ALGAESOL

Sustainable aviation and shipping fuels from microalgae and direct solar BES technologies

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Data Management Plan (DMP)

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Executive summary

ALGAESOL is a publicly funded Horizon Europe project (Grant Agreement No. 101147112 [1]), and as such it is committed to follow good practices of efficient and transparent data management as well as to implement the Open Science and Open Data mandate of the European Commission (EC).

This document, the Data Management Plan (DMP), Deliverable D7.2 V1.0-M6, outlines the handling of data throughout the ALGAESOL project. The DMP serves to ensure transparency and efficient cooperation within the project, guaranteeing this way a high-quality project implementation. ALGAESOL DMP also provides orientation to the project partners as well as to third parties, such as researchers, policy-makers and other stakeholders, regarding the content, validity and accessibility of the project's data and other outputs.

The management of the ALGAESOL data aspires to respond to the specific needs of the project partners as well as to preserve their best practices in data handling, to harmonize them among the partners, and to integrate them with the requirements of good scientific practice as well as to those of the funding institution. Deliverable D7.2 – DMP was thus co-created by the ALGAESOL partners, under the lead of SIMTECH, within WP7 Task T7.4.

For research data and other outputs that are potentially useful to third parties, the Horizon Europe Open Science rules apply, which serve to encourage and facilitate the validation as well as the reuse of the project results. The FAIR principles will be implemented for research data (data should be findable, accessible, interoperable, and reusable), but the consortium will also comply with those principles, regarding any other kinds of outputs whenever it is to be expected that third parties benefit from them.

The D7.2 DMP V1.0 document contains an overview of the types of data and other outputs that are expected to result from the ALGAESOL project action, as well as the data management strategy adopted in this project. It further includes a detailed overview over the expected datasets, per WP-Tasks, and their respective handling procedures. In the Annex, a template of the WP-Tasks Dataset Tables and the instructions that were provided to the partners can be found.

Deliverable D7.2 V1.0 is the first of several planned DMP versions for ALGAESOL project, which will at least be updated in time for the project reports. This way, the Dataset Tables completed for the WP-Tasks will be able to be revisited and updated, along with the development of the project.

Abbreviations

The abbreviations used in the ALGAESOL DMP (deliverable D7.2) are listed in the table that follows.

Table 1: Abbreviations used in this document.

Abb.	Description	Abb.	Description
CC	Creative Commons	Mx	Project Month x
DMO	Data Management Officer	PID	Persistent Identifier
DoA	Description of the Action	IP	Intellectual Property
DMP	Data Management Plan	RDM	Research Data Management
DOI	Digital Object Identifier	RP	Reporting Period
EC	European Commission	WP	Work Package
EU	European Union	WPx-Ty.z	Work Package x Task Ty.z
FAIR	Findable, Accessible, Interoperable, Reusable	ASTM	ASTM International / American Society for Testing and Materials

Table of Contents

1. Introduction

ALGAESOL is a publicly funded Horizon Europe project (Grant Agreement No. 101147112 [1]), and as such it is committed to follow good practices of efficient and transparent data management as well as to implement the Open Science and Open Data mandate of the European Commission (EC) (see esp. Article 17 Model Grant Agreement). This Data Management Plan (DMP) outlines the handling of data throughout the ALGAESOL project in accordance with those commitments.

The ALGAESOL WP7-Task T7.4 Deliverable D7.2, DMP V1.0, prepared by SIMTECH in co-creation with the Consortium Partners, serves to ensure transparency and efficient cooperation within the project, thus guaranteeing the high quality of the project implementation. Further, it provides orientation to third parties regarding the content, validity and accessibility of the project's data and other outputs.

The current document is the first of several planned versions (DMP V1.0). As Data Management concerns the entire data life cycle of the project, details regarding the handling of data will become clear and/or change over time. For this reason, the DMP is considered a living document and will be updated in accordance with the concrete development of the project and will become more detailed up to the project end.

1.1. DMP Objectives & Approach

The development of a data management strategy and the DMP as its main output is part of the project's WP7 T7.4, led by SIMTECH in ALGAESOL. It especially serves the objective of coordinating the scientific, technological and administrative efforts of the various partners.

