettre

6.2 Annex II: Open Call



6.3 Annex III: Selection Matrix – Service provision 1st round

	Applicant Name	Region	Gender	Age	Given Service	Support by	Remarks	Service Action Plan	Service Questionnaire	Delivery	Report	Evaluation	Last update (please add date in this column)	description of the activity that has been carried out	Where is the service completed?	How long it has taken?	Have follow-up meetings been held?
9	Valerie Vandaele	Belgium			Consultancy on Implementation and Mon	A0CO2	complete	Yes	Yes	Yes	Yes		04.07.2024				
6	Olav Rasmussen	Germany			Consultancy on Implementation and Mon	A0CO2	complete	Yes	Yes	Yes	Yes		04.07.2024				
22	Arrigo Milanesi	Italy			Access to Finance	APRE	mplete	Yes	Yes	Yes	Yes		04.07.2024				
25	Marian Zahumensky	Slovakia			Evaluation of Biogas Potential based on P	A0CO2	complete	Yes	Yes	Yes	Yes		04.07.202	Report		jun-24	
14	Rafael Corro	Spain			Consultancy on Implementation and Mon	A0CO2	complete	Yes	Yes	Yes	Yes		04.07.2024				
8	Paolo Petruzzi	Italy			Technical Support for Farmers in the Eval	APRE	external s	Yes	Yes	Yes	Yes		04.07.2024		Italy	june-july	
15	DI GIAMMARTINO MARCC	Italy			Access to Finance	APRE	completed						04.07.2024		Italy	June-Sept	yes
27	Livio Loffreda	Italy			Technical Support for Farmers in the Eval	APRE	external s	Yes	Yes	Yes	Yes		04.07.2024		Italy	june-july	
30	ELISABETTA QUAINI	Italy			Technical Support for Farmers in the Eval	APRE	external s	Yes	Yes	Yes	Yes	yes	04.07.2024		Italy	june.	
18	Ing. Michal Carak 1	Slovakia			Consultancy on Implementation and Mon	CERTH	complete	Yes	Yes	Yes	Yes	No	04.07.202	Report in	Slovakia	aug-24	
19	Ing. Michal Carak 2	Slovakia			Consultancy on Implementation and Mon	CERTH	complete	Yes	Yes	Yes	Yes	No	04.07.202	Technolo	Slovakia	jun-24	
5	Erik Sørensen	Denmark	Man	40-64 years old	Business Modelling and Planning	FBCD	complete	Yes	Yes	Yes	Yes	Yes	04.07.202	A review	Denmark,	3-4 day	Yes
37	Soren Ostergaard	Denmark	Man	40-64 years old	Technical Support for Farmers in the Eval	FBCD	complete	Yes	Yes	Yes	Yes	Yes	04.07.2024				
35	Ing. Vladimír Sosovicka	Slovakia	Man	40-64 years old	Concept Design and Development of Biog	FBCD	complete	Yes	Yes	Yes	Yes	No	04.07.2024				
4	Erik Solar	Slovakia	Man	40-64 years old	Market Research	PEDAL	complete	Yes	Yes	Yes	Yes	No	04.07.202	General	Slovakia	ca 1,5 month	Yes - a follow-
17	Frederik Mitev	Slovakia	Man	15 - 39 years o	Market Research	PEDAL	complete	Yes	Yes	Yes	Yes	Yes	04.07.202	General	Slovakia	less than 1,5 mo	Yes - a follow-
21	Ing. Igor Uhliarik	Slovakia	Man	15 - 39 years o	Access to Finance	PEDAL	complete	Yes	Yes	Yes	Yes	Yes	04.07.202	Report	Slovakia	less than 1,5 mo	Yes - a follow-
26	Daria Pylypas	Slovakia	Woman	15 - 39 years o	Access to Finance	PEDAL	complete	Yes	Yes	Yes	Yes	Yes	04.07.202	Report	Slovakia	less than 1,5 mo	Yes - a follow-
3	Kadir Serif	Greece	Man	15 - 39 years o	Corporate and Sustainable Finance	Q-PLAN	complete	Yes	yes	yes	Yes	Yes	04.07.202	The	Komoti	April 2024	not meeting,
12	Vasileios Filippou	Greece	Man	15 - 39 years o	Corporate and Sustainable Finance	Q-PLAN	complete	Yes	Yes	yes	Yes	Yes	04.07.202	The	Kardits	May 2024	not meeting,
13	Dimitrios Bellos	Greece	Man	40-64 years old	Corporate and Sustainable Finance	Q-PLAN	complete	Yes	Yes	yes	Yes	Yes	04.07.202	The	Rodoto	April 2024	not meeting,
29	Panagiota Baraki	Greece	Woman	15 - 39 years o	Corporate and Sustainable Finance	Q-PLAN	complete	Yes	Yes	yes	Yes	Yes	04.07.202	The	Analysi	April 2024	not meeting,
20	Sami Rtimi	Spain	Man	40-64 years old	Access to Finance	SIE	complete	Yes	Yes	Yes	Yes	Yes	04.07.2024				
38	LifeSMART Agromobility	Spain	Man	40-64 years old	Access to Finance	SIE	complete	Yes	Yes	Yes	Yes	Yes	04.07.2024				
7	Bo Rosborg	Denmark	Man	40-64 years old	Market Research	WR	complete	Yes	Yes	Yes	Yes	Yes	04.07.202	Market	The	It took about	no

