



D6.5

Data Management Plan – Final version

Q-PLAN INTERNATIONAL

31 / 10 / 2025



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1.0	31/10/2025	Final version ready for submission	Q-PLAN

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ABBREVIATIONS

CESSDA	Consortium of European Social Science Data Archives
DCMI	Dublin Core Metadata Initiative
DMP	Data Management Plan
DOI	Digital Object Identifier
EEA	European Economic Area
FAIR	Findable, Accessible, Interoperable and Re-usable
GDPR	General Data Protection Regulation
HTML	Hypertext Markup Language
OAI	Open Archives Initiative
OAI-PMH	Open Archives Initiative Protocol for Metadata Harvesting
PID	Persistent Identifier
PC	Project Coordinator
PO	Project Officer
QA	Quality Assurance
QC	Quality Control
TL	Task Leader
URL	Uniform Resource Locator
WP	Work Package
WPL	Work Package Leader
WTL	Work Task Leader

Executive Summary

This document constitutes the final version of the Data Management Plan (DMP), elaborated as deliverable (D6.5) in the framework of ALFA project.

ALFA's main objective was to tap the potential of biogas production from livestock farming to enhance the wider uptake of RES and increase the share of bioenergy as a baseload energy source, while ensuring reduced emissions from untreated manure and supporting the creation of new jobs and revenue for the livestock farming industry.

During its three years, the project supported 53 livestock farmers in six EU countries (Belgium, Denmark, Greece, Italy, Spain, and Slovakia) to overcome existing barriers and viably take up biogas solutions, whilst providing a more informed basis for policy-makers and stakeholders by unveiling biogas market dynamics. Tools were created to reduce investment risk and support more robust and efficient financial frameworks to allow massive scalability of biogas. Furthermore, ALFA provided science-based information to livestock farming decision makers on the potential of biogas and raised the awareness of the general public on misperceptions about biogas and bioenergy.

In this context, the final version of the project's DMP sets out the overall methodological principles pertaining to the management of the data that was collected, generated and/or reused in the framework of ALFA, safeguarding sound and ethical data management along the entire duration of the project. Moreover, it provides an updated overview of ALFA's data, as identified in this final stage of the project, along with information on the methodology pertaining to their management as well as to making them Findable, Accessible, Interoperable and Re-usable (FAIR).

The final version of the DMP is the third and final out of the three versions of ALFA Data Management Plan that were produced in the course of the project and has served as a living document (D6.2 Data Management Plan – Initial Version was delivered in M3, and was updated in D6.4 Data Management Plan – Interim Version in M18). This final deliverable builds on and enhances the previous versions, presenting an accurate, complete and targeted strategy for managing all data collected, generated, or reused throughout the project's lifecycle, including data expected to be gathered after the conclusion of ALFA.

1. Introduction

The current document represents the final version of the Data Management Plan of ALFA, which has received funding from the European Union's Framework Programme for Research and Innovation Horizon Europe under Grant Agreement No 101075659.

The overall objective of the ALFA project was to tap the potential of biogas production from livestock farming to enhance the wider uptake of RES and increase the share of bioenergy as a baseload energy source, all while also ensuring reduced emissions from untreated animals' waste and supporting the creation of new jobs and revenue for the livestock farming industry. ALFA was designed to act as a catalyst in six EU target countries selected as representative cases by providing demand-driven support to over 50 livestock farmers to take up biogas solutions (direct heating, combined heat and electricity generation, biomethane) whilst providing a more informed basis for policy-makers and stakeholders by unveiling biogas market dynamics. Tools were created to reduce investment risk and support more robust and efficient financial frameworks to allow massive scalability of biogas. ALFA has provided science-based information to livestock farming decision makers on the potential of biogas and raised the awareness of the general public on misperceptions about biogas and bio-energy.

To this end, the consortium of ALFA brought together a complementary and interdisciplinary group of ten partners across seven different countries within the EU and beyond, as presented in the table which follows.

Table 1. ALFA Partners

Partner Role*	Part-ner No	Partner Name	Partner Short name	Country
COO	1	Q-PLAN INTERNATIONAL ADVISORS PC	QPL	Greece
BEN	2	AGENZIA PER LA PROMOZIONE DELLA RICERCA EUROPEA	APRE	Italy
BEN	3	AZZERO CO2 SRL	A0CO2	Italy
BEN	4	FBCD AS	FBCD	Denmark
BEN	5	SUSTAINABLE INNOVATIONS EUROPE SL	SIE	Spain
BEN	6	ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS	CERTH	Greece
BEN	7	WHITE RESEARCH SRL	WR	Belgium
BEN	8	PEDAL CONSULTING SRO	PED	Slovakia
BEN	9	EUROPEAN DAIRY FARMERS E.V.	EDF	Germany
BEN	10	EUROPEAN BIOGAS ASSOCIATION AISBL	EBA	Belgium

* COO = Coordinator, BEN = Beneficiary

All partners of the ALFA consortium adhered to sound data management principles in order to ensure that the meaningful data collected, processed and/or generated throughout the duration of the project were well-managed, archived and preserved, in line with the [Guidelines on Data Management in Horizon Europe](#).

Along these lines, this final version of the DMP aims to achieve the following objectives:

- Describe the data management lifecycle for the data to be collected and/or generated in the framework of ALFA, serving as the key element of good data management.
- Outline the methodology employed to safeguard the sound management of the data collected, and/or generated as well as to make them Findable, Accessible, Interoperable and Re-usable (FAIR).
- Provide information on the data that was collected and/or generated, and the way in which it was handled during and after the end of the project, along with the standards applied to this end.
- Describe details on how the data was made openly accessible and searchable to interested stakeholders, as well as its curation and preservation.
- Present information on the resources that were allocated so as to make data FAIR, clearly identifying responsibilities pertaining to data management, while addressing data security and ethical aspects.

In this final version, the updates are highlighted in **light brown** and can be summarised as follows:

- **Section 2.2.1: Mutual Learning Workshops – Mission and Networking Event** has been adjusted.
- **Section 2.2.2: Direct Data Input by Users of the Engagement Platform and Tools** has been adjusted.
- **Section 2.2.3: Website Analytics and Social Media Statistics** (including Facebook, Twitter, LinkedIn, and YouTube) have been updated.
- **Section 2.4: Table 2** has been updated.
- **Section 3.1.5: Keywords** have been updated.
- **Section 3.2.1: Figure 1** has been updated with the ALFA DOI.
- **Section 3.2.2: Tables 5 and 6** have been updated, and the *Open Access* part has been adjusted.
- **Section 3.4.3: and Table 8** has been updated.

The methodology of ALFA for data management builds on know-how, tools and templates that were developed internally by Q-PLAN as well as on good practices and templates from the literature (such as the Horizon Europe Data Management Plan Template). As in previous EU-funded projects, tailored modifications to the methodology were implemented for ALFA as well, in order to comply with the GA conditions and the particularities of the project. Along these lines, this deliverable presents the adjusted methodology as it was further developed and applied in the context of ALFA as well as presents the results from its application during the project.

With the above in mind, this interim version of the DMP is structured in seven distinct chapters, as follows:

- **Chapter 1** provides introductory information about the DMP, the context in which it has been elaborated, as well as about its objectives and structure.
- **Chapter 2** presents a summary of the data that was collected/generated during the activities of ALFA, including the purpose of its collection/generation as well as its types and formats. Additionally, it outlines its origin, volume and the stakeholders that may find it useful.
- **Chapter 3** describes the methodology that is applied in the framework of ALFA in order to safeguard the effective management of data across their entire lifecycle, making it FAIR.
- **Chapter 4** estimates the resources required for making the project's data FAIR, while also identifying data management responsibilities.
- **Chapter 5** outlines the data security strategy applied within the context of ALFA, along with the respective secure storage solutions employed.
- **Chapter 6** addresses ethical aspects as well as other relevant considerations pertaining to the data collected/generated during the implementation of the project.
- **Chapter 7** concludes on the framework of the project with respect to its data management plan.

Annexed in the document are (i) the project's Privacy Policy (Annex I), the templates for the (ii) Informed Consent Form (Annex II) and (iii) the Data Subject Request Form (Annex III) as well as (iv) the Record of Processing Activities (Annex IV) which was used during the implementation of the project's activities to ensure compliance with relevant applicable EU and national regulation(s).

Note that the DMP was not a fixed document. It evolved during the lifespan of the project and was further elaborated and updated twice throughout the duration of ALFA (i.e., as D6.4 Interim Version and ultimately fixed as D6.5 Final Version in M36). Additional ad hoc updates were incorporated, in order to include new data, better detail and/or reflect changes in the methodology or other aspects relevant to their management (such as costs for making data FAIR, size of data, etc.), changes in consortium policies and plans or other potential external factors. QPL was responsible for the elaboration of the DMP and with the support of all partners updated and enriched it as required.

2. Data summary

ALFA collected/ generated meaningful non-sensitive data that did not fall into any special categories¹ of personal data, as those are described within the General Data Protection Regulation² (GDPR). This data was quantitative, qualitative or a blend of those in nature and were analysed from a range of methodological perspectives with a view to producing insights that successfully fed ALFA's activities, enabling ALFA partners to deliver evidence-based results and ultimately achieve the objectives of the project.

With that in mind, the second chapter of the Data Management Plan (DMP) starts by explaining the purpose for which this data was collected/ generated and how it relates to ALFA. It proceeds by describing the different types and formats of this data as well as its origin and volume, before concluding with an overview of potential stakeholders for whom it may prove useful for re-use.

2.1 Purpose of data collection/generation and its relation to the objectives of the project

In order to successfully meet its objectives and ensure the production of evidence-based results, ALFA entailed several activities during which data were collected/ generated. The purpose for which this data was collected/ generated is interrelated with the objective of the activity during which it is produced.

In particular, these activities, along with their objectives in the framework of ALFA, are as follows:

- Analysis of framework conditions in the livestock farming industry in 6 countries (BE, DK, EL, ES, IT, SK) and on the EU level to investigate socio-economic, legal and policy conditions and examination of how these conditions may act as a barrier or an enabler for the uptake of biogas in livestock farming.
- Analysis of stakeholders' needs for biogas market uptake implemented through market research, encompassing stakeholders' preferences, behavioural aspects, acceptance level of RES and biogas in livestock farming, citizen perceptions and technological solutions, in the six countries and beyond.
- Development of case studies of farms successfully up taking biogas solutions to generate insights into how success factors and barriers change across regions and reveal patterns that can help us develop tailored measures for supporting the uptake of biogas in livestock farming.

¹ Special categories of personal data according to Regulation (EU) 2016/679 of the European Parliament (General Data Protection Regulation) include personal data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, or trade union membership, and the processing of genetic data, biometric data for the purpose of uniquely identifying a natural person, data concerning health or data concerning a natural person's sex life or sexual orientation.

² Regulation (EU) 2016/679 of the European parliament and of the council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32016R0679>

- Development of ALFA Engagement Platform and ALFA Tools. The Engagement Platform constituted the virtual space for networking and knowledge exchange, whereas the ALFA tools facilitated knowledge exchange, decision making and spatial overview of biogas facilities, with the aim to support the uptake of biogas in livestock farming.
- Development of ALFA Hubs, as physical spaces for networking and knowledge exchange. The ALFA Hubs acted as a network of regional facilitators and local actors to ensure the responsiveness of target groups.
- Initial design of the ALFA support measures through the six co-creation workshops, one in each target country, to co-define together with the stakeholders the key aspects of support measures for hands-on market uptake support.
- Deployment of the ALFA support measures (business support services, tech support and consultancy, capacity building activities, awareness raising campaigns, etc.) through two iterative pilot rounds.
- Co-evaluation of the performance and impact of the ALFA support measures. The activities involved the setting up of a monitoring and evaluation system for the market uptake support services with the aim of informing their optimisation process
- Mutual learning workshops and field visits with a view to fostering cross-regional mutual learning opportunities, dialogue, and knowledge exchange among the participating regions of our consortium and beyond.
- Provision of networking opportunities via a dedicated event, which aimed to catalyse collaborations and visibility, professional connections, and investments in livestock biogas.
- Organisation of an EU Policy Roundtable to enable more informed policy, market support and financial frameworks.
- Monitoring and assessment of the dissemination and communication results of the project with a view to measuring the impact of the relevant activities, fine-tuning ALFA's strategy accordingly, as well as fulfilling its reporting requirements towards the commission.
- Setting up the Advisory Board, in order to provide partners with strategic guidance in project activities and to support stakeholder communities' broader outreach.
- Project management and coordination, with the aim to effectively fulfil the project goals, deliver high-quality project results, prepare project meetings and ensure sound management of data.

The following section provides further details on the different types and formats of data collected\generated during the project's activities.

2.2 Types and formats of collected/generated data

ALFA was set to collect/generate data of various structures and formats. Along these lines, the data definition process used for this DMP was based on the source and the physical format of the data³. In particular, we defined two main aspects: (i) the process under which the underlying data was

³ Jakobsson, U., Braukmann, R., Lundgren M., Expert Tour Guide on Data Management. Retrieved from <https://www.cessda.eu/Research-Infrastructure/Training/Expert-Tour-Guide-on-Data-Management/1.-Plan>.

created/captured, which included electronic text documents, spreadsheets, questionnaires and transcripts, among others and (ii) the storage format of quantitative and qualitative data. Examples of this aspect include easily accessible formats, such as postscripts (e.g., pdf, xps, etc.), machine-readable formats (xml, html, etc.), spreadsheets (e.g., xlsx, csv, etc.), text documents (e.g., docx, rtf, etc.), compressed formats (e.g., rar, zip, etc.) or any other format required by the objectives and methodology of the activity within the framework of which is produced.

Under this framework, special attention was paid to using open formats⁴ (such as csv, pdf, zip, etc.) and/or machine-readable formats⁵ (such as xml, json, rdf, html, etc.) when possible, to enhance the interoperability and re-use of data. In doing so, we were providing data that was easily readable and freely usable in any software program employed by third parties interested in utilising the data.

The type and formats of the data collected/generated in the context of ALFA can be divided into 4 categories:

- Data collected/generated by direct input methods (i.e. feedback from interviews and online surveys, desk research, feedback from the recipients of the support services and stakeholders, input from the Advisory Board Members, evaluation processes, etc.).
- Data collected/generated through the ALFA Engagement Platform and Hubs (i.e. input by users, data generated from the online forum and Decision Support Tool).
- Data collected/generated from dissemination, communication and stakeholder engagement activities.
- Data collected/ generated through management and coordination actions

2.2.1 ***Data collected / generated through direct input methods***

Direct input methods, under the scope of ALFA, involved methodologies for collecting data through desk research and interactions between consortium partners and external stakeholders, with the latter providing data to the former. Along these lines, external stakeholders undertook the role of a data subject that was a natural person whose personal data was being processed⁶. In particular, the identification and selection of suitable data subjects was based on purposeful sampling according to which, external stakeholders were identified and selected by consortium partners based on their role within the value chains (e.g., livestock farms, biogas value chain actors, authorities, civil society, etc.) and the objectives of the respective activity for which data was collected. In this context, quantitative and qualitative data was collected / generated during ALFA:

- Quantitative data was numerical and acquired through counting or measuring⁷. Examples of quantitative data were the number of animals in a farm, the total rated output, etc. This data

⁴ According to the [Open Data Handbook](#): “An open format is a file format with no restrictions, monetary or otherwise, placed upon its use and can be fully processed with at least one free/open-source software tool and it is not encumbered by any copyrights, patents, trademarks or other restrictions so that anyone may use it”.