The main objectives of the ALGAESOL DMP are to:

• Identify data types and dataset formats for all data that is created or collected.

• Cover standards and methodologies for data collection and management, as well as ethics and IP restrictions.

• Ensure data sharing and access plans.

• Define a long-term data preservation strategy for the project data.

The approach to the development of this DMP for the ALGAESOL project is based on the specific needs of the partners, within their specific WPs-Tasks, while at the same time providing guidance to them to observe the pertinent rules. The methodologies and standards that apply to the ALGAESOL project data handling differ, depending on the respective types of data used in the WPs-Tasks.

Types of Data: The three types of data and their respective handling rules addressed in this DMP are:

1. **Research Data.**

2. **Other Outputs** (such as Deliverables, Publications, Software, Process Modelling, etc.).

3. **Supporting Data** (such as project management data and all kinds of preparatory data, which includes all research data or other outputs before their finalization).

In the course of this document, the term "Data" is used in a broad sense for the three types of data. When referring to a specific type of data (type 1, type 2 or type 3), it will be explicitly stated in the text.

In Deliverable D7.2, DMP V1.0, primary focus will be given to the research data that will be collected and generated in connection with the project development. However, also other outputs that are potentially useful to third party researchers and the general public will be addressed.

As defined in [1], data that are connected to scientific publications will be made available in an open data format, within open and trustful repositories (e.g.: the "Zenodo.org", and/or open data archives at ALGAESOL's partners' servers). **Error! Reference source not found.** illustrates an overview of the Data Management in ALGAESOL project. T he handling of publications will not be addressed in depth in the DMP V1.0. Nevertheless, in Section 3.3 of this document, the way that publications will be linked to the research data on which they are based, will be addressed. Finally, also the general FAIR principles[1] of the handling of all supporting project data will be briefly outlined.
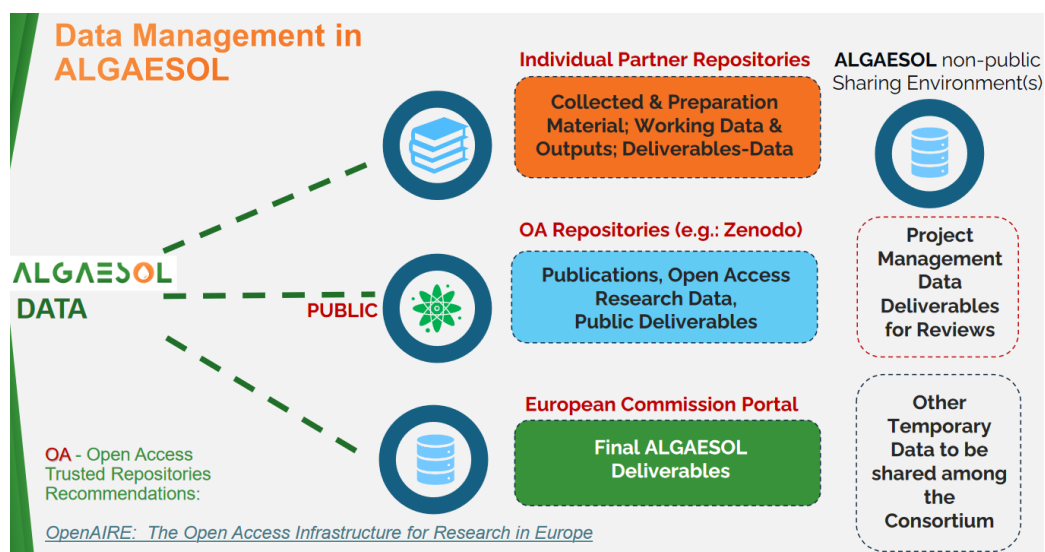

Figure 1: Data Management in ALGAESOL.

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[1] FAIR Principle: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/programme-guide_horizon_en.pdf , esp. pp 37ff.