6.4 Annex IV: Need Analysis Questionnaire

Need Analysis Questionnaire

Project Information:

Project Title:

Organization/Individual Name:

Region of Operation:

Primary Contact Person:

Contact Email:

Contact Phone Number:

Project Overview:

Briefly describe your project, including its objectives and key activities.

Technical Support Needs:

What specific technical challenges or requirements does your project currently face?

Are there any specific areas within the biogas or livestock sector where you seek technical expertise or guidance?

Please outline any existing technical infrastructure or systems related to your project.

Business Support Needs:

What are the primary business challenges or needs for your project?

Do you require assistance in business planning, market analysis, or financial management? If so, please specify.

Have you identified any potential barriers to the market uptake of renewable energy solutions in the livestock sector within your region?

Investment Readiness:

How prepared is your project for investment in renewable energy solutions for the livestock sector? Please provide information on the current level of readiness, including financial planning, funding sources, and any existing partnerships or collaborations in place.

Service Prioritization:

Please prioritize the following ALFA services based on your project's current needs. Use numbers (1 being the highest priority, 5 being the lowest) to indicate the importance of each service.

Prioritisation	**Services Portfolio**
	Market Research

	Business Modelling and Planning
	Access to Finance
	Corporate and Sustainable Finance
	Farmer to Farmer Advice
	Concept Design and Development of Biogas Systems
	Evaluation of Biogas Potential based on Preliminary Calculations
	Energy and Environmental Analyses
	Consultancy on Implementation and Monitoring of Biogas Solutions
	Technical Support for Farmers in the Evaluation and Comparison of Plant Suppliers' Quote

General Project Information:

What are the expected outcomes or goals for your project within the next 6-12 months?

Are there any specific milestones or deadlines that we should be aware of in the coming months?

How do you envision the ALFA project supporting the market uptake of renewable energy solutions in the livestock sector through your initiative?

Additional Comments:

Is there any other information or specific support you would like to highlight or discuss regarding your project?

The project

ALFA has the objective to help unlock the EU's biogas production potential by fostering the adoption of technologies using manure to produce biogas, thus helping increase the adoption of renewable energy sources in the EU and helping reduce emissions from untreated animal waste. The project will identify drivers and barriers for the uptake of biogas in the EU livestock farming industry and will support farmers from 6 EU countries (Italy, Denmark, Belgium, Slovakia, Greece and Spain) through its own co-created solutions, including financial, business, and technical support services as well as capacity-building seminars. In parallel, the project will develop an Engagement Platform to host tools that facilitate collaboration and knowledge exchange among industry actors and provide credible estimations of each farm's biogas potential, prospect profits, and environmental and social impacts. Moreover, ALFA will inform all relevant stakeholders via awareness-raising campaigns and policy recommendations, and will provide guidelines for replication of its results in other regions.

Coordinator: **Q-PLAN**

PARTNER		SHORT NAME
Q-PLAN INTERNATIONAL	Q-PLAN INTERNATIONAL ADVISORS PC	QPL
APRE	AGENZIA PER LA PROMOZIONE DELLA RICERCA EUROPEA	APRE
AzzeroCO2	AZZERO CO2 SRL	A0CO2
CERTH	CENTRE FOR RESEARCH & TECHNOLOGY HELLAS	CERTH
Food & Bio Cluster Denmark	FBCD AS	FBCD
Sustainable INNOVATIONS	SUSTAINABLE INNOVATIONS EUROPE SL	SIE
WHITE	WHITE RESEARCH SRL	WR
PEDAL CONSULTING	PEDAL CONSULTING SRO	PED
EUROPEAN DAIRY FARMERS	EUROPEAN DAIRY FARMERS E.V.	EDF
EBA European Biogas Association	EUROPEAN BIOGAS ASSOCIATION AISBL	EBA

CONTACT US: info@alfa-res.eu **VISIT: www.alfa-res.eu**

ALFA Project @alfa_euproject alfa-euproject @alfaprojectHE