⁵ According to the [Open Data Handbook](#): “Machine readable formats are file formats that can be automatically read and processed by a computer. Machine-readable data must be structured data”.

⁶ Regulation (EU) 2016/679 of the European parliament and of the council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32016R0679>.

⁷ Neuman, W. L. (2014). Social research methods: Qualitative and quantitative approaches. Boston: Pearson.

was represented by ordinal, interval or ratio scales and lent themselves to statistical manipulation.

- Qualitative data, sometimes referred to as categorical data, is data that can be arranged into categories based on physical traits or anything that does not have a number associated with it⁸. Moreover, written documents, interviews, and various forms of in-field observation were all sources of qualitative data. Examples of qualitative data were the preferences of learning, skillsets, country of origin, etc.

Additional details with respect to the different types and formats of data that were collected through direct input methods under the frame of ALFA are provided below.

Assessment of the biogas market uptake framework conditions

During the first months of ALFA, an assessment and mapping of the framework conditions influencing the uptake of biogas in livestock farming was implemented. The exercise had a pan-European scope but emphasised conditions in the six target countries/regions. In this context, a wide range of relevant information was gathered from scientific publications, policy documents, white papers, and study reports offering meaningful insights on the key challenges/ enablers within different frameworks and contexts. The desk research was complemented with a series of interviews with regional key actors (livestock farmers with or without biogas systems, authorisation officers, authorities financing biogas investments, tech experts, etc.). Data collected during interviews are mostly of a qualitative in nature and were recorded in the form of transcripts, encompassing all relevant information needed to conduct the analysis.

Stakeholders' needs, perceptions and challenges

This section refers to data that was collected through surveys, conducted in the context of ALFA, with the aim of capturing and analysing the perceptions and challenges of stakeholders with regard to the uptake of biogas in livestock farming. The data was collected in two levels; the first one was the regional surveys directed at different stakeholders from the target countries, facilitated by the ALFA partners, and provided through the online SurveyMonkey platform. The second level was the EU-wide survey directed at EU citizens, which was implemented by WR through Survey Monkey as well. The data from both surveys was collected, anonymised when necessary and saved in a spreadsheet format (e.g., xlsx, csv, etc.) in WR's secure cloud storage space (Dropbox).

Case studies of livestock farms uptaking biogas

An inventory of livestock farms was created, showcasing how farms have tackled market uptake barriers (e.g., legal and financial challenges, new technologies, etc.) and driven the deployment of biogas solutions. The collection of the data required for the development of each case study was performed by means of in-depth interviews with the relevant stakeholders, contextualised with the findings of the regional framework conditions analysis. Data collected during interviews were qualitative nature and were recorded in the form of short bullet notes - transcripts, encompassing all relevant information needed to conduct the case studies.

⁸ Neuman, W. L. (2014). Social research methods: Qualitative and quantitative approaches. Boston: Pearson.

ALFA Hubs

The different datasets produced from the operation of the hubs are being described under the respective Hub activity (e.g. interviews, surveys, case studies, provision of business/ tech support, etc.).

Feedback and relevant ideas collected during the ALFA Co-creation Workshops

The ALFA Co-Creation Workshops were anticipated to engage a set of selected representatives from the livestock farming/biogas industry, along with Advisory Board members, to co-define key aspects of the ALFA support measures. The relevant project partners organised and also attended the face-to-face or online workshops in each respective country/hub. Data was collected by means of written notes, minutes and pictures, and through interactive online tools (e.g. Miro, Mentimeter) or video footage for those workshops that were held virtually (always in accordance with GDPR). The respective discussions, ideas, and relevant feedback were utilised for the elaboration of guidelines and project reports in the form of text documents (e.g. docx). Visual evidence of the event taken for dissemination purposes stored in picture or video format (e.g., .jpg, .mp4) and published, based on prior consent from the workshop participants, in project deliverables or digital channels (e.g., via the social media accounts, websites or newsletters of ALFA or the organising partners).

Deployment and fine-tuning of the ALFA support measures

The deployment and fine-tuning of the ALFA support measures required the collection of data from the project beneficiaries (needs analysis, service action plan, data needed to deliver the services, feedback forms to improve the measures, etc.). Their input was used to implement and fine-tune support services in our targeted regional contexts and local markets across the EU with both high and consistent quality. The ALFA support measures included: i) business and financial support services; ii) technical support and consultancy; iii) capacity building activities; and iv) awareness raising campaigns.

Mutual learning workshops/ missions and Networking event

The mutual learning workshops (combined with field visits) as well as the Networking event were organised to facilitate cross-fertilisation, good practice exchange and co-creation of innovative approaches for investments in RES. The relevant project partners organised and also attended the workshops, combined with field visits in four respective countries/hubs (DK, ES, IT, SK). Data (such as data about participants - Google form, presence list, presentations, notes on ideas and concepts, images/pictures from workshops & missions) was collected by means of written notes, pictures, and through online tools such as Google forms for registration, or short video footage - e.g. from field visits (always in accordance to GDPR). The respective discussions, ideas, and relevant feedback was utilised and written up by means of notes in text documents (e.g. .docx). Visual evidence of the events taken for dissemination purposes is stored in picture or video format (e.g., .jpg, .png, .mp4) and published, based on prior consent from the workshops/field visits participants, in project deliverables or digital channels (e.g., via the social media accounts, websites - project's or organising partners, and/or newsletters of ALFA or project partners organising the event).

Insights from EU policy roundtable

A dedicated EU policy roundtable was organised by WR with the support of partners, and meaningful information and insights were collected from discussions during its implementation. Provided data contributed to the elaboration of the final set of "Policy Recommendations" and briefs, as well as the refinement of the ALFA Replication Guide. Collected data was mostly qualitative and will be written in text documents (e.g., .docx) and participant lists.

AB feedback

In the framework of setting up the ALFA Advisory Board, personal data of AB experts was collected by partners. During the implementation of the project, there were several key stages where guidance and feedback from experts in the field were needed to successfully deploy the respective activities. Data collected via AB activities and involvement, such as discussions and digital validation workshops, were comments and proposals written in standard document texts and spreadsheets.

Data collected/generated through direct input methods will be stored in standard .docx as well as .xlsx formats. These formats allow the documentation of information from various files and documents in a single location. By doing so, it is possible to circulate raw data from transcripts, as well as text, images and other objects from other files to one document file or multiple tabs of a single spreadsheet. Moreover, both formats can be immediately converted into open and machine-readable formats (e.g. .xml and .csv), boosting the interoperability and re-usability of the data produced in the framework of ALFA.

2.2.2 *Data collected/generated through use of the ALFA Engagement Platform and tools*

The ALFA Engagement Platform provided actionable knowledge, information and tools for supporting the uptake of biogas in livestock farming. The ALFA digital tools aimed specifically to assist farmers and various stakeholders in adopting the biogas solutions in the livestock farming industry.

A collection of four tools was developed in the Engagement Platform:

- Knowledge Centre, displaying main findings from WP1 and offering a rich repository of data and tools for mainstreaming biogas, generated by ALFA or other reliable organisations/ initiatives.
- Biogas Forum, serving as an open environment for exchanging good practices, nurturing novel ideas and solutions, making connections, and feeding the activities of the project.
- Decision Support Tool, which calculates the potential benefits of biogas solutions adapted to the specificities of each livestock farm. Users can fill in their farm data (no animals, breeds, etc) and the tool estimates their profitability, displaying at the same time environmental, economic, and social benefits.
- Atlas Map (Biogas Cases), a virtual illustration map with the successful cases of livestock farms implementing biogas systems and other spatial info about biogas.

Direct data input by users of the Engagement Platform and tools

Data collected by the users of the ALFA Engagement Platform and digital tools includes data that users were provided in order to register and create a profile for the ALFA forum (information such as name, email, etc) as well as farm data that users will provide to the Decision Support Tool (e.g., number of animals, breeds, etc.).

Data generated by the ALFA Engagement Platform and tools

Aggregated statistics from the utilisation of the ALFA Engagement Platform were produced for monitoring and improving the platform and its different offerings, as well as for reporting purposes. In parallel, professional data will be produced by the tools (e.g. the Decision Support Tool calculates the profitability of a biogas investment in a particular farm along with key ESG indicators)

More information regarding the ALFA Engagement Platform and the digital tools and the data collected/generated through their use are provided in updates of the DMP, as their functionalities are further specified and developed in line with the findings stemming from the project's studies and activities. The DST is set not to retain and to delete any inputs by the user at the end of each session.

2.2.3 ***Data collected/generated from dissemination, communication and clustering activities***

Website analytics

ALFA's website launched in M4 of the project (February 2023) and collected data regarding visitors' statistics and newsletter subscribers. When using the website, people are presented with the typical pop-up to accept cookies. But if they don't accept it, they can still "use" the website. We only keep anonymised data for a period of time based on what is available under the analytics platforms. These were used for reporting purposes. When subscribing to our newsletter, people were asked to give consent to the collection, storage, and use of their information. Data (i.e., email addresses of subscribers) were stored in Excel files (e.g., .xlsx).

Visitor statistics data refers to anonymised data that was collected through Google Analytics. This included data that was automatically collected via cookies from every person visiting the website. More specifically, it consisted of information about the visitor's device used for accessing the website (e.g., web browser, IP address, time zone), and information on how visitors interact with the website. Detailed information on how our website collected and handled data was provided in ALFA's Privacy Policy document, presented in Annex I of the present deliverable. The Privacy Policy, including the Cookies Policy, was available on the project's website. This document provides details on how and when ALFA, in accordance with the GDPR, used and shared the website visitors' or the newsletter recipients' information.

More details on the collection of data from newsletter subscribers are provided in a separate section below.

Social Media statistics (including Facebook, Twitter, LinkedIn, and YouTube)

This data was collected/ generated through a periodic monitoring of the project's social media statistics (including Facebook, Twitter, Bluesky, LinkedIn and YouTube) with a view to measuring and assessing the performance and results of the project's social media activity in terms of dissemination and communication. With that in mind, the data was both qualitative as well as quantitative in nature, addressing the metrics reached on each channel (e.g., followers, impressions on Twitter, likes, subscriptions and views on YouTube etc.). Additionally, this data was followed by an analysis of the results stemming from it and possible ways to improve the results so as to reach the project's targets. All in all, the data was stored in the commercial analytics tools/platforms of the respective social media sites and a summary was stored in a Microsoft Excel file (.xlsx).

Data collected from project events

This data was collected during the implementation of the project through: (i) the different events (e.g., co-creation workshops, seminars, mutual learning workshops and field visits, networking event, etc.) organised by ALFA consisting of the participants lists that enclosed basic information about the participants; and (ii) the participation of ALFA partners in relevant third party events in order to reach

out and engage stakeholders, thus collecting general information about the events attended and their outreach.

The afore-mentioned data was collected so as to keep track of the results of the stakeholder engagement activities and provide the opportunity to project partners to report on these activities. Moreover, this data was updated every time a partner attended an event or a partner organised an event. Finally, the data were both quantitative and qualitative in nature and stored in a standard spreadsheet (.xlsx).

Newsletter subscription

A subscription form hosted on the project's website and the ALFA Engagement Platform aided the collection of this data, in which any interested stakeholder could freely provide his/her/its contact details in a dedicated sign-up form so as to receive the most up-to-date news and outcomes of the project. A newsletter was sent to subscribers twice a year, while an additional one was released to promote the Open Call (in total seven). With that in mind, this data was collected so that interested stakeholders to be informed about the ALFA project activities and results. The data consisted of a list of stakeholders along with their personal information (e.g., email). A copy of this contact list will be stored on MailChimp's server (<http://mailchimp.com>), which is used for e-mail campaigns and newsletter distribution. All personal information included in this contact list will be used and protected according to MailChimp's Privacy Policy.

Data from dissemination and communication activities

This data was collected through the periodic monitoring of the project's miscellaneous dissemination and communication activities, such as posts, events, etc. The purpose of collecting this data is to assess the outreach and efficiency of the dissemination activities during the implementation of the project. This data was both qualitative and quantitative in nature, recording all the activities that partners conducted and the events they organised and/or attended, as well as the statistics about the number of participants/recipients and, when relevant, their characteristics (e.g., stakeholder type, gender). For this purpose, a template was shared with all partners to log the activities they performed. The template was also provided online so that the partners can directly update their input as soon as the dissemination and communication activities take place. Finally, all the data will be integrated and stored in a single Excel file (.xlsx).

2.2.4 Data collected from project management and coordination

During the implementation phase of ALFA, data were collected from management and coordination activities. More specifically, the collection/ generation of data comes from partners' communication, Quality Assurance processes, progress monitoring, risk analysis, workshops and events. The above data series are expected to be both qualitative and quantitative and stored in various types of formats, such as captured photographs, noted minutes, written insights in text documents, reports presenting outcomes and progress of activities, and participant lists.

2.3 Origin of data and re-use of pre-existing data

In the context of ALFA, new data was collected/ generated by partners as well as external stakeholders participating in the activities of the project and/ or using its ALFA Engagement Platform and digital tools. With that in mind, and aside from consortium partners, external groups of stakeholders from which new data originated included:

- Livestock farmers, farmers' associations and cooperatives

- Biogas plant operators, biogas end-users (e.g., energy communities), biomass producers
- Tech providers & advisors
- Policy makers at the regional, national and EU level
- Civil society
- Researchers and academia
- Financial institutions and investors
- Others

Moreover, pre-existing data were utilised within the context of ALFA as well. In particular, outputs from EU-funded projects (e.g., RES4LIVE, BECoop, W4RES, ISABEL, ISAAC, etc.), national projects and other relevant initiatives to a large extent provided a solid basis for ALFA. The ALFA consortium strived to make the most of and advance the work and results of these projects. Such activities included findings from the preparatory research to feed the Knowledge Centre or tools developed in EU projects run by ALFA partners to feed the ALFA Decision Support Tool. Finally, consortium partners' internal knowledge, experience and expertise from their participation in other projects and initiatives directly and indirectly supported the implementation of activities throughout the project.

2.4 Expected size of data

ALFA entails a series of activities aiming at setting the stage for and ultimately facilitating the development, piloting, evaluation, validation and fine-tuning of the ALFA Engagement Platform, digital Tools and support services. With that in mind, the table that follows presents the different activities implemented during the course of the project in which data is collected/generated, the types and formats of the data as well as the expected size of the data.