Figure 2: FAIR Principle. (Disciplinary Metadata Standards[2])

All project data are subject to established standards and methodologies concerning the good practice handling of data[3]. By applying those rules and principles to the specific datasets generated by the project, this D7.2 DMP-V1.0 constitutes a tailor-made strategy that is responsive to the needs of the partners, while at the same time ensuring the quality and efficiency of the project. As shown in Figure 1 and in Figure 2, in addition to research data and other outputs that are potentially useful to third parties, the Horizon Europe Open Science rules[4] are applied, which serve to encourage and facilitate the validation as well as the reuse of the project results. In this context, especially the FAIR principles are of utmost importance. Their fulfilment is mandatory for research data, but the consortium will also comply with those principles regarding any other kinds of outputs, whenever it is expected that the public may benefit from them.

1.2. Key-Audience

The audience of the ALGAESOL project DMP is plural due to its applications in aviation and shipping fuels, as well as to the conversion approaches using microalgae and direct solar BES technologies. In this sense, the DMP serves to harmonize the data management procedures of the individual project partners, as well as to enforce best practices of data management throughout the consortium. This way, the DMP is an important point of reference for the partners during the project implementation.

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[2] Disciplinary Metadata Standards: https://www.dcc.ac.uk/guidance/standards/metadata.
[3] Collection of Best Practices on Data Handling: https://www.axiomdatascience.com/best-practices/index.html#
[4] Horizon Europe Open Science rules: https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/open-science_en
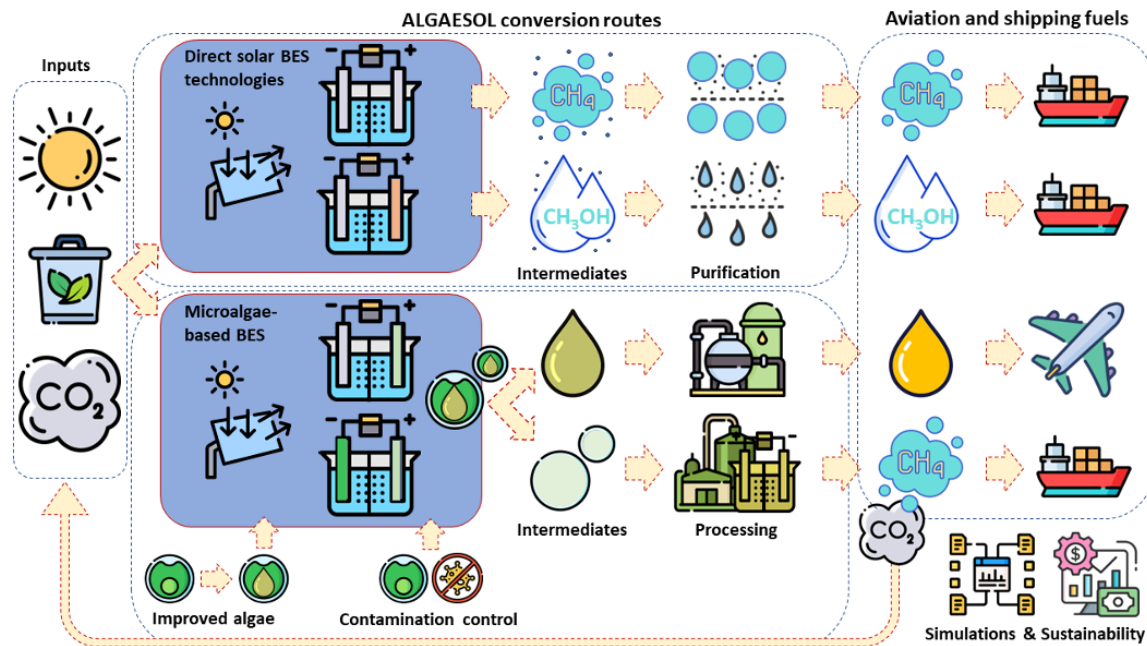
Figure 3: ALGAESOL Project Concept Overview [1].

Another important point is that third party researchers that work in the field of biofuels, or on topics related to any of the individual project task outcomes (e.g.: material researchers, renewable energy researchers, simulation and model developers, technical constructors etc.), benefit from this DMP as it provides them with a map and instructions for finding and reusing the project's data. The DMP will allow them to know where they can find specific project's data and outputs, and also to know at which point in time and how the data is connected to the final results. Most importantly, the publications resulting from the project will also be identified, allowing stakeholders and third parties to verify the validity of the project approach.