Table 2: Expected size of data

No	Name of activity	Data	Type of data	Format of data	Expected size of data (KB)
1	Assessment of biogas market uptake framework conditions	Data from interviews with stakeholders	Interview transcripts (bullet notes) and signed consent forms	.docx,	23.650 KB**
2	Analysis of stakeholders needs, perceptions and challenges	Data from surveys implemented with stakeholders (over 3000 responses to be collected)	Survey responses collected from the SurveyMonkey	.xlsx .csv	~10MB**
3	Development of case studies of farms successfully adopting biogas solutions	Data from the in-depth interviews and repository of success cases	Interview transcripts (bullet notes), case studies repository, eligibility criteria, signed consent	.docx .xlsx .pdf .pptx	178 MB **

No	Name of activity	Data	Type of data	Format of data	Expected size of data (KB)
			forms, questionnaires, report, materials for promotion		
4	The ALFA co-creation workshops	Ideas, concepts and key aspects collected during the workshop	Notes, documents, info about participants; images and possible recordings from the event	.docx .xlsx .pdf .jpg .mp4	~6GB**
5	Development of ALFA engagement Platform and ALFA Tools	Direct data input by users of the Platform	Registration form input, textual documents	Web data in various formats	10.000.000 KB*
6		Data generated from the users	Log files, query data, etc.	Web data in various formats	20.000.000 KB*
7	Delivery and fine-tuning of the ALFA support measures	Data for the delivery and improvement of the business support services	Needs analysis transcripts, service action plans feedback forms, data needed to deliver the service.	.docx .xlsx .pdf	500 MB – 1GB *
8		Data for the delivery and improvement of the tech support and consultancy	Needs analysis transcripts, service action plans, manufacturer sheets, feedback forms, data needed to deliver the service	.docx .xlsx .pdf	~2.5 GB**
9	Mutual learning workshops/ field visits and networking event	Data collected from Mutual learning workshops and missions and networking event	data about participants, presentations, notes on ideas and concepts, images/pictures from workshops & missions, incl. short videos	.docx .xlsx .jpg/.png (another pic's format) .mp4	~4.78 GB**
10	Insights from EU Policy Roundtable	Data from the EU Policy Roundtable	Notes from discussions, information about the participants	.docx .xlsx	~10MB**
11		Social media statistics	Quantitative data	.xlsx	~3MB**

No	Name of activity	Data	Type of data	Format of data	Expected size of data (KB)
12	Monitoring and assessment of the dissemination and communication activities and results	Website analytics	Spreadsheets	.xlsx	~100KB**
13		Newsletter subscriptions	Spreadsheets	.xlsx	~100KB**
14		Data collected from events	Spreadsheets, photos, minutes, reports	.xlsx .pdf .jpg	~1GB**
15		Data from dissemination and communication activities	Spreadsheets	.xlsx	~1MB**
16	Advisory Board feedback	AB feedback	Notes, emails	.docx .xlsx Email item	10.000 KB*
17	Project management and coordination	Data collected from Project management and coordination	Contact Lists, Photos, Minutes, Reports, Spreadsheets, Notes	.docx .xlsx .mp4 .pdf .jpg .png	2,11 GB KB**

* The estimated size of the data is based on the adjusted size of data generated via similar activities of project partners in the past, unless otherwise indicated

** The collection/generation of these data has already been completed, and the size of the data represents real values (not estimations)

2.5 Data utility

The stakeholders that may find meaningful utility for the data that was collected/ generated by the project, along with the benefits that could arise for them by utilising this data, are concisely presented in the table that follows.

Table 3: Data utility

Stakeholder Groups	Data utility
Livestock farmers	ALFA data may be used by farmers within the six target regions interested in installing/ improving their biogas systems. First of all, they can assess the potential of their farm and establish a concrete strategy for biogas uptake. Additionally, information such as inspiring success cases, framework conditions in their country and market trends can help them understand the benefits as well as the process of deploying a biogas solution.
Biogas end-users (e.g., energy-con-	ALFA activities took into account the perspective of the end-users, aiming to develop tools and knowledge to address their needs in bio-based energy production solutions. By using data and tools generated in the frame of ALFA,

Stakeholder Groups	Data utility
suming industries, energy communities) and distribution system operators	end-users will be able to recognise the value of biogas as a renewable energy source and bioeconomy opportunity for affordable and decentralised energy that contributes to meeting regulations and RES targets.
Biogas tech providers & advisors (e.g., ESCOs) and associations such as EBA	By using data on inspiring success cases, market trends and support services and tools generated in the frame of ALFA, biogas tech providers and advisors will acquire knowledge on new markets and opportunities arising from the support of biogas uptake. Moreover, data provided by the digital tools and practical services will offer information on how to access these opportunities. Finally, advisors working with livestock farmers will be able to utilise new data and tools of the project to support industries and farmers in their transition to the bioeconomy, as well as to identify opportunities for diversification.
Policy-makers, including regional and national authorities, as well as EU institutions and energy agencies	Throughout its duration, ALFA was set on collecting and producing quantifiable evidence on the effectiveness and impact of the project's support measures and tools for the engagement of actors in biogas solutions uptake by livestock farmers, with a view to fostering their replication across Europe beyond the project's completion. Data generated to this end may be of great utility for experts who design, implement and/ or fund relevant policies.
Civil society, such as citizens, environmental groups	ALFA activities took into account the perspective of citizens, aiming to develop tools and knowledge to address their needs in bio-based energy production solutions. Civil society could use the data derived by ALFA to improve their knowledge and acceptance level of RES solutions, thus contributing to the ecological transitions through more eco-friendly choices and lifestyles.
Financial institutions & individual investor	ALFA acknowledged the importance of financial institutions or investors in the livestock/ biogas value chains and encompassed this dimension in the project's outcomes. Project data and support services (along with the data from the Decision Support Tool) highlighted and brought benefits for financial institutions to identify new opportunities to be funded.
Project partners	The data collected/ generated during ALFA was the cornerstone for project partners to produce evidence-based results and ultimately achieve the objectives of the project. Indeed, this data enabled the co-development, testing, validation and roll-out of the ALFA support measures for the market uptake of biogas in livestock farming. At the same time, this data may be meaningful for project partners beyond the end of the project as well, enabling them to build and capitalise upon interesting ideas and opportunities that may emerge to ensure the long-term sustainability of the ALFA support measures.

3. FAIR data

The Guidelines on Data Management⁹ of the Commission emphasise the importance of making the data produced by projects funded under Horizon Europe Findable, Accessible, Interoperable as well as Reusable (FAIR), with a view to ensuring its sound management. This means using standards and metadata to make data discoverable, specifying data sharing procedures and which data will be open, allowing data exchange via open repositories, as well as facilitating the reusability of the data.

With that in mind, the following sections of the DMP lay out the methodology followed in the framework of ALFA with respect to making data findable, accessible and interoperable as well as ensuring their preservation and open access, with a view to increasing their re-use.

3.1 Making data findable, including provisions for metadata

3.1.1 *Data discoverability and identification mechanisms*

ALFA placed special emphasis on enhancing the discoverability of the data collected/ generated during the course of its activities. Open data produced during the implementation of the project is located by means of a standard identification mechanism. Indeed, ALFA assigned globally resolvable Persistent Identifiers (PIPs) on any open data (more information on open data, as well as the respective repositories employed in the context of the project, is provided in section 3.2). An identifier is a unique identification code that is applied to a dataset, so that it can be unambiguously referenced. For example, a catalogue number is an identifier for a particular specimen, and an ISBN code is an identifier for a particular book. PIPs are simply maintainable identifiers that allow for permanent reference to a digital object. In other words, PIPs are a way of giving digital resources, such as documents, images and data records, a unique and persistent reference number.

At the same time, data that are not open were deposited in a searchable resource (i.e., the cloud web storage service of the project), and well-tailored identification mechanisms will be utilised as well, in the form of standard naming conventions that safeguard their consistency and make them easily locatable for partners within the frame of the project. Along these lines, the following subsection provides further analysis on naming conventions and versioning.

3.1.2 *Naming conventions*

Following a consistent set of naming conventions in the development of the project's data files can greatly enhance their searchability. With that in mind, ALFA created consistent data file names that provide clues to their content, status and versioning, while also increasing their discoverability. In doing so, project partners as well as interested stakeholders can easily identify a file as well as classify and sort them.

⁹ European Commission, H2020 Programme, Guidelines on FAIR Data Management in Horizon 2020, (2016), https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf

According to the UK Data Archive ([UK Data Service, 2017b](#)), a best practice in naming conventions is to create brief yet meaningful names for data files that facilitate classification. The naming convention should avoid the utilisation of spaces, dots and special characters (such as & or !), whereas the use of underscores is endorsed, to separate elements in the data file name and make them understandable. At the same time, versioning should be a part of a naming convention to clearly identify the changes and edits in a file.

With that in mind and to facilitate the reference of the datasets that were produced during its implementation, ALFA employed a standard naming convention that integrated versioning and took into account the possibility of creating multiple datasets during an activity that entailed data collection/generation. Indeed, ALFA's naming convention considered this issue and addressed it by employing a unique element that captures the number of datasets that are produced under the same activity.

In particular, the naming convention employed by the project is described below.

[Name of project] _ [Name of Study] _ [Number of dataset] _ [Issue Date] _ [Version number]

- Name of project: ALFA
- Name of Study: A short version of the name of the activity for which the dataset is created.
- Number of dataset: An indication of the number assigned to the dataset.
- Issue Date: The date on which the latest version of the dataset was modified (YYYY.MM.DD.).
- Version number: The versioning number of a dataset.

With the above in mind, some indicative examples to showcase the naming structure applied in the context of ALFA are provided below:

- ALFA_Frameworkconditionsinterviews_Dataset1_2023.03.21_v1 – The first dataset generated from the interview transcripts of task 1.1. This is the first version of the dataset that was last modified on the 21st of March 2023 (21/03/2023).
- ALFA_Disseminationdata_Dataset2_2024.03.06_v2 – The second dataset created through the monitoring of the dissemination and communication activities and results. The last modification of this dataset, which in this case produced the second version of the dataset, was on the 6th of March 2024 (06/03/2024).

Versioning of information makes a revision of datasets uniquely identifiable and can be used to determine whether and how data changed over time and to define specifically which version the creators/editors are working with. Moreover, effective data versioning enables understanding if a newer version of a dataset is available and what the changes are between the different versions, allowing for comparisons and preventing confusion. In this context, a clear version number indicator is used in the naming convention of every data file produced during ALFA in order to facilitate the identification of different versions.

3.1.3 *Metadata allowing discovery*

In addition to consistent naming conventions and versioning, the project also followed a metadata-driven approach so as to allow discovery and further increase the searchability of the data, while also facilitating its understanding and re-use. Metadata is defined as “data about data” or “information

about information”¹⁰. It is usually structured textual information that describes the creation, content, or context of a digital resource – be it a single file, part of a single file, or a collection of many files. Metadata is the glue which links information and data across the World Wide Web. It is the tool that helps people to discover, manage, describe, preserve, and build relationships with and between digital resources¹¹.

In particular, three distinct types of metadata exist¹², as presented below:

- Descriptive metadata, used to identify and describe collections and related information resources. Descriptive metadata at the local level helps with searching and retrieving. In an online environment, descriptive metadata helps to discover resources. Most of the time includes information such as the title, author, date, description, identifier, etc.
- Administrative metadata is used to facilitate the management of information resources. It is helpful for both short-term and long-term management and processing of data. This is information that will not usually be relevant to the public but will be essential for staff to manage collections internally. Such metadata may be location information, acquisition information, etc.
- Structural metadata enables navigation and presentation of electronic resources. It documents how the components of an item are organised. Examples of structural metadata could be the way in which pages are ordered to form chapters of a book, a photograph that is included in a manuscript or a scrapbook or the JPEG and TIF files that were created from the original photograph negative, linked together.

With that in mind, data produced/used during ALFA was discoverable with metadata suitable to its content and format. The project employed metadata standards to produce rich and consistent metadata with a view to supporting the long-term discovery, use and integrity of its data. More details on the metadata standards adopted by ALFA are provided in the following subsection.

3.1.4 *Standards for metadata creation*

ALFA employed standards for creating metadata for data collected/ generated by the project, with a view to describing it with rich metadata and thus improving its discoverability and searchability. As a result, effective searching, improved digital curation, and easy sharing were realised. In addition, the metadata standards applied enabled the integration of metadata from a variety of sources into other technical systems.

With that in mind, for ALFA’s openly available data, the metadata standards provided by Zenodo were used. Zenodo (<https://zenodo.org/>) is an open repository developed under the European Open-AIRE programme and operated by CERN. The repository, along with its metadata standards, has been adopted and is being used by numerous research communities, enabling them to deposit research papers, datasets, software, reports, as well as other research outputs. Along these lines, Zenodo creates metadata to accompany the datasets that are uploaded to the repository, extending their reach to a wider audience of interested stakeholders. This metadata can be exported in several

¹⁰ Huxley, L., & Jacobs, N. (2004). *Online information services in the Social Sciences*. Oxford: Chandos.

¹¹ Foulonneau, M., & Riley, J. (2008). *Metadata for digital resources: Implementation, systems design and interoperability*. Oxford: Chandos.

¹² Caplan, P. (2003). *Metadata fundamentals for all librarians*. Chicago: American Library Association.

standard formats, including open and machine-readable ones (such as MARCXML, Dublin Core, and DataCite Metadata Schema), following the guidelines of OpenAIRE and are stored by Zenodo in JSON-format according to a defined JSON schema¹³.

Project data not open, were also annotated with open and machine-readable metadata following the Dublin Core Metadata standard. The Dublin Core Metadata element set (certified with the ISO Standard 15836) is a standard which can be easily understood and implemented, and as such, is one of the best-known metadata standards. It was originally developed as a core set of elements for describing the content of web pages and enabling their search and retrieval. Among the reasons for selecting this standard is also the fact that Zenodo is compatible with Dublin Core metadata formats and thus any initially closed data that may become open at a later stage (e.g., due to a change in the consortium's policy), will not lose its metadata. With that said, the Dublin Core metadata standard is a simple yet effective set for creating rich metadata that will describe a wide range of resources. The fifteen-element "Dublin Core" described in this standard is part of a larger set of metadata vocabularies and technical specifications maintained by the Dublin Core Metadata Initiative (DCMI)¹⁴. The full set of vocabularies also includes sets of resource classes, vocabulary encoding schemes, and syntax encoding schemes. An online metadata generator will be used to produce the different metadata elements required (dublincoregenerator.com).

3.1.5 ***Search keywords included in the metadata***

The project's data was provided with search keywords with a view to optimising its re-use by interested stakeholders during its entire lifetime. With that in mind, the metadata standards employed by ALFA provide opportunities for tagging the data collected/generated and its content with keywords. In general, keywords are a subset of metadata and include words and phrases used to name data. In the context of ALFA, keywords were used to add valuable information to the data collected/generated as well as to facilitate the description and interpretation of its content and value.

- Along these lines, the project's strategy on keywords is underpinned by the following principles:
- The who, the what, the when, the where, and the why should be covered.
- Consistency among the different keyword tags needs to be ensured.
- Relevant, understandable and clear keywording ought to be sought.

In general, the keywords were compromised with terms related to livestock farmers, biogas, animal manure/waste, anaerobic digestions, digestate, renewable energy, biogas business models, biogas financing, subsidies, investment in biogas. The keywords accurately reflect the content of the datasets and avoid words used only once or twice within them.

¹³ For more information on the JSON format and the JSON schema visit the following website: <http://json-schema.org/>

¹⁴ Retrieved from: <https://www.dublincore.org/>

3.1.6 *Offering metadata that can be harvested and indexed*

We know that the wild diversity of the metadata accompanying open data across the plethora of online repositories (e.g. disciplinary archives, institutional repositories, open access journals) can serve as barriers for their findability and sharing amongst different research communities. This is why, in the context of ALFA, we have aligned our metadata creation approach with the Open Archives Initiative (OAI), which promotes the use of a standard protocol for metadata harvesting, designed for better sharing and retrieval of data residing in distributed repositories. This protocol, namely the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH)¹⁵ promotes interoperability standards that facilitate efficient dissemination of data amongst diverse communities¹⁶.

All structured metadata linked to the project's open data was offered in a way that can be exported and harvested via the OAI-PMH thanks to the standards we adopt for metadata creation (see section 3.1.4). The same standards also helped us produce metadata that facilitated indexing. For instance, the use of the Dublin Core Metadata Standard (as further elaborated in section 3.3) provides a vocabulary of concepts with definitions in open, readable formats that enable easier indexing of metadata. Along these lines, there are several tools¹⁷ which implement the Archives Initiative Protocol for Metadata Harvesting, such as Arc source, EnhancedOAIServer and eprints.org, and can be used for harvesting our data by different repositories.

ALFA's openly available data were uploaded to Zenodo, which is in line with FAIR principles, including the "To be Findable" principle. Metadata of each record uploaded to Zenodo is indexed and searchable directly in Zenodo's search engine immediately after publishing. Metadata of each record is sent to DataCite servers during DOI registration and indexed there.

3.2 Making data accessible

3.2.1 *Repository*

The data produced by ALFA and deemed open for sharing and re-use has been deposited to and securely stored by Zenodo (www.zenodo.org), which constitutes an open data repository and has been specifically selected to enable access to the project's open data free of charge. In fact, Zenodo builds and operates a simple service that enables researchers, scientists, EU projects and institutions, among others, to share and showcase research results (including data and publications) that are not part of the existing institutional or subject-based repositories of the research communities. It accepts any file format, promotes peer-reviewed, openly accessible research, allows the creation of own collections, and is available free of charge both for ALFA to upload and share data as well as for other stakeholders to explore, download and re-use this data.

¹⁵ Retrieved from: <https://www.openarchives.org/pmh/>

¹⁶ Corrado, E.M. (2005) 'The importance of open access, open source, and open standards for libraries', *Issues in Science and Technology Librarianship*.

¹⁷ For more information about the tools implementing the OAI-PMH: <https://www.openarchives.org/pmh/tools/>

Moreover, as a digital repository, Zenodo registers Digital Object Identifiers (DOIs) for all submitted data through DataCite¹⁸, which is the leading global non-profit organisation that provides PIDs (and specifically DOIs) for research data and preserves these submissions using the safe and trusted foundation of CERN's data centre, alongside the biggest scientific dataset in the world, the LHC's 100PB Big Data store¹⁹. This means that the data preserved in Zenodo will be accessible for years to come, and the DOIs will function as perpetual links to the resources. DOIs remain valuable since they are future-proofed against Uniform Resource Locator (URL) or even protocol changes, through resolvers (such as DOI²⁰). With that in mind, an example of a DOI retrieved from this open repository follows the structure illustrated by **Error! Reference source not found.**

DOI

DOI 10.5281/zenodo.17481161

Figure 1. Typical DOI created by Zenodo

3.2.2 Data

Openly available and closed data

ALFA, in line with FAIR principles of data management in the context of Horizon Europe, adopted the good practice of making data as open as possible and as closed as necessary. This calls for partners to disseminate their data that have the potential to offer long-term value to external stakeholders and do not harm the confidentiality and privacy of the stakeholders that contributed to the collection/ generation of this data, maximising the beneficial impact of ALFA.

Only anonymised and aggregated data were made open to ensure that data subjects cannot be identified in any reports, publications and/or datasets resulting from the project. The relevant project partner in each case undertook all the necessary anonymisation procedures to anonymise the data in such a way that the data subject is no longer identifiable (more details on data management responsibilities are provided in Section 5.2).

To this end, it is important to keep in mind that during the process of data anonymisation, data identifiers need to be removed, generalised, aggregated or distorted. Moreover, anonymisation is different from pseudonymisation, which falls under a distinct category in the GDPR - anonymisation theoretically destroys any way of identifying the data subject, while pseudonymisation allows for the data subject to be re-identified with additional information. Along these lines, the table which follows provides a list of good practices for the anonymisation of quantitative and qualitative data derived from the tour guide on data management of the Consortium of European Social Science Data Archives (CESSDA).

¹⁸ For more information on DataCite: <https://www.datacite.org/>

¹⁹ Retrieved from: <https://www.software.ac.uk/tags/zenodo>

²⁰ Retrieved from: <http://dx.doi.org/>

Table 4: Good practices for data anonymisation

Type of data	Good practices
Quantitative data	<ul style="list-style-type: none"> Remove or aggregate variables or reduce the precision or detailed textual meaning of a variable. Aggregate or reduce the precision of a variable such as age or place of residence. As a general rule, report the lowest level of geo-referencing that will not potentially breach respondent confidentiality. Generalise the meaning of a detailed text variable by replacing potentially disclosing free-text responses with more general text. Restrict the upper or lower ranges of a continuous variable to hide outliers if the values for certain individuals are unusual or atypical within the wider group researched.
Qualitative data	<ul style="list-style-type: none"> Use pseudonyms or generic descriptors to edit identifying information, rather than blanking-out that information. Plan anonymisation at the time of transcription or initial write-up, (longitudinal studies may be an exception if relationships between waves of interviews need special attention for harmonised editing). Use pseudonyms or replacements that are consistent within the research team and throughout the project. For example, using the same pseudonyms in publications and follow-up research. Use 'search and replace' techniques carefully so that unintended changes are not made, and misspelt words are not missed. Identify replacements in text clearly, for example with [brackets] or using XML tags such as <seg>word to be anonymised</seg>. Create an anonymisation log (also known as a de-anonymisation key) of all replacements, aggregations or removals made and store such a log securely and separately from the anonymised data files.

Source: Tour guide on data management of the CESSDA²¹

With that in mind, the following table presents the data collected/generated during the course of the project that were made openly available. In case certain data cannot be shared (or need to be shared under restrictions), a justification for that choice is provided.

Table 5. Data availability

No	Data	Availability	Notes
1	Assessment of the biogas market framework conditions dataset	Open & Closed	<p>Aggregated data and the results of the analysis are open.</p> <p>Data sources (e.g. interviews and information from confidential/ non-open documents) are restricted to Partners</p>

²¹ Retrieved from: <https://www.cessda.eu/Research-Infrastructure/Training/Expert-Tour-Guide-on-Data-Management/5.-Protect/Anonymisation>

No	Data	Availability	Notes
2	Stakeholders needs dataset	Open & Closed	<p>Raw data (answers collected directly in the online platforms) are not becoming available are restricted for GDPR reasons.</p> <p>Aggregated, anonymised data and the report will be made openly available.</p>
3	Case studies datasets	Open & Closed	<p>The repository of the success cases is openly available through the Atlas Map (Biogas Cases) of the ALFA Engagement Platform.</p> <p>The analysis conducted during the project is available openly, however the specific data of participants will remain restricted for GDPR reasons. Reports and all materials will be made openly available through the associated deliverable and Zenodo.</p>
4	Ideas, concepts and key aspects collected during the co-creation workshops	Open	<p>This refers to processed data by nature (the analysis from the notes and minutes taken during the session after anonymisation of opinions/input).</p>
5	Direct data input by users of the Platform	Closed	Since they can contain confidential business information.
6	Data generated from the users	Closed	Since they can contain confidential business information such data was not retained and was deleted.
7	Data for the delivery and improvement of the business support services	Closed	Raw data are closed since they can contain confidential business information.
8	Data for the delivery and improvement of the tech support and consultancy	Closed	Raw data is closed since they can contain confidential business information or be part of software databases which demand designated licence.
9	Data collected from Mutual learning workshops and missions	Open	<p>This refers to processed data by nature (the analysis from the notes and minutes taken during the session after anonymisation of opinions/input).</p>

No	Data	Availability	Notes
10	Data from the EU Policy Roundtable	Open & Closed	Available only to the consortium and the European Commission/CINEA, due to its potential inclusion of personal data. Nevertheless, a summary of this data (i.e., the analysis from the notes and minutes taken during the session after anonymisation of opinions/input) will be included in ALFA's public deliverables.
11	Social media statistics	Closed	Available only to the consortium and the European Commission/CINEA, due to its potential inclusion of personal data. Nevertheless, KPIs summarising this data will be included in ALFA's public deliverables.
12	Website analytics	Closed	Available only to the consortium and the European Commission/CINEA, due to its potential inclusion of personal data. Nevertheless, KPIs summarising this data will be included in ALFA's public deliverables.
13	Newsletter subscriptions	Closed	Available only to the consortium and the European Commission/CINEA. Nevertheless, KPIs summarising this data will be included in ALFA's public deliverables.
14	Data collected from events	Open (restricted)	Shared potentially with event participants (anonymised in any case).
15	Data from dissemination and communication activities	Open	This refers to processed data by nature (the analysis from the notes and minutes taken during the session after anonymisation of opinions/input).
16	AB feedback	Open & Closed	Data contains business advice. Aggregated and anonymised will be provided as open through the associated deliverable
17	Data collected from Project management and coordination	Closed	Only useful to project partners
It is important to note that all personal data collected / generated will be considered as closed data prior to their anonymisation and aggregation to safeguard the confidentiality of the data subjects			

Data accessibility and availability

Public access to the open data was available through Zenodo, which was automatically linked to OpenAIRE. The data was fully accessible thanks to the included metadata and the search facility available on Zenodo. At the same time, closed data was intended to be stored and shared amongst authorised members of the consortium through cloud storage and file sharing providers, which constituted structures that maintain and manage data and make this data accessible over a network, usually the internet (i.e. Google Drive). Before starting to use these cloud services from providers situated both inside and outside the EEA, we have ensured that they comply with the relevant GDPR requirements.

The following table presents where data were accessible in the context of ALFA.

Table 6: Data accessibility

No	Data	Accessibility
1	Assessment of the biogas market framework conditions dataset	ALFA's website, ALFA Engagement Platform and Zenodo (as part of D1.1)
2	Stakeholders needs	The aggregated, anonymised data will be made available in the relevant deliverable
3	Case studies datasets	Repository available through Atlas Map, aggregated data through ALFA website, ALFA Engagement Platform and Zenodo through D1.3
4	Ideas, concepts and key aspects collected during the co-creation workshops	ALFA's website, ALFA Engagement Platform (as part of D2.2) and Zenodo
5	Direct data input by users of the Platform	Authorised personnel only, through ALFA Engagement Platform
6	Data generated by the users	Authorised personnel only through the ALFA Engagement Platform
7	Data for the delivery and improvement of the business support services	Cloud storage. Some aggregated data is made available through the corresponding deliverable on the ALFA website, ALFA Engagement Platform
8	Data for the delivery and improvement of the tech support and consultancy	Cloud storage. Some aggregated data is available through the corresponding deliverable

No	Data	Accessibility
		on the ALFA website, ALFA Engagement Platform
9	Data collected from Mutual learning workshops and missions	ALFA's website, the ALFA Engagement Platform (as part of D2.1 ALFA Hubs Operational Plan and activities - the plans, activities and results per region)
10	Data from the EU Policy Roundtable	ALFA's website, ALFA Engagement Platform (as part of D4.3 and the policy briefs) and Zenodo
11	Social media statistics	Cloud storage. Any personal information data will be aggregated/anonymised before being made openly available.
12	Website analytics	Cloud storage. Any personal information data will be aggregated/anonymised before being made openly available.
13	Newsletter subscriptions	Cloud storage. This data will remain closed as it contains personal information and is useful only for internal reporting purposes.
14	Data collected from events	Cloud storage. Personal data of participants will remain closed, as well as confidential information. Aggregated statistics may be published for promotion and reporting purposes.
15	Data from dissemination and communication activities	Cloud storage. Any personal data will be treated in accordance to GDPR and only be published based on signed consent.
16	AB feedback	Cloud storage. Aggregated and anonymised data will be provided as open through the associated deliverables (
17	Data collected from Project management and coordination	-

Restrictions on use

By utilising Zenodo for sharing the project's openly available data, ALFA applied different levels of accessibility for this data, taking into account any relevant issues (such as ethical, rules of personal data, intellectual property, commercial, privacy-related, security-related, etc.).

More specifically, Zenodo offers the following levels of data accessibility:

- Open access: Data remains available for re-use. Nevertheless, the level at which this data can be re-used is determined also by their accompanied licence for re-use (see subsection 3.4.1).
- Embargoed status: Access to the data is restricted until the end of the embargo period, at which time, the content will automatically become publicly available.
- Restricted access: The data are not publicly available and sharing is possible only with the approval of the project partner that has the responsibility for the data.
- Closed access: The data is protected against unauthorised access at all levels, and only members of the consortium have the right to access it.

Project partners used the open access level to disseminate the project's data amongst the interested stakeholders. Nevertheless, in some cases, embargo periods or restricted access may be used as described in Subsection 3.2.1. Data that was not available for re-use was accessible only by authorised partners of the ALFA consortium and /or authorised personnel from the funding authority of the project.

Moreover, ALFA ensures open access to all peer-reviewed scientific publications produced or will be produced in the framework of the project and post project exploitation. In particular, according to the Grant Agreement, (ANNEX 5 Specific Rules, Art 17 Open Science) ALFA will:

- At the latest at the time of publication, deposit a machine-readable electronic copy of the published version or final peer-reviewed manuscript accepted for publication in a trusted repository for scientific publications.
- Ensure immediate open access to the deposited publication — via the repository — under the latest available version of the Creative Commons Attribution International Public Licence (CC BY) or a licence with equivalent rights. Moreover, for monographs and other long-text formats, the licence may exclude commercial uses and derivative works (e.g. CC BY-NC, CC-BY-ND).
- Ensure information is given – via the repository – about any research output or any other tools and instruments needed to validate the conclusions of the scientific publication.

Beneficiaries (or authors) must retain sufficient intellectual property rights to comply with the open access requirements.

Identity ascertainment and data access committee

The identity of stakeholders who wanted to access the data on Zenodo did not need to be ascertained, as the data uploaded on Zenodo is publicly open and no authorisation is needed. On the other hand, closed to the public, data was available only to authorised consortium partners through dedicated mechanisms provided by the cloud storage service employed by the respective partners in order to deposit the data.

The need for a data access committee to evaluate or approve access requests to personal data was not foreseen because only authorised partners had access to the project's closed data, accessible only by using their credentials (username/password), and no third party re-used them for their benefit.

3.2.3 **Metadata**

Availability and licences

Metadata of deposited publications generated in the context of ALFA was open under a Creative Commons Public Domain Dedication (CC 0) or equivalent, in line with the FAIR principles for data management adopted by the project (in particular machine-actionable). Such metadata provided information, at least, about the following:

- The publication at hand (author(s), title, date of publication, publication venue);
- Reference to the Horizon Europe funding;
- The name of the project, including its acronym and Grant Agreement number;
- Any particular licensing terms which may apply (depending on the chosen license);
- Persistent identifiers that have been attributed to the publication;
- Authors involved in the action, their organisations and the project itself.

Where applicable, the metadata also included persistent identifiers for any research output or any other tools and instruments needed to validate the conclusions of the publication. The metadata was available through Zenodo. It is quite unlikely that Zenodo will terminate its operation and stop providing its services, but in such a case, all data, metadata, code and documentation uploaded will be transferred and hosted to other suitable repositories without undue delay. In this respect, it is important to note that, since all of ALFA's openly available data made use of PIDs (i.e., DOIs), which is further elaborated in subsection 3.1.1, the links to the data will not be affected. In parallel, the project's data that was openly available for sharing was deposited, together with their accompanying metadata, code and documentation (if necessary), to the cloud web storage service employed by the project.