In addition, third party researchers and data managers can benefit from the established good practices, procedures and materials contained in this DMP and are, in fact, explicitly encouraged to reuse the DMP or its parts for their own projects, under the conditions of the CC-BY license[5].

In conclusion, various stakeholders (end-users, industry or public entities) of the aviation and shipping fuels market, as well as of the microalgae-based renewable fuel technologies and direct solar BES conversion technologies and approaches, will benefit from consulting this DMP as it enables them to quickly grasp the timeline, location of the project results and of the institutions involved in the development of the individual results in ALGAESOL. Notwithstanding, this D7.2 DMP-V1.0 also serves to enable the project reviewers to evaluate the compliance of this project's data management procedures with the relevant requirements (defined in WP1 of the project).

1.3.   D7.2 Structure

This DMP embeds the following logical structure: Section 2 gives a brief overview of the types of data and other outputs that are expected to result from the ALGAESOL project. Section 3 expounds the data management strategy adopted in this project, guided by SIMTECH, through which the objectives outlined in the previous section are to be implemented. Section 4 presents the data tables related to each ALGAESOL Work Package Task. It goes into detail regarding the expected datasets and their respective handling procedures. Section 4, especially, is expected

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[5] CC-BY license: https://creativecommons.org/share-your-work/cclicenses/.

to be subject to the most revision over time, as not all datasets can be foreseen to be described in the WPs-Tasks Dataset Tables, at the point of the first version of the DMP. Section 5 concludes the main part of the DMP. Section 6 lists the references relevant to the production of the current deliverable. Finally, Section 7 includes the Annex of the DMP, which contains a template of the dataset tables and the instructions that were provided to the partners.

2. Summary of ALGAESOL Data

The ALGAESOL project will collect and generate data on a wide range of topics related to the project action, which main aim is to develop cost-effective, sustainable and renewable aviation and shipping fuels based on game-changing microalgae and direct solar fuel production and purification technologies in order to accelerate the replacement of fossil-based energy technologies.

Specific objectives of the ALGAESOL project are:

- To improve efficiency of converting solar energy and CO2 into methane and CH3OH, using a zero-waste approach, by developing and improving cutting-edge BES technology.
- To improve efficiency of converting solar energy and CO2 into microalgal lipids through microalgal pathways or photosynthetic bioconversion. Lipids are suitable for biofuel production, by developing cutting edge bio-electrochemical technologies, combined with improved algal strains and protocols for algal production, harvesting and lipid extraction.
- To improve purification yield and quality of biofuels from algal lipids, CH4 and CH3OH.
- To ensure enhanced sustainability (environmental, economic, social) of the developed fuels and market penetration through novel simulation approaches and sustainability assessments.

The project action is divided into seven WPs, each divided into several specific tasks. From each task, potentially research data and other outputs (models, software or training and information material) will emerge.
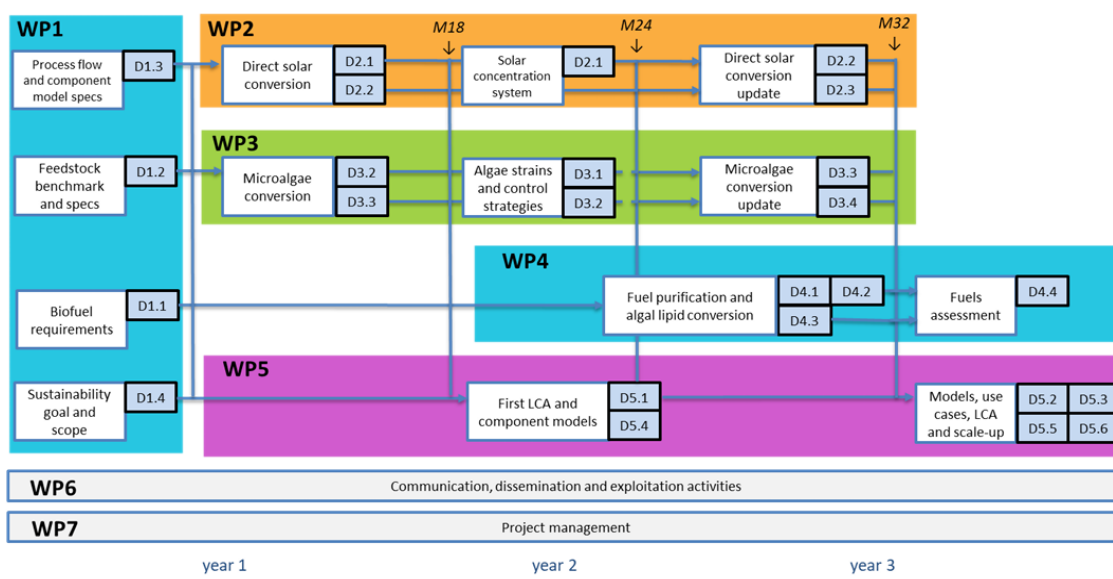

Figure 4: ALGAESOL Work Packages Structure [1].

As shown in Figure 4, WP1 (led by UdG) begins with setting of requirements and specifications in ALGAESOL. It then follows with the development in the two interlinked conversion routes – direct solar (WP2 – led by LEITAT) and microalgae-based (WP3 – led by DTI). Halfway through the project WP4 starts, led by SOCAR, where purification of

fuels coming from the previous two WPs takes place, along with algal lipid conversion and testing of the resulting fuels. WP5 (led by SIMTECH) is ongoing throughout the project with component and process modelling, simulations, sustainability assessments and scale-up strategies development. Similarly, WP6 (led by AMIRES) spans the whole duration of the project with communication, dissemination and exploitation activities. WP7 (led by NORCE) is dedicated to project management support throughout the project.

The ALGAESOL project's deliverables, which in most cases contain project-specific processing of the research data, are considered as the most important type of other outputs. The supporting data includes all those data that do not fall into the group of research data or other outputs. Notable supporting data are the project management data, as well as any kind of data that is necessary for the finalization of research data and other outputs.

2.1.   Main Data in ALGAESOL Work Packages

The main sets of data and other outputs generated and collected throughout the WPs are listed in the following table. As all tasks will generate supporting data, they will not be mentioned in the table below. With the progression of the project implementation, more sets of research data and other outputs are expected to be identified and will accordingly be added to this table.

Table 2: Summary of ALGAESOL Data per Work Package

WP#	Work Packages & Tasks	Research Data	Other Outputs
WP1	**Requirements and specifications for sustainable solar/algal biofuels production** **Task 1.1: Establishment of biofuel requirements and characteristics** **Task 1.2: Feedstocks benchmark and technical specifications** **Task 1.3: Specifications of process flows and requirements for component models and use cases** **Task 1.4: Sustainability analysis**	• Data about quality requirements and characteristics of the specific target fuels for shipping and aviation. • Data about the adequate waste stream(s) to be operated in each BES/electrochemical process considered. • Data about the key parameters to optimize the production to the target set. • Specification data of the key components of the process for the development of the overall model of the project system and for the use-cases. • Data about the system boundaries for the sustainability analyses	**D1.1** - Biofuel requirements and characteristics (SEN) **D1.2** - Feedstock benchmark and technical specifications (PU) **D1.3** - Specifications of process flows and requirements for component models and use cases (PU) **D1.4** - Sustainability goal and scope framework defined (SEN)