Methods, software tools and documentation to access the data

ALFA emphasised the accessibility of the data collected/generated during the project. With that in mind, no specialised method, software tool and/or documentation was needed in order to access the data. Stakeholders had the ability to access the data by simply using their web browser (e.g. Mozilla, Google Chrome, Internet Explorer, Safari, etc.) through their computers (either desktop or laptop), smartphones and/ or tablets.

More specifically, they first needed to access Zenodo through its webpage (following the link <https://zenodo.org/>) and utilised the search engine of the repository to search for interesting data. By typing the name of the project (or any other relevant keyword connected to the ALFA data), the search engine directs the user to the project's data, ready to be explored and reused. Moreover, since the data was available in open formats, we ensured that they could be appropriately read by a range of different software that are widely and freely accessible to all potential users of the data.

Closed data was accessed by authorised project partners through the use of a cloud storage service. Again, no specialised method, software tool and/or documentation was needed to this end. As it was further elaborated in subsection 3.2.1, if Zenodo terminates its operation and stops providing its services, in such a case, all data, metadata, code and documentation uploaded will be transferred and hosted to other suitable repositories without undue delay.

Along these lines, this section has provided the methodology applied in the frame of ALFA to ensure that its data was as openly accessible as possible by any stakeholder who may find it interesting for re-use. In this context, ALFA also focused on providing metadata standards and appropriate metadata vocabularies to increase data interoperability. The following section provides further details in this respect.

3.3 Making data interoperable

Data interoperability refers to the ability of systems and services that create, exchange and use data to have clear, shared expectations for the contents, context and meaning of that data²². With that in mind, ALFA adopted in its data management methodology the use of metadata vocabularies, standards and methods that increased the interoperability of the data collected/generated through its activities.

More specifically, the interoperability of the data that was publicly shared was facilitated by the use of the Dublin Core Metadata standard. This standard is a small “metadata element set” which accounts for issues that must be resolved in order to ensure that data meet traditional standards for quality and consistency, while still remaining broadly interoperable with other data sources in the linked data environment. The fifteen elements of the standard provide a vocabulary of concepts with natural-language definitions (e.g. title, creator, author, etc.) that are instantly converted into open machine-readable formats (such as XML, HTML, etc.), enabling machine-processability. Each element is optional and may be repeated, while the standard itself offers ways to refine them, encouraging the use of encoding and vocabulary schemes. The vocabulary of the Dublin Core Metadata standard is presented in the following table²³:

Table 7: Dublin core Metadata standard vocabulary

No	Element	Element definition
1	Title	A name given to the resource.
2	Creator	An entity primarily responsible for making the content of the resource.
3	Subject	The topic of the content of the resource.
4	Description	An account of the content of the resource.
5	Publisher	An entity responsible for making the resource available.

²² L. Steele & T. Orrell (2017). The frontiers of data interoperability for sustainable development. Publish What You Fund and Development Initiatives

²³ Sugimoto, S., Baker, T., & Weibel, S. L. (2002). Dublin Core: Process and Principles. Lecture Notes in Computer Science Digital Libraries: People, Knowledge, and Technology, 25-35.

No	Element	Element definition
6	Contributor	An entity responsible for making contributions to the content of the resource.
7	Date	A date associated with an event in the life cycle of the resource
8	Type	The nature or genre of the content of the resource.
9	Format	The physical or digital manifestation of the resource.
10	Identifier	An unambiguous reference to the resource within a given context.
11	Source	A reference to a resource from which the present resource is derived.
12	Language	A language of the intellectual content of the resource.
13	Relation	A reference to a related resource.
14	Coverage	The extent or scope of the content of the resource.
15	Rights	Information about rights held in and over the resource.

Along similar lines, the interoperability of openly available data is facilitated through Zenodo, since its metadata are stored internally in JSON format according to a defined JSON schema. This encloses HTML microdata that allows machine-readable data to be embedded in HTML documents in the form of nested groups of name-value pairs. Moreover, the JSON schema provides a collection of shared vocabularies in microdata format that can be used to mark-up pages in ways that can be understood by the major search engines.

ALFA's data offered qualified references to other data. A qualified reference is a cross-reference that explains its intent. For example, X is a regulator of Y is a much more qualified reference than X is associated with Y, or X see also Y. Our goal is to create as many meaningful links as possible between (meta)data resources to enrich the contextual knowledge about the data, balanced against the time/energy involved in making a good data model. To be more concrete, our references specified if one dataset builds on another dataset, if additional datasets were needed to complete the data, or if complementary information is stored in a different dataset. The links between the datasets were also described, and all datasets were properly cited, including their persistent identifiers.

3.4 Increase data re-use

3.4.1 *Documentation for validating data analysis and facilitating data re-use*

By utilising Zenodo for sharing the project's openly available data, ALFA ensured the facilitation of data access, validation and re-use, in compliance with the general policies of Zenodo regarding

content, access and reuse. More specifically, the following principles are followed by Zenodo to make data reusable according to the FAIR principles²⁴:

- R1: (meta)data are richly described with a plurality of accurate and relevant attributes

Each record contains a minimum of DataCite's mandatory terms, with optionally additional DataCite recommended terms and Zenodo's enrichments.

- R1.1: (meta)data are released with a clear and accessible data usage license

License is one of the mandatory terms in Zenodo's metadata, and refers to an Open Definition license. Data downloaded by the users is subject to the license specified in the metadata by the uploader.

- R1.2: (meta)data are associated with detailed provenance

All data and metadata uploaded is traceable to a registered Zenodo user. Metadata can optionally describe the original authors of the published work.

- R1.3: (meta)data meet domain-relevant community standards

Zenodo is not a domain-specific repository, yet through compliance with DataCite's Metadata Schema, metadata meets one of the broadest cross-domain standards available.

3.4.2 License schemes to permit the widest use possible

The application of a licence to ALFA's open data ensured that any interested third party can re-use it. In this context, licences were the instrument which permitted a third-party to copy, distribute, display and/or modify the project's data only for the purposes that are set by the licence. Licences typically grant permissions on condition that certain terms are met. While the precise details vary, three conditions are commonly found in licences, which are the attribution, non-derivative, and non-commerciality.

Along these lines, ALFA published openly available data under the Creative Commons licensing scheme to foster their re-use and build an equitable and accessible environment for them. Zenodo provided ALFA the opportunity to publish its open data under five Creative Commons licences as follows:

- Creative Commons Attribution-Share Alike 4.0 (CC BY-SA 4.0) according to which any third party can freely copy, distribute, display and modify the datasets for any purpose. Remix, transform, or build upon data must be distributed under the same license as the original. Third parties must give appropriate credit, provide a link to the license, and indicate if changes were made.
- Creative Commons Attribution 4.0 International (CC BY 4.0), according to which any third party can freely copy, distribute, display and modify the datasets for any purpose. Third parties

Figure 2: CC BY-SA 4.0

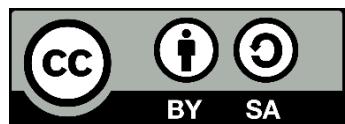


Figure 3: CC BY 4.0



²⁴ Retrieved from: <https://about.zenodo.org/principles/>

must give appropriate credit, provide a link to the license, and indicate if changes were made.

- Creative Commons Attribution-No Derivatives 4.0 International (CC BY-ND 4.0), during which any third party can freely copy, distribute, display and modify the datasets for any purpose. Remix, transform, or build upon data; however must not be distributed. Third parties must give appropriate credit, provide a link to the license, and indicate if changes were made.
- Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) based on which third parties can copy, distribute, display and modify the datasets for any purpose other than commercial, unless they get permission by project partners first. Third parties must give appropriate credit, provide a link to the license, and indicate if changes were made.
- Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0) according to which third parties can copy, distribute, display and modify the datasets for any purpose other than commercial unless they get permission from project partners first. Remix, transform, or build upon data; however, it must not be distributed. Third parties must give appropriate credit, provide a link to the license, and indicate if changes were made.

Different licensing schemes were selected to better fit the needs of ALFA's open data, ensuring not only their long-term preservation and re-use but also the interests of the consortium, along with the rights of individuals for whom the data was about. In such a case, this subsection of the DMP will be updated accordingly.

Figure 4: CC BY-ND 4.0

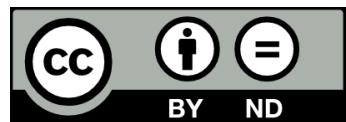


Figure 5: CC BY-NC 4.0

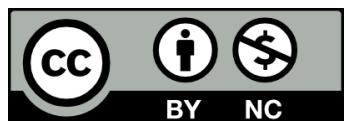


Figure 6: CC BY-NC-ND 4.0



3.4.3 Availability for re-use

The re-use of data was a key component of ALFA's methodology for making data FAIR. In fact, making data available for re-use ensured that interested stakeholders, other than project partners, could benefit from this data, contributing towards maximising the impact of the project. Rich metadata created based on metadata standards that enable proper discovery, as well as appropriate licensing schemes, facilitated the re-use of ALFA's open data, allowing them to find valuable utility.

In principle, it is expected that data will become available for re-use no later than 120 days after the end of its processing in the framework of the project (i.e. collection, anonymisation, aggregation, etc.) to ensure that any additional data management activities required to this end do not compete with the timely delivery of the project's planned outputs.

With that in mind, the expected time that ALFA's data will be made openly accessible and uploaded to Zenodo is indicatively provided in the following table:

Table 8: Expected time that data will be made open through Zenodo²⁵

No	Data	Expected time for making data open	Notes
1	Assessment of biogas market framework conditions dataset	03/07/2024	After D1.1 has been accepted by the EC following the 1 st Periodic Review and through Zenodo.
2	Stakeholders needs dataset	03/07/2024	After D1.2 has been accepted by the EC following the 1 st Periodic Review.
3	Case studies datasets	Repository 30/11/2023 Aggregated data 03/07/2024	Repository available through the Atlas Map (initial version) Aggregated data are available after D1.3 has been accepted by the EC following the 1 st Periodic Review and through Zenodo.
4	Ideas, concepts and key aspects collected during the co-creation workshops	03/07/2024	After D2.2 has been accepted by the EC following the 1 st Periodic Review and through Zenodo.
5	Direct data input by users of the Platform	-	Available only within the consortium
6	Data generated by the users	-	Available only within the consortium
7	Data for the delivery and improvement of the business support services	14/04/2025 12/08/2025	Aggregated data are available after D3.2, D3.4, D4.1, D4.2 have been accepted by the EC following the Periodic Reviews
8	Data for the delivery and improvement of the tech support and consultancy	14/04/2025 12/08/2025	Aggregated data will be available after D3.2, D3.4, D4.1, D4.2 have been accepted by the EC following the Periodic Reviews

²⁵ This timetable is based on expectations and may be modified during the course of the project taking into account any unforeseen risk that may occur.

No	Data	Expected time for making data open	Notes
9	Data collected from Mutual learning workshops and missions	31/01/2026	After D2.8 has been accepted by the EC following the 2 nd Periodic Review
10	Data from the EU Policy Roundtable	31/01/2026	After 4.3 has been accepted by the EC following the 2 nd Periodic Review.
11	Social media statistics	03/07/2024 31/01/2026	Aggregated data are available after D5.3, D5.5 have been accepted by the EC following the Periodic Reviews
12	Website analytics	03/07/2024 31/01/2026	Aggregated data are available after D5.3, D5.5 have been accepted by the EC following the Periodic Reviews
13	Newsletter subscriptions	-	-
14	Data collected from events	After each event	For that data that may be shared with event attendees.
15	Data from dissemination and communication activities	-	Available only within the consortium
16	AB feedback	14/04/2025 12/08/2025	After D4.1, D4.2 have been accepted by the EC following the Periodic Reviews.
17	Data collected from Project management and coordination	-	-

3.4.4 *Data provenance*

Data provenance is the documentation of where a piece of data comes from and the processes and methodology by which it was produced. Put simply, provenance answers the questions of why and how the data was produced, as well as where, when and by whom²⁶. Accurately recording data provenance is a cornerstone of good data management. ALFA used specific elements of the Dublin

²⁶ Retrieved from: <https://ardc.edu.au/resource/data-provenance/>

Core Metadata Standards²⁷ and the W3C Provenance Data Model²⁸, to generate specific text files (e.g., README) that will accurately capture the history of each data entity throughout its versions (e.g., based on the DOI versioning Zenodo provides)²⁹.

3.4.5 *Data quality assurance processes*

Quality Assurance (QA) and Quality Control (QC) activities were an integral part of ALFA's data management methodology and were implemented prior to the publication of any data to Zenodo, safeguarding the transparency, consistency, comparability, completeness and accuracy of the data.

QA is a planned system of review procedures conducted outside the framework of developing a dataset, by personnel not directly involved in the dataset development process³⁰. In the context of ALFA, it took the form of peer-reviews of methods and/or data summaries to assess the quality of the dataset and identify any need for improvement, ensuring that the dataset correctly incorporated the scientific knowledge and data generated.

QC is defined as a system of checks to assess and maintain the quality of the dataset being compiled³¹. The relevant procedures of ALFA were designed to provide routine technical checks as they measure and control data consistency, integrity, correctness and completeness, as well as identify and address errors and omissions. In this context, QC checks cover everything from data acquisition and handling, application of approved procedures and methods, and documentation. Some of the general quality checks undertaken in the framework of the project include checking (i) for transcription errors in data input; (ii) that scale measures were within the range of acceptable values; and (iii) whether proper naming conventions were used.

²⁷ Retrieved from: https://www.dublincore.org/resources/userguide/creating_metadata/

²⁸ Retrieved from: <https://www.w3.org/TR/prov-dm/>

²⁹ Retrieved from: <https://help.zenodo.org/>

³⁰ 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Vol. 1 General Guidance and Reporting, CHAPTER 6 Quality Assurance / Quality Control and Verification.

³¹ 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Vol. 1 General Guidance and Reporting, CHAPTER 6 Quality Assurance / Quality Control and Verification.

4. Other research outputs

At the moment of elaborating the final version of ALFA's Data Management Plan, no other research outputs have been identified or reused in the context of the project.

5. Allocation of resources

5.1 Estimated costs for making data FAIR

The costs required for making the data collected/generated during ALFA activities FAIR are integrated into the budget of the project. With that in mind, the table which follows provides an overview of the estimated costs of making data FAIR as well as their budget source within the framework of ALFA.

Table 9: Estimated costs for making data FAIR

No	Data Processing / Management Activity	Budget source	Total estimated effort in Person Months ³²	Total estimated cost in Euro ³³
1	Collection	Budget allocated to the WP under which the respective data are processed	21,82	112.454,90 €
2	Documentation	Budget allocated to the WP under which the respective data are processed	5,46	28.113,73 €
3	Storage	Budget allocated to the WP under which the respective data are processed	2,73	14.056,86 €
4	Access and security	Budget allocated to the WP under which the respective data are processed	2,73	14.056,86 €
5	Preservation	Budget allocated to the WP under which the respective data are processed	1,36	7.028,43 €
6	Availability and re-use	Budget allocated to the WP under which the respective data are processed	8,18	42.170,59 €
7	Overall data management	WP6	3,95	20.357,33 €
			Total	238.238,69 €

In order to produce the estimations of the costs for making data FAIR in the context of ALFA, a series of assumptions were made, taking into account the respective guidelines provided by the Research Data Management Support, a multidisciplinary network of data experts within Utrecht University³⁴,

³² The total estimated effort for each data processing / management activity reflects the cumulative effort for the implementation of the respective activity for all data collected / generated across the different WPs of ALFA

³³ The total cost of each data processing / management activity is calculated by multiplying the effort estimated for the respective activity with the weighted average cost of a person month in the framework of ALFA.

³⁴ Research Data Management Support. Guides: Costs of data management. Utrecht University. Retrieved from: <https://www.uu.nl/en/research/research-data-management/guides/costs-of-data-management>

as well as of the UK Data Service and its data management costing tool³⁵. With that in mind, the estimated costs for making ALFA's data FAIR cover data-related activities and resources across the data lifecycle, spanning from collection and documentation through storage and preservation, over to sharing and re-use.

In particular, costs for data collection covered activities necessary for acquiring external datasets, gathering/generating new data, transcribing, formatting and organising this data, as well as acquiring informed consent from data subjects. This data processing activity reflected the majority of the costs required for making data FAIR, as the majority of ALFA's data constituted new data collected/generated over the course of the project. At the same time, data documentation costs addressed the effort required for describing data (e.g., marking data with variable and value labels, code descriptions, etc.) as well as creating well-defined metadata along with a meaningful description of the context and methodology of how data was collected/generated and processed (where necessary).

Costs for data storage included the resources required for ensuring adequate storage space for the data, as well as the effort necessary for conducting data back-ups, while data access and security costs encompassed costs related to ensuring access to the data, as well as protecting it from unauthorised access or use or from disclosure. Given that the storage of ALFA's data was not required, the procurement of additional space (other than what is already available to project partners) as well as that no special measures or software was required to access and secure the data (other than what is inherently built in to the repositories of ALFA's data), such costs were kept to a minimum.

Data preservation costs, on the other hand, were estimated relatively higher than data storage, access and security costs, as additional effort was required in several cases in order to convert the collected/generated data from their original form (e.g., physical interview transcripts) to an open and/or machine-readable format suitable for long-term preservation (e.g. to an .xlsx format.). Adequate effort for data availability and re-use costs was also foreseen to safeguard the appropriate digitisation and anonymisation of the data, as well as cover any resources required for data sharing and cleaning. Along the same lines, appropriate effort was foreseen for overall data management as well, in order to cover the effort related to the operationalisation of data management in the framework of ALFA.

Finally, costs for long-term preservation in the framework of ALFA were assumed to be ineligible, since the open data of the project are hosted in the repository of Zenodo free of charge.

5.2 Data management responsibilities

For the effective, proper and secure handling of the data collected/generated in the frame of ALFA, specific data management roles have been established within the data management methodology and procedures of the project. These responsibilities are outlined in this section of the DMP and are as follows.

Project Coordinator (PC): The PC, Q-PLAN, was responsible for overall data management in the framework of ALFA, including the elaboration of the DMP and its updates (when necessary, along with support of all partners). At the same time, the PC was responsible for the elaboration of proper templates for the Informed Consent Form and the Data Subject Request Form to be appropriately

³⁵ UK Data Service. Costing Data Management. Retrieved from: <https://www.ukdataservice.ac.uk/manage-data/plan/costing>

adjusted and utilised by project partners during the relevant activities of the project as well as for drafting the project's Privacy Policy that has been uploaded on the project's website and the ALFA Engagement Platform. The PC, in collaboration with the relevant project partners (e.g., Task Leaders) examined if additional specific privacy policies were required for certain project tasks and coordinated the elaboration of such privacy policies. Finally, the PC coordinated with Work Package Leaders, Task Leaders and Responsible Partners to determine whether and how the data collected / generated by the project was shared and became available for re-use, contributed to its quality assurance and uploaded the project's openly available data to Zenodo.

Work Package Leaders (WPL): The WPL was responsible for coordinating the implementation of the data processing activities performed under the WPs they were leading. Moreover, they aligned with the PC and the respective Work Task Leader on whether and how the data gathered/produced under the tasks that fall within the WP they were leading was shared and/or re-used. This included the definition of access procedures as well as potential embargo periods, along with any necessary software and/or other tools which may be required for data sharing and re-use. Finally, the WPL were mainly responsible for assuring the quality of the data stemming from the activities of the WP they were leading, including assessing their quality and indicating any need for improvement to the respective Work Task Leaders.

Work Task Leaders (WTL): WTLs were responsible for the data collected/generated in the frame of the tasks that fell under their leadership, as well as for safeguarding their appropriate and timely processing. Moreover, they were responsible for properly adjusting the Informed Consent Form and Data Subject Request Form templates to the needs and specificities of the activities carried out in the task they were leading. WTLs were responsible for identifying the need for a specific privacy policy regarding the task they were leading and collaborating with the PC for drafting and releasing it to the public. Finally, they undertook any necessary actions to prepare the data collected/generated through the tasks they were leading for sharing either within the consortium or openly (including the use of proper naming conventions, application of suitable anonymisation techniques, creation of appropriate metadata and documentation, etc.).

Partners: All project partners were tasked to collect, digitise, anonymise, store, destroy and/or otherwise process data for the specific purpose of the activity in which it has been collected/generated within the project. They were responsible for appropriately collecting the necessary consent for processing data as well as for ensuring that the Informed Consent Form and the Data Subject Request Form used to this end were properly adjusted to the needs of the activity they were participating (including references to the project's Privacy Policy and any other applicable specific privacy policies) and, in any particularities, applicable to their organisation while ensuring adherence to provisions of relevant national data protection legislation in their respective country. Moreover, they were responsible for managing the consents they collected with a view to demonstrating their compliance with the relevant applicable EU and national regulation(s). Finally, they performed quality checks to assess and maintain the quality of the dataset(s) held within their records.

Data repositories: Data repositories were tasked with the storage and long-term preservation of the project's data. In this respect, Zenodo maintain and preserves the openly available data of ALFA, enabling its sharing and re-use. To this end, Zenodo assigns metadata and DOIs to the data, while also taking all necessary measures to securely back up the data and restore it, safeguarding its long-term preservation.

In this context, the following table illustrates the allocation of data management responsibilities amongst the members of the ALFA consortium per data collected/generated under each WP.

Table 10: Data management responsibilities of ALFA's partner per data collected/generated under each WP

WP	WPL	Data	Tasks	WTL	Responsible Partner
WP1	A0CO2	Assessment of biogas market framework conditions dataset	1.1	A0CO2	QPL, APRE, SIE, FBCD, WR, PED
WP1	A0CO2	Stakeholders needs dataset	1.2	WR	WR
WP1	A0CO2	Case studies datasets	1.3	SIE	QPL, APRE, SIE, FBCD, WR, PED
WP2	SIE	Ideas, concepts and key aspects collected during the co-creation workshops	2.2	WR	QPL, APRE, SIE, FBCD, WR, PED
WP2	SIE	Direct data input by users of the Platform	2.1	QPL	QPL
WP2	SIE	Data generated from the users	2.1	QPL	QPL
WP3, WP4	APRE, PED	Data for the delivery and improvement of the business support services	3.2, 4.1	FBCD, QPL	QPL, APRE, SIE, FBCD, WR, PED, CERTH, A0CO2
WP3, WP4	APRE, PED	Data for the delivery and improvement of the tech support and consultancy	3.3, 4.1	CERTH, QPL	QPL, APRE, SIE, FBCD, WR, PED, CERTH, A0CO2
WP4	PED	Data collected from Mutual learning workshops and missions	4.2	PED	APRE, SIE, FBCD, PED
WP4	PED	Data from the EU Policy Roundtable	4.3	WR	All partners
WP5	WR	Social media statistics	5.1	WR	All partners
WP5	WR	Website analytics	5.1	WR	WR
WP5	WR	Newsletter subscriptions	5.1	WR	WR
WP5	WR	Data collected from events	5.1	WR	All partners
WP5	WR	Data from dissemination and communication activities	5.1	WR	All partners
WP5	WR	AB feedback	5.2	EDF	All partners
WP6	QPL	Data collected from Project management and coordination	6.1	QPL	All partners

6. Data security

ALFA securely handled any collected/generated data throughout its entire lifecycle, as it was essential to safeguard this data against accidental loss and/or unauthorised access. To achieve this, the project applied appropriate technical and organisational measures based on a risk assessment of the relevant data that took into account the impact and the likelihood of a potential data breach. With that in mind, the project's data security strategy aimed at minimising the probability that a data breach will occur during the course and after the completion of ALFA, either from human error or hardware failure, as well as inhibiting any unauthorised access. Particularly, in the case of personal data collection/generation, it was crucial that this data could only be accessible by those authorised to do so.

All project partners were responsible for processing³⁶ data using appropriate means, such as private servers or cloud service providers that adhered to the relevant legal data protection requirements (e.g., GDPR) and ensured that this data was protected, and any necessary data security controls have been implemented, to minimise the risk of information leak and destruction. This case referred to the data that was closed and therefore was not shared and/or reused within the framework of the project. In this case, to minimise the consequences of potential data losses, the data was backed up at regular time intervals based on change frequency and criticality. The backed-up files were stored in appropriate storage media, including external hard drives, flash drives, NAS devices and reputable cloud services, so as to safeguard their preservation, while also enabling their recovery at any time. Moreover, integrity checks³⁷ were carried out regularly, ensuring that the stored data has not been changed or corrupted.

Access to closed data was only permitted to authorised project partners. In case there is a personal data breach, the responsible project partner will notify, without undue delay and, where feasible, not later than 72 hours after having become aware of it, its competent national supervisory authority (e.g., data protection authority) as well as the data subject(s) that may be affected by the breach. Moreover, the responsible partner will document any personal data breaches, including information such as the facts relevant to the breach, its effects and the remedial action(s) taken.

Identification and authentication access controls played an important role in the context of the project, as they help partners to protect the data collected/generated during ALFA and especially personal data. To this end, each project partner was responsible for and committed to ensuring the application of appropriate access controls to the data they were processing. Additionally, in order to safeguard the privacy of the users of the ALFA website and the ALFA engagement platform, dedi-

³⁶ Processing, according to Regulation (EU) 2016/679 of the European Parliament (General Data Protection Regulation), means any operation or set of operations which is performed on personal data or on sets of personal data, whether or not by automated means, such as collection, recording, organisation, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction.

³⁷ An integrity check is the process of comparing the current state of stored data and/or programs to a previously recorded state in order to detect any changes.

cated privacy policies defined the way in which these online spaces collect, process and use personal data, the security procedures followed, the users' rights, as well as the cookies policy employed.

On another note, openly available data was stored safely for long-term preservation on Zenodo, in the same cloud infrastructure as research data from CERN's Large Hadron Collider, using CERN's battle-tested repository software INVENIO, which is used by some of the world's largest repositories (such as INSPIRE HEP and the CERN Document Server). Along these lines, data was stored and backed up in CERN's EOS service in an 18 petabyte disk cluster. Both data files and metadata were kept in multiple online replicas and independent replicas, ensuring their long-term preservation as well as their recovery when necessary. Moreover, for each file, two independent MD5 checksums were stored. One checksum was stored by INVENIO, used to detect changes to files made from outside of it, whereas the other checksum was stored by EOS and used for automatic detection and recovery of file corruption on disks. In this context, access control was applied by the different levels of openness that Zenodo allowed (i.e., open, embargoed, restricted and closed).

7. Ethical aspects and other procedures

This Chapter addresses the ethical aspects of the ALFA's Data Management Plan and the ethical compliance of the underlying data foreseen to be collected/generated under the project's activities. The project processed data that was not included in any special category of personal data (i.e., non-sensitive data) according to the relevant data protection legislation (e.g. GDPR). In accordance with the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 (GDPR), all personal data processed for the project's activities were:

- processed lawfully, fairly and in a transparent manner in relation to the data subject;
- collected for specified, explicit and legitimate purposes relative to the project's objectives and not further processed in a manner that is incompatible with those purposes;
- adequate, relevant and limited to what was necessary in relation to the purposes for which they are processed;
- accurate and, where necessary, kept up to date;
- kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed;
- processed in a manner that ensures appropriate security of the personal data.

For all personal data processing activities within the framework of the project, at least one lawful basis as of Art. 6 GDPR applied. Where informed consent was chosen as the lawful basis for processing, all relevant provisions of the data protection legislation (e.g., Art.7 GDPR) was observed. Under this light, further details about the scope of the activities that entail data collection/generation in the frame of ALFA along with the procedures for identifying/recruiting suitable stakeholders to take part in them as well as for obtaining their informed consent were defined by the respective WP Leaders (A0CO2 for WPI, SIE for WP2, APRE for WP3, PED for WP4, WR for WP5, QPL for WP6). Moreover, personal data processing carried out by partners was in line with relevant EU and national regulations. The project's Privacy Policy and the templates of the Informed Consent Form and the Data Subject Request Form, used in the implementation of the project's activities, were compliant with the General Data Protection Regulation and annexed to this DMP (see Annexes). Last but not least, no transfer of personal data outside the EU was done as part of the project's implementation. In case of data storage providers situated both inside and outside the EEA, partners were committed to ensure their compliance with the relevant GDPR requirements before starting to use their services.

It is important to highlight that each partner was responsible for ensuring that the templates for the Informed Consent Form and Subject Data Request Form (including references to the project's Privacy Policy and any other applicable specific privacy policies) were appropriately adjusted according to (i) the needs of the activity for which they were used by them as well as to (ii) the relevant data protection laws and regulations applicable to their respective countries and/or organisation. All partners kept records to demonstrate that data subjects have consented to the processing of their personal data and use consent management mechanisms that made it easy for individuals to withdraw their consent.

Finally, no other national/funder/sectoral/departmental procedures for data management were used in the framework of ALFA.

8. Conclusions

This final version of the ALFA DMP is built upon its interim version to further elaborate on the methodology employed in the frame of ALFA, aiming at safeguarding the sound management of the data collected, processed and/or generated during the project's activities across their entire lifecycle, while also making them FAIR. It describes all the underlying processes of the ALFA data management, collection, process and generation, in accordance with the GDPR guidelines, and sheds light on (i) the data being collected, processed, generated and/or re-used under the project activities, (ii) the specific objectives under which each dataset is collected, processed, generated and/or re-used, (iii) the management of the other research outputs of the project (iv) the allocation of resources and data management responsibilities and (v) the data security and ethical aspects of the data.

Specifically, the final version of the DMP elaborated further on the data collected, processed, and/or generated in the frame of the project (updated description and details of data) – based on the ALFA status and developments, while also providing the online paths for their future use.

9. Annexes

9.1 Annex I – Privacy policy

PRIVACY POLICY

1. Who we are:

ALFA's main objective is to tap the potential of biogas production from livestock farming to enhance the wider uptake of RES and increase the share of bioenergy as a baseload energy source, while ensuring reduced emissions from untreated animals' waste and supporting the creation of new jobs and revenue for the livestock farming industry. During its three years, the project will support at least 50 livestock farmers in 6 EU counties (IT, DK, BE, SK, EL, ES) to overcome existing barriers and viably take up biogas solutions whilst providing a more informed basis for policy-makers and stakeholders by unveiling biogas market dynamics. Tools will be created to reduce investment risk and support more robust and efficient financial frameworks to allow massive scalability of biogas. Furthermore, ALFA will provide science-based information to livestock farming decision makers for the potential of biogas and raise the awareness of the general public on misperceptions about biogas and bioenergy.