WP2	**Direct solar based conversion route** **Task 2.1: Sunlight harvesting & management** T2.1.1: Design & Synthesis of Engineered Photoactive Materials T2.1.2: Design and Manufacturing of Efficient Solar Concentrators **Task 2.2: P-EC conversion of sun & CO2 into MeOH** T2.2.1: Development of efficient and stable cathode T2.2.2: Integration into an efficient light conversion device **Task 2.3: P-BE conversion of sun & CO2 into CH4** T2.3.1: Development of efficient and stable bioelectrochemical cathode T2.3.2: Integration into an efficient light conversion device **Task 2.4: AD+BES for zero waste approach and circularity**	• Data about the strategies to improve light harvesting both at component and BES reactor level. • Data about coupling photoanodes with CO2-electroreduction into methanol (P-EC system). • Data about coupling photoanodes with CO2-bioelectroconversion into methane (P-BE system). • Optimization data to increase the conversion efficiency of organic matter waste generated in ALGAESOL processes into CH4, by AD+BES, to achieve close to biomethane standard quality.	• Solar Concentrators Design and Manufacturing • Light Conversion Device Integration for P-EC • Bio-Electrochemical Cathode Design for P-BE • Light Conversion Device Integration for P-BE • AD+BES Reactors Design and Manufacturing **D2.1** - Photoanode and solar concentration system V1 (SEN) **D2.2** - Photoanode and solar concentration system V2 (SEN) **D2.3** - 2-Chamber photo-(bio)electrochemical reactors for CO2 reduction to MeOH & CH4 - V1 (SEN) **D2.4** - 2-Chamber photo-(bio)electrochemical reactors for CO2 reduction to MeOH & CH4 - V2 (SEN) **D2.5** AD+BES process for residual biomass valorisation (PU)
WP3	**Microalgae-based conversion route** **Task 3.1: Microalgae strain optimization** **Task 3.2: Microbial contamination control strategies** **Task 3.3: BES - microalgae production process optimisation taking profit of light management** T3.3.1: BES-microalgae	• Data on optimization of *Chlorella sorokiniana* towards increased neutral lipid productivity. • Data about minimizing loss of productivity in the algae culture by adopting new microbial contamination control strategies. • Data about optimizing BES-microalgae reactor to maximise CO2 capture and microalgae production. • Data about the system implementation, combining light harvesting photoanode coupled	• Optimal Method for Lipid Extraction of Microalgal Biomass **D3.1** - Best 3 C. sorokiniana strains with improved lipid productivity (PU) **D3.2** - Microbial contamination control strategies - V1 (PU) **D3.3** - Microbial contamination control strategies - V2 (PU)

	T3.3.2: Integration into a highly efficient system powered by sunlight **Task 3.4: Harvesting and lipid extraction of microalgal biomass**	with bioelectrochemical cathode for microalgae lipid production (P-BE-MA).	**D3.4** - P-BE-MA reactor - V1 (PU) **D3.5** - P-BE-MA reactor - V2 (PU) **D3.6** - Optimised microalgal harvesting and lipid extraction (PU)
WP4	**Purification and fuel testing** **Task 4.1: Catalyst development and lipid conversion for sustainable aviation fuel production** **Task 4.2: Purification of methanol into fuels** **Task 4.3: Purification of methane into fuel** **Task 4.4: Assessment of fuels**	• Data about the formulation of heterogeneous catalyst using the experimental design methodology in order to prepare an active catalyst in the production of sustainable aviation fuel (SAF) from algal lipids. • Data about purification of methanol into fuels while evaluating and optimizing the process conditions. • Data about purification of methane into fuels while evaluating and optimizing the process conditions. • Assessment data for the quality of the resulting biofuels and compare the fuel composition according to standards.	• Solid catalyst design and manufacturing to convert algal lipids into SAF (sustainable aviation fuel). • Fuel compositions from Methane and Methanol, purified, tested and assessed compared to the fuel standards. --- **D4.1** - Purification and algal lipid conversion into Biofuel (SEN) **D4.2** - Purification and process design for MeOH into fuels (SEN) **D4.3** - Purification and process design for methane into fuel (SEN) **D4.4** - Quality assessment of the final biofuels (SEN)
WP5	**Simulations, sustainability analysis and scale-up strategies** **Task 5.1: Creation of customized models of the ALGAESOL solution overall process simulation** **Task 5.2: Use cases process modelling** **Task 5.3: Sustainability analyses (LCA, LCC, S-LCA)**	• Data about the specification, modelling, fine-tuning and testing the performance of all components of the overall ALGAESOL system and to create a dedicated process model library for ALGAESOL process simulations and use-cases. • Data about the ALGAESOL_Lib process model library. • Modelling data to demonstrate the performance of the ALGAESOL integrated system and	• ALGAESOL customized component models. • ALGAESOL_Lib process model library to be used with IPSEpro / IPSE GO. • ALGAESOL System Simulation within IPSEpro / IPSE GO. • ALGAESOL Use-Cases process models- within IPSEpro / IPSE GO. • LCA – ALGAESOL Life Cycle Analysis. • LCC – ALGAESOL Life Cycle Cost assessment.