The partners of ALFA consortium, listed below, process certain types of personal data for the purposes of the project. Each partner is responsible for the personal data they collect and process during their activities under the framework of the project:

- Q-PLAN INTERNATIONAL ADVISORS PC, Greece (Coordinator), <https://qplan-intl.gr/>
- AGENZIA PER LA PROMOZIONE DELLA RICERCA EUROPEA, Italy, <https://apre.it/>
- AZZERO CO2 SRL, Italy, <https://www.azzeroco2.it/en/>
- CENTRE FOR RESEARCH & TECHNOLOGY HELLAS, Greece, <https://www.certh.gr/>
- FBCD AS, Denmark, www.foodbiocluster.dk
- SUSTAINABLE INNOVATIONS EUROPE SL, Spain, <https://sustainableinnovations.eu/>
- WHITE RESEARCH SRL, Belgium, <https://white-research.eu/>
- PEDAL CONSULTING SRO, Slovakia, <https://pedal-consulting.eu/>
- EUROPEAN DAIRY FARMERS E.V., Germany, <https://www.dairyfarmer.net/>
- EUROPEAN BIOGAS ASSOCIATION AISBL, Belgium, <https://www.europeanbiogas.eu/>

For further information, we can be contacted at: alfa.project.eu@gmail.com

2. How we collect your personal data

We collect personal data both directly and indirectly:

Directly. We obtain personal data directly from individuals in a variety of ways, including but not limited to the following cases:

- an individual subscribes to our newsletter/s;
- an individual registers to attend meetings and events we host and during attendance at such events;
- we establish cooperative relationships with an individual;
- we provide professional services pursuant to our contract with the European Commission;
- an individual participates in an interview or survey organized by us.

Indirectly. We obtain personal data indirectly about individuals from a variety of sources, including:

- our research partners;
- our networks and contacts;
- public and open data sources such as public registers, news articles and internet searches;
- social and professional networking sites (e.g., LinkedIn).

3. What types of data we collect?

We only collect the data that are necessary for the smooth implementation of our project. These data fall into the following categories:

- **contact details** (name/ surname, e-mail address);
- **professional information** (job title, organization, field of expertise);
- **demographics** (e.g., age, gender, nationality);
- **information about what a person knows or believes.**
- **videos and photos** (from people that attend our events).

4. Bases of lawful processing

We process personal data on the following legal bases:

Legal obligations - for processing activities required for compliance both with applicable national and European legislation as well as with the specific legal and regulatory framework of the Horizon Europe Framework Programme for Research and Innovation of the European Union.

Consent – for processing activities such as organization of surveys and interviews, completing of questionnaires and dissemination of project's results.

Contractual obligations - for processing activities such as reporting to the European Commission and complying with project's publicity obligations.

5. What we do with your personal data

We process your personal data with the purpose of:

- Conducting research (e.g., interviews, surveys);
- Dissemination our project's results to different types of stakeholders;
- Sending invitations and providing access to guests attending our events and webinars;

- Administering, maintaining, and ensuring the security of our information systems, applications, and websites;
- Processing online requests or queries, including responding to communications from individuals;
- Complying with contractual, legal, and regulatory obligations.

6. How we secure your personal data when we process it

We continuously apply a personal data risk assessment process to identify, analyse, and evaluate the security risks that may threaten your personal data. Based on the results of this risk assessment, we define and apply a set of both technical and organizational measures to mitigate the above security risks, including but not limited to:

- Data Protection Policies to guide our personnel when processing your data;
- Written contracts with organizations that process personal data on our behalf;
- Non-Disclosure Agreements with our personnel;
- Back up process, antimalware protection, access control mechanisms, etc.
- Some of our partners have appointed a Data Protection Officer.

7. Do we share personal data with third parties?

We may occasionally share personal data with trusted third parties to help us deliver efficient and quality services. When we do so, we ensure that recipients are contractually bound to safeguard the data we entrust to them before we share the data. We may engage with several or all the following categories of recipients:

- Parties that support us as we provide our services (e.g., cloud-based software services such as Dropbox, Microsoft SharePoint, Google);
- Our professional advisers, including lawyers, auditors, and insurers;
- Dissemination services providers (e.g., MailChimp);
- Law enforcement or other government and regulatory agencies or other third parties as required by, and in accordance with applicable law or regulation;
- The European Commission according to our relevant contractual obligations.

8. Do we transfer your personal data outside the European Economic Area?

We do not own file servers located outside the European Economic Area (EEA). However, some partners may use cloud and / or marketing services from reputable providers such as SharePoint, Dropbox, MailChimp, Google, etc., situated both inside and outside the EEA. We always check that such providers comply with the relevant GDPR requirements before starting using their services.

9. Do we use cookies?

Our websites use cookies. Where cookies are used, a statement will be sent to your browser explaining the use of cookies. To learn more, please refer to our cookie policy.

Our websites use cookies. Where cookies are used, a statement will be sent to your browser explaining the use of cookies. Cookies are small text files which are saved on your computer, mobile phone or tablet. They allow the website to remember your actions and preferences (such as login,

language, font size and other display preferences) so you don't have to keep re-entering them whenever you come back to the site. You can control and/ or delete cookies as you wish. If you do this, however, you may need to manually adjust your preferences every time you visit a site. For more information on how to manage cookies, please visit: <http://www.aboutcookies.org/>

We use tools like Google Analytics to better understand how visitors interact with our website. This provides us with important information to enable the site to work better. The information collected is not linked to your personal data. For more information on the cookies set by Google Analytics, please visit: <http://code.google.com/apis/analytics/docs/concepts/gaConceptsCookies.html>

The following cookies are used by Google Analytics:

Name	Typical content	Cookie expires after
_ga	Used to distinguish users	2 years
_gat	Used to throttle request rate	1 minute
_gid	Used to distinguish users	24 hours

10. Your rights

You have the following rights regarding our processing of your personal data:

- **Right to withdraw consent** – You can withdraw consent that you have previously given to one or more specified purposes to process your personal data. This will not affect the lawfulness of any processing carried out before you withdraw your consent.
- **Right of access** – You can ask us to verify whether we are processing personal data about you and, if so, to have access to a copy of such data.
- **Right to rectification and erasure** – You can ask us to correct our records if you believe they contain incorrect or incomplete information about you or ask us to erase your personal data after you withdraw your consent to processing or when we no longer need it for the purpose it was originally collected.
- **Right to restriction of processing** – You can ask us to temporarily restrict our processing of your personal data if you contest the accuracy of your personal data, prefer to restrict its use rather than having us erase it, or need us to preserve it for you to establish, exercise or defend a legal claim. A temporary restriction may apply while verifying whether we have overriding legitimate grounds to process it. You can ask us to inform you before we lift that temporary processing restriction.
- **Right to data portability** – In some circumstances, where you have provided personal data to us, you can ask us to transmit that personal data (in a structured, commonly used, and machine-readable format) directly to another entity.
- **Right to object** – You can object to our use of your personal data for direct marketing purposes, including profiling or where processing has taken the form of automated decision-making. However, we may need to keep some minimal information (e.g., e-mail address) to comply with your request to cease marketing to you.
- **Right to make a complaint** to your local Data Protection Authority (DPA) (see https://ec.europa.eu/justice/article-29/structure/data-protection-authorities/index_en.htm) regarding any concerns you may have about our data handling practices.

To ask us to do anything of the above, you can contact us by email: alfa.project.eu@gmail.com We will promptly examine your request against the relevant requirements of the laws and regulations governing privacy and personal data protection and we will answer the latest within 30 days after receiving your request. We will ask from you some kind of identification (e.g., photocopy of your identity card or passport) to avoid non-authorized reveal of your personal data. If, for reasons of complexity of the request or a multitude of requests, we are unable to respond promptly, we will notify you within 30 days of any delay, which in no case may exceed two months from the expiration of the 30-day deadline.

11. How long do we retain personal data?

We retain personal data to provide our services, stay in contact with you and to comply with applicable laws, regulations, and contractual obligations to which we are subject. Please note that we have an obligation to retain data concerning projects funded by the Horizon Europe Framework Programme for Research and Innovation of the European Union for up to five years after the end of the project (unless further retention is requested by auditors). After the expiry of the retention period, and unless further legitimate grounds for retention arise, we will dispose of personal data in a secure manner.

12. Disclaimer of liability for third party websites

Although our site may contain links to third-party sites, including the sites of the consortium partners, we are not responsible for the privacy practices or content of these sites and we expressly disclaim any liability for any loss or damage that may be caused by the use of these links. We do not monitor the privacy practices or the content of these sites. If you have any questions about the privacy practices of another site, you should contact the site's responsible personnel. We suggest you read the privacy policy of each website you interact with, before allowing the collection and use of your personal data.

We may also provide social media features that allow you to share information on your social networks and interact with our project on various social media sites. The use of these social media features may result in the collection or sharing of information about you. We recommend that you check the privacy policies and regulations of the social networking sites you interact with, so that you can be sure that you understand what information may be collected, used and disclosed by these sites.

13. Children

We do not knowingly collect, use, or disclose information from children under the age of 16. If we learn that we have collected the personal information of a child under 16, we will take steps to delete the information as soon as possible. Please immediately contact us if you become aware that a child under 16 has provided us with personal information.

14. Revisions of this Privacy Policy

This Privacy Policy is valid from 30/11/2022 and replaces any other previous notifications that we had issued in the past regarding our personal data management practices. We reserve the right to revise this Policy at any time. The current version will be always uploaded to our website indicating

the date of entry into force, so you know when the most recent revision took place. If there are critical changes in this policy or our personal data practices change significantly in the future, we will notify you by posting the changes on our website.

9.2 Annex II – Informed Consent Form

Text in grey colour contains guidelines for adjusting this template and should be deleted.

Text in grey colour contains examples and should be adjusted to the context of each activity.

Text included in < > and/or should be replaced with content that is suitable to the context of each activity & project as well as to the organisation seeking to obtain the consent.

Before using this template take the time to carefully read and adjust it to the needs of the activity at hand as well as to any relevant regulations and particularities applicable to your country and organisation.

INFORMED CONSENT FORM

Who we are:

We are < Insert Partner Name > and we are contacting you in the framework of ALFA a project funded by the European Union under the Horizon Europe Framework Programme for Research and Innovation.

Project:

ALFA – Scaling up the market uptake of Renewable Energy Systems by unlocking the biogas potential of Agriculture and Livestock FArming (GA Number 101075659).

Partner:

Organisation name: < Insert Partner Name >

Address: < Insert Partner Address >.

Phone: < Insert Partner Phone >.

E-mail: <Insert Partner Generic E-mail Address >

Responsible persons:

You may delete the line referring to the Data Protection Officer if your organisation does not have one.

#	Role	Name	E-mail
1	ALFA Project Manager	<Insert name of project manager from your organisation>	<Insert e-mail of project manager from your organisation >
2	Interviewer	<Insert name of interviewer from your organisation >	<Insert e-mail of interviewer from your organisation >
3	Data Protection Officer	<Insert name of DPO from your organisation >	<Insert e-mail of DPO from your organisation >

What do we need from you?

Please explain in a brief paragraph the activity and its purpose under the frame of the project.

Example: We need you to participate in an interview that will be carried out by ALFA with a view to shedding light on the conditions that may act as a barrier or an enabler for the uptake of biogas in livestock farming.

The interview is expected to last for no more than < Insert number of minutes > minutes. We will take written notes and we will not be making any sound recording of the interview.

Please adapt the following text to accurately depict the type of personal data to be collected.

To effectively conduct this interview, we need to process some of your personal data:

- Your contact details (full name, email, phone number);
- Some basic demographics (age, gender);
- Your professional info (organization, job position, field of expertise);
- Your education info
- Your opinions on the subject matter.

Why do we need your data & what will we do with them?

We need your data to contact you in order to plan and carry out the aforementioned interview and to resolve any ambiguities, questions and other issues that may arise after and as a result of the interview. We also need to record your data to keep track of the interview process. The project's deliverables that will be derived by the interview will not include your personal data or any other information that could identify you. Your personal data will remain on our written notes (interview's transcript).

We will share your data with a few other ALFA project partners that are also involved in this task if needed and will participate in the drafting of the relevant deliverables. We are also obliged to grant access to your data to:

- EU officials such as our Project Officer for purposes related to project's evaluation;
- EU agencies and other authorities for project's auditing purposes.

We would also be very happy if you gave us your consent to inform you about the project's progress (e.g., by sending you a newsletter or similar messages).

How can you withdraw your consent?

You should know that you can withdraw your consent at any time by communicating either on the phone or by email with the responsible persons listed in the previous page. With regards to the informational messages and newsletters you can always opt out by simply clicking the link "Unsubscribe" or something similar included at the end of all the relevant messages.

I hereby give my consent to the processing of my personal data needed for:

(Please, tick the boxes below to confirm that you give us your consent for the respective subject. Any boxes left unticked mean that you do not consent to the relevant subject.)

#	Consent Subject	Tick box
1	My participation in an interview that will be carried out by ALFA to <insert key objective of the interview>	
2	Receiving newsletters and messages regarding ALFA activities	

Name of participant

Date

Signature

9.3 Annex III – Data Subject Request Form

Data Subject Request form

Text in grey colour contains guidelines for adjusting this template and should be deleted.

Text included in < > should be replaced with content that is suitable to the context of each activity & project as well as to the organisation seeking to obtain the consent.

You may delete the data referring to the Data Protection Officer if your organisation does not have one.

CONTACT

<i><Insert name of responsible Project Manager></i>	<Insert name of DPO > (Data Protection Officer)
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DATA SUBJECT REQUEST FORM

This form should be used to submit a data subject request under the provisions of the European Union General Data Protection Regulation (GDPR).

Submitter Details

Title:	
Name:	
Address:	

TYPE OF REQUEST

Please select the type of request you are making:

- Consent Withdrawal*
- Access request*
- Rectification of personal data*
- Erasure of personal data*
- Restriction of processing of personal data*
- Personal data portability request*

- Objection to processing of personal data*
- Request regarding automated decision making and profiling*

PERSONAL DATA INVOLVED

REQUEST DETAILS

REQUEST REASON/JUSTIFICATION

Name:

Signature:

Date:

Once completed, this form should be submitted via e-mail to <Insert contact e-mail of Partner> or posted to:

<Insert Partner Name>

<Insert Partner Address>

9.4 Annex IV – Record of Processing Activities

No	Project Activity / purpose	Data processing activity	Linked WP(s)	Linked Tasks	Data subjects	Data source	Data category(-ies)	Responsible partner	Involved partner(s)	Type of involvement	Special category (Art. 9 GDPR)	Lawfulness of processing	Transfer to third countries (non EU-EEA)	Recipients	Comments
1	Assessment of bio-gas market uptake framework conditions	Interviews	WP1	Task 1.1	Interviewees	Data subject	Contact details Personal views Professional information	Q-PLAN			No	Art. 6(1)(a) - consent	No		
2	Assessment of bio-gas market uptake framework conditions	Interviews	WP1	Task 1.1	Interviewees	Data subject	Contact details Personal views Professional information	FBCD			No	Art. 6(1)(a) - consent	No		
3	Assessment of bio-gas market uptake framework conditions	Interviews	WP1	Task 1.1	Interviewees	Data subject	Contact details Personal views Professional information	APRE			No	Art. 6(1)(a) - consent	No		
4	Assessment of bio-gas market uptake framework conditions	Interviews	WP1	Task 1.1	Interviewees	Data subject	Contact details Personal views Professional information	WR			No	Art. 6(1)(a) - consent	No		
5	Assessment of bio-gas market uptake framework conditions	Interviews	WP1	Task 1.1	Interviewees	Data subject	Contact details Personal views Professional information	PED			No	Art. 6(1)(a) - consent	No		
6	Assessment of bio-gas market uptake framework conditions	Interviews	WP1	Task 1.1	Interviewees	Data subject	Contact details Personal views Professional information	SIE			No	Art. 6(1)(a) - consent	No		
7	Analysis of stakeholders needs, perceptions and challenges	Surveys	WP1	Task 1.2	Survey respondents	Data subject	Personal views Demographics	WR			No	Art. 6(1)(a) - consent	No		
8	Development of case studies of farms successfully uptaking biogas solutions	Interviews	WP1	Task 1.3	Interviewees	Data subject	Contact details Personal views Professional information	SIE			No	Art. 6(1)(a) - consent	No		
9	Development of case studies of farms successfully uptaking biogas solutions	Interviews	WP1	Task 1.3	Interviewees	Data subject	Contact details Personal views Professional information	QPL			No	Art. 6(1)(a) - consent	No		
10	Development of case studies of farms successfully uptaking biogas solutions	Interviews	WP1	Task 1.3	Interviewees	Data subject	Contact details Personal views Professional information	APRE			No	Art. 6(1)(a) - consent	No		
11	Development of case studies of farms successfully uptaking biogas solutions	Interviews	WP1	Task 1.3	Interviewees	Data subject	Contact details Personal views Professional information	FBCD			No	Art. 6(1)(a) - consent	No		
12	Development of case studies of farms successfully uptaking biogas solutions	Interviews	WP1	Task 1.3	Interviewees	Data subject	Contact details Personal views Professional information	PED			No	Art. 6(1)(a) - consent	No		

No	Project Activity / purpose	Data processing activity	Linked WP(s)	Linked Tasks	Data subjects	Data source	Data category(-ies)	Responsible partner	Involved partner(s)	Type of involvement	Special category (Art. 9 GDPR)	Lawfulness of processing	Transfer to third countries (non EU-EEA)	Recipients	Comments
13	Development of case studies of farms successfully uptaking biogas solutions	Interviews	WP1	Task 1.3	Interviewees	Data subject	Contact details Personal views Professional information	WR			No	Art. 6(1)(a) - consent	No		
14	Operation of ALFA Hubs and engagement of stakeholders	Stakeholder matrix	WP2	Task 2.1	Engaged stakeholders	Data subject	Demographics	QPL			No	Art. 6(1)(b) - contract	No		
15	The ALFA co-creation workshops	Co-creation workshop	WP2	Task 2.2	Workshop participants	Data subject	Contact details Personal views	QPL			No	Art. 6(1)(a) - consent	No		
16	The ALFA co-creation workshops	Co-creation workshop	WP2	Task 2.2	Workshop participants	Data subject	Contact details Personal views	WR			No	Art. 6(1)(a) - consent	No		
17	The ALFA co-creation workshops	Co-creation workshop	WP2	Task 2.2	Workshop participants	Data subject	Contact details Personal views	APRE			No	Art. 6(1)(a) - consent	No		
18	The ALFA co-creation workshops	Co-creation workshop	WP2	Task 2.2	Workshop participants	Data subject	Contact details Personal views	FBCD			No	Art. 6(1)(a) - consent	No		
19	The ALFA co-creation workshops	Co-creation workshop	WP2	Task 2.2	Workshop participants	Data subject	Contact details Personal views	SIE			No	Art. 6(1)(a) - consent	No		
20	The ALFA co-creation workshops	Co-creation workshop	WP2	Task 2.2	Workshop participants	Data subject	Contact details Personal views	PED			No	Art. 6(1)(a) - consent	No		
21	Delivery and improvement of the business support services	Needs analysis, service action plan, feedback forms	WP2, WP3, WP4	Task 2.3, 3.2, 4.1	ALFA service beneficiaries	Data subject	Contact details Professional information Personal views	QPL			No	Art. 6(1)(a) - consent	No		
22	Delivery and improvement of the business support services	Needs analysis, service action plan, feedback forms	WP2, WP3, WP4	Task 2.3, 3.2, 4.1	ALFA service beneficiaries	Data subject	Contact details Professional information Personal views	SIE			No	Art. 6(1)(a) - consent	No		
23	Delivery and improvement of the business support services	Needs analysis, service action plan, feedback forms	WP2, WP3, WP4	Task 2.3, 3.2, 4.1	ALFA service beneficiaries	Data subject	Contact details Professional information Personal views	PED			No	Art. 6(1)(a) - consent	No		
24	Delivery and improvement of the business support services	Needs analysis, service action plan, feedback forms	WP2, WP3, WP4	Task 2.3, 3.2, 4.1	ALFA service beneficiaries	Data subject	Contact details Professional information Personal views	FBCD			No	Art. 6(1)(a) - consent	No		
25	Delivery and improvement of the business support services	Needs analysis, service action plan, feedback forms	WP2, WP3, WP4	Task 2.3, 3.2, 4.1	ALFA service beneficiaries	Data subject	Contact details Professional information Personal views	APRE			No	Art. 6(1)(a) - consent	No		
26	Delivery and improvement of the business support services	Needs analysis, service action plan, feedback forms	WP2, WP3, WP4	Task 2.3, 3.2, 4.1	ALFA service beneficiaries	Data subject	Contact details Professional information Personal views	WR			No	Art. 6(1)(a) - consent	No		

No	Project Activity / purpose	Data processing activity	Linked WP(s)	Linked Tasks	Data subjects	Data source	Data category(-ies)	Responsible partner	Involved partner(s)	Type of involvement	Special category (Art. 9 GDPR)	Lawfulness of processing	Transfer to third countries (non EU-EEA)	Recipients	Comments
27	Delivery and improvement of the tech support services	Needs analysis, service action plan, feedback forms	WP2, WP3, WP4	Task 2.3, 3.2, 4.1	ALFA service beneficiaries	Data subject	Contact details Professional information Personal views	FBCD			No	Art. 6(1)(a) - consent	No		
28	Delivery and improvement of the tech support services	Needs analysis, service action plan, feedback forms	WP2, WP3, WP4	Task 2.3, 3.2, 4.1	ALFA service beneficiaries	Data subject	Contact details Professional information Personal views	QPL			No	Art. 6(1)(a) - consent	No		
29	Delivery and improvement of the tech support services	Needs analysis, service action plan, feedback forms	WP2, WP3, WP4	Task 2.3, 3.2, 4.1	ALFA service beneficiaries	Data subject	Contact details Professional information Personal views	PED			No	Art. 6(1)(a) - consent	No		
30	Delivery and improvement of the tech support services	Needs analysis, service action plan, feedback forms	WP2, WP3, WP4	Task 2.3, 3.2, 4.1	ALFA service beneficiaries	Data subject	Contact details Professional information Personal views	APRE			No	Art. 6(1)(a) - consent	No		
31	Delivery and improvement of the tech support services	Needs analysis, service action plan, feedback forms	WP2, WP3, WP4	Task 2.3, 3.2, 4.1	ALFA service beneficiaries	Data subject	Contact details Professional information Personal views	WR			No	Art. 6(1)(a) - consent	No		
32	Delivery and improvement of the tech support services	Needs analysis, service action plan, feedback forms	WP2, WP3, WP4	Task 2.3, 3.2, 4.1	ALFA service beneficiaries	Data subject	Contact details Professional information Personal views	SIE			No	Art. 6(1)(a) - consent	No		
33	Delivery and improvement of the capacity building activities	List of participants, feedback forms	WP3	Task 3.4, 4.1	Seminars participants	Data subject	Contact details Personal views	QPL			No	Art. 6(1)(a) - consent	No		
	Delivery and improvement of the capacity building activities	List of participants, feedback forms	WP3	Task 3.4, 4.1	Seminars participants	Data subject	Contact details Personal views	SIE			No	Art. 6(1)(a) - consent	No		
	Delivery and improvement of the capacity building activities	List of participants, feedback forms	WP3	Task 3.4, 4.1	Seminars participants	Data subject	Contact details Personal views	APRE			No	Art. 6(1)(a) - consent	No		
	Delivery and improvement of the capacity building activities	List of participants, feedback forms	WP3	Task 3.4, 4.1	Seminars participants	Data subject	Contact details Personal views	FBCD			No	Art. 6(1)(a) - consent	No		
	Delivery and improvement of the capacity building activities	List of participants, feedback forms	WP3	Task 3.4, 4.1	Seminars participants	Data subject	Contact details Personal views	WR			No	Art. 6(1)(a) - consent	No		
	Delivery and improvement of the capacity building activities	List of participants, feedback forms	WP3	Task 3.4, 4.1	Seminars participants	Data subject	Contact details Personal views	PED			No	Art. 6(1)(a) - consent	No		
47	ALFA Engagement Platform and Tools – direct input from users	Use of the ALFA Engagement Platform and Tools	WP2	Task 2.1	Users of the ALFA Engagement Platform and Tools	Data subject	Professional information	QPL			No	Art. 6(1)(a) - consent	No		

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48	ALFA Engagement Platform and Tools – indirect input from users	Use of the ALFA Engagement Platform and Tools	WP2	Task 2.1	Users of the ALFA Engagement Platform and Tools	Data subject	Professional information	QPL			No	Art. 6(1)(a) - consent	No		
51	Mutual learning workshops/ missions	Event organisation	WP4	Task 4.2	MML workshop participants	Data subject	Contact details Professional information Personal views	FBCD			No	Art. 6(1)(a) - consent	No		
52	Mutual learning workshops/ missions	Event organisation	WP4	Task 4.2	MML workshop participants	Data subject	Contact details Professional information Personal views	APRE			No	Art. 6(1)(a) - consent	No		
53	Mutual learning workshops/ missions	Event organisation	WP4	Task 4.2	MML workshop participants	Data subject	Contact details Professional information Personal views Photos Short videos	PED			No	Art. 6(1)(a) - consent	No		
54	Mutual learning workshops/ missions	Event organisation	WP4	Task 4.2	MML workshop participants	Data subject	Contact details Professional information Personal views	SIE			No	Art. 6(1)(a) - consent	No		
55	Networking event	Event organisation	WP4	Task 4.2	Event participants	Data subject	Contact details Professional information Photos	PED			No	Art. 6(1)(a) - consent	No		
56	EU policy roundtable	Event organisation	WP4	Task 4.3	Event participants	Data subject	Contact details Professional information Photos Personal views	WR			No	Art. 6(1)(a) - consent	No		
57	Monitoring and assessment of the dissemination and communication activities and results	Social media analytics	WP5	Task 5.1	Social media followers	Data subject	Likes, follows, posts, impressions, people reached	WR			No	Art. 6(1)(a) - consent	No		
58	Monitoring and assessment of the dissemination and communication activities and results	Website analytics	WP5	Task 5.1	Website users	Data subject	Unique visits, demographics	WR			No	Art. 6(1)(a) - consent	No		
59	Monitoring and assessment of the dissemination and communication activities and results	Newsletter subscriptions	WP5	Task 5.1	Newsletter subscribers	Data subject	Contact details	WR			No	Art. 6(1)(a) - consent	No		
60	Monitoring and assessment of the dissemination and communication activities and results	Event organization (e.g. Final event)	WP5	Task 5.1	Event participants	Data subject	Participant list, contact details	WR			No	Art. 6(1)(a) - consent	No		
61	Monitoring and assessment of the dissemination and communication activities and results	Dissemination activities monitoring	WP5	Task 5.1	Project partners	Diss activities	Info on dissemination activities run	WR			No	Art. 6(1)(b) - contract	No		

No	Project Activity / purpose	Data processing activity	Linked WP(s)	Linked Tasks	Data subjects	Data source	Data category(-ies)	Responsible partner	Involved partner(s)	Type of involvement	Special category (Art. 9 GDPR)	Lawfulness of processing	Transfer to third countries (non EU-EEA)	Recipients	Comments
	semination and communication activities and results														
63	AB formulation and feedback	AB feedback	WP5	Task 5.2	AB members	Data subject	Personal views	EDF			No	Art. 6(1)(a) - consent	No		
76	Project management, meetings and reporting	Project management	WP6	Task 6.1 Task 6.3	Project partners	Data subject	Contact details Professional information Videos and photos	Q-PLAN			No	Art. 6(1)(b) - contract	No		
77	Project management, meetings and reporting	Project management	WP6	Task 6.1 Task 6.3	Project partners	Data subject	Contact details Professional information Videos and photos	A0CO2			No	Art. 6(1)(b) - contract	No		
78	Project management, meetings and reporting	Project management	WP6	Task 6.1 Task 6.3	Project partners	Data subject	Contact details Professional information Videos and photos	APRE			No	Art. 6(1)(b) - contract	No		
79	Project management, meetings and reporting	Project management	WP6	Task 6.1 Task 6.3	Project partners	Data subject	Contact details Professional information Videos and photos	FBCD			No	Art. 6(1)(b) - contract	No		
80	Project management, meetings and reporting	Project management	WP6	Task 6.1 Task 6.3	Project partners	Data subject	Contact details Professional information Videos and photos	SIE			No	Art. 6(1)(b) - contract	No		
81	Project management, meetings and reporting	Project management	WP6	Task 6.1 Task 6.3	Project partners	Data subject	Contact details Professional information Videos and photos	CERTH			No	Art. 6(1)(b) - contract	No		
82	Project management, meetings and reporting	Project management	WP6	Task 6.1 Task 6.3	Project partners	Data subject	Contact details Professional information Videos and photos	PED			No	Art. 6(1)(b) - contract	No		
83	Project management, meetings and reporting	Project management	WP6	Task 6.1 Task 6.3	Project partners	Data subject	Contact details Professional information Videos and photos	WR			No	Art. 6(1)(b) - contract	No		
84	Project management, meetings and reporting	Project management	WP6	Task 6.1 Task 6.3	Project partners	Data subject	Contact details Professional information Videos and photos	EDF			No	Art. 6(1)(b) - contract	No		

No	Project Activity / purpose	Data processing activity	Linked WP(s)	Linked Tasks	Data subjects	Data source	Data category(-ies)	Responsible partner	Involved partner(s)	Type of involvement	Special category (Art. 9 GDPR)	Lawfulness of processing	Transfer to third countries (non EU-EEA)	Recipients	Comments
85	Project management, meetings and reporting	Project management	WP6	Task 6.1 Task 6.3	Project partners	Data subject	Contact details Professional information Videos and photos	EBA			No	Art. 6(1)(b) - contract	No		

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	QPL
 APRE Agenzia per la Promozione della Ricerca Europea	APRE
 Azzero CO₂ climate in our hands	A0CO2
 CERTH CENTRE FOR RESEARCH & TECHNOLOGY HELLAS	CERTH
 Food & Bio Cluster Denmark	FBCD
 Sustainable INNOVATIONS	SIE
 WHITE	WR
 P E D A L CONSULTING	PED
 EUROPEAN DAIRY FARMERS E.V.	EDF
 EBA European Biogas Association	EBA

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