	Task 5.4: Value chain design and scale-up strategies	to implement and virtually demonstrate viability of the project solution within Use-Case • scenarios for aviation and shipping. • Evaluating data for sustainability performance (environmental, economic and social) of the proposed technologies, innovations and products developed within the ALGAESOL production process. • Data to develop scale up strategies for the fuel production paths considering the value chain(s) and based on the use case modelling of T5.2.	• S-LCA – ALGAESOL Social Life Cycle Analysis. **D5.1** - Individual component models & ALGAESOL_Lib (SEN) **D5.2** - Overall process model and use-cases Implementation (PU) **D5.3** - Final sustainability assessment report (SEN) **D5.4** - Value chain design and scale-up strategy (PU)
WP6	**Communication, dissemination and exploitation** **Task 6.1: Dissemination and communication activities** **Task 6.2: Exploitation, IP management and commercialization roadmapping** **Task 6.3: International cooperation and stakeholder involvement**		• Communication materials • Website signup data • News and blogs • Dissemination activity-logs • Exploitation activity-logs • Exploitation Check-book • Exploitation IPR & roadmap data • Network membership data **D6.1** - Initial communication kit (PU) **D6.2** – Dissemination and communication plan - V1 (SEN) **D6.3** – Dissemination and communication plan – V2 (SEN)

			D6.4 – Exploitation plan – V1 (SEN) **D6.5** – Exploitation plan – V1 (SEN) **D6.6** – International cooperation strategies -V1 (PU) **D6.7** – International cooperation strategies -V2 (PU)
WP7	**Project and consortium management** **Task 7.1: Coordination and management, decision structure and internal communication** **Task 7.2: Project Risk Management** **Task 7.3: Administrative and financial management** **Task 7.4: Data Management**		• ALGAESOL Project Zenodo Open Science Community
			D7.1 - Project manual (SEN) **D7.2** – Data Management Plan . DMP (PU)

Among all ALGAESOL deliverables, fifteen will be available publicly while the others have sensitive (SEN) dissemination level, with the possibility of being restrictedly disclosed to interested researchers upon request and evaluation case-by-case by the project consortium. The time schedule of the completion of the deliverables is outlined in Figure 5. The deliverables that will be public are outlined in the data tables in Section 4 of this document, with a more detailed account of the individual datasets that includes their dissemination status, timeline and storage location.
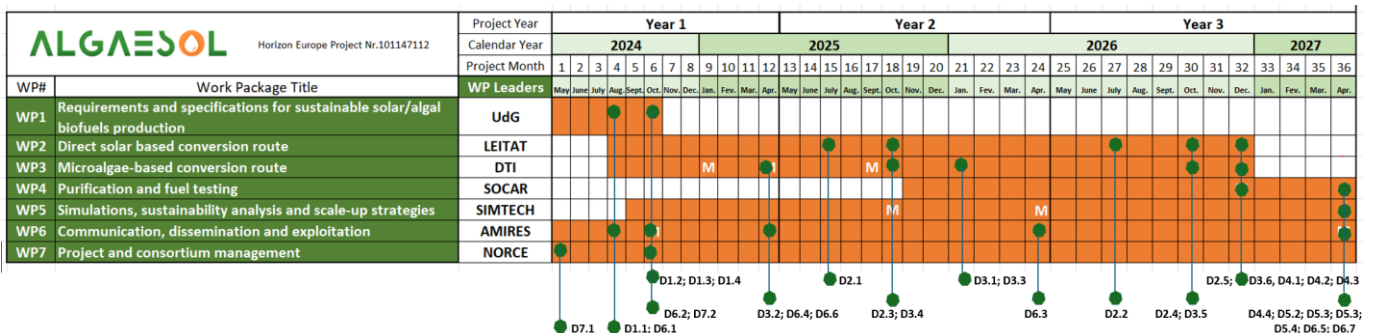

Figure 5: Time Schedule of ALGAESOL Deliverables.

3. ALGAESOL Data Management Strategy

The management of the ALGAESOL data aspires to respond to the specific needs of the project partners, as well as to preserve their well-established data handling practices. This will allow to harmonize data handling practices among the partners, and to integrate them with the requirements of good scientific practice, as well as to those of the funding institution. To meet these various demands, SIMTECH has devised for ALGAESOL a customized data management strategy, in co-creation with all project partners.

For the purpose of identifying and assessing the current data handling practices and data needs of the individual institutions, SIMTECH explained the basic concept of the data management strategy in the project's kick-off meeting, and then distributed the "Data Tables", on a WP-task basis (see Annex), to the partners via the ALGAESOL project SharePoint. Further, SIMTECH completed the Data Tables of its WPs-Tasks of WP5 and WP7, so that they could serve as examples for the others. At this point in time, partners were encouraged to contact SIMTECH's DMO regarding doubts about the completion of their data tables (if needed). The WPs-Tasks' data tables were filled-out and revised by SIMTECH. Then, SIMTECH proceeded harmonizing the ALGAESOL project data management procedures and defining the appropriate common DMP strategy, which are now summarized in this document. Revised versions of the partner's filled-out data tables can be found in Section 4 of this document.

This section explains the ALGAESOL Data Management Strategy, by first presenting the responsibilities of the partners and individual team members regarding data management (Section 3.1). In the sequel, the storage infrastructure is outlined, including the topics of safety and handling procedures (Section 3.2). As a concluding part of Section 3, the special data handling procedures that are necessary for satisfying the FAIR principles are addressed (Section 3.3).

3.1.   Responsibilities and Communication

As leader of WP7-Task T7.4, SIMTECH carries the main responsibility for the definition and implementation control of the data management strategy for the ALGAESOL project. Accordingly, this DMP is developed by the know-how that SIMTECH members have in the area, with input from all Consortium Partners as specialists of their data.

The implementation of the ALGAESOL data management strategy is the responsibility of all project partners. To facilitate efficient communication between SIMTECH and the teams of the individual WPs Tasks, each partner institution has been appointed a Data Management Officer (DMO). The DMO can be, but is not necessarily, also the task leader. From the perspective of the individual task, the WP-Task leader and the DMO are always from the same institution. See illustration on Figure 6.
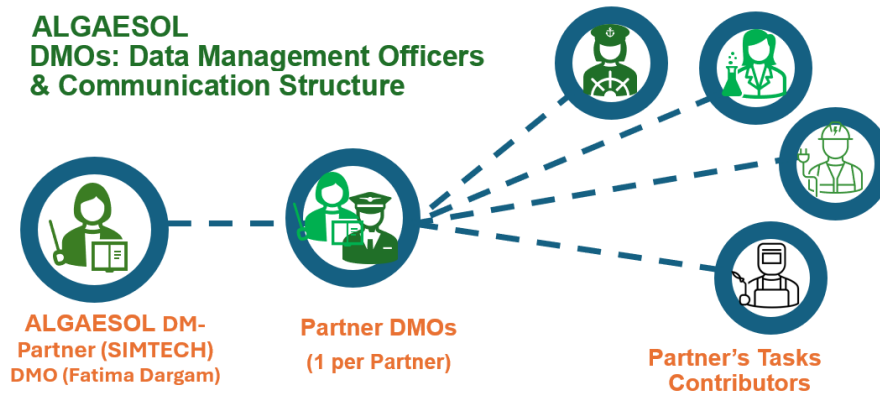
Figure 6: ALGAESOL Data Management DMO Communication Strategy.

The responsibility of the DMO is to support the task contributors in which his/her institution is the task leader, regarding the handling of the data in the specific task. The DMO is also responsible for continuously monitoring the adherence of the data handling within all tasks in which his/her institution is the task leader.

ALGAESOL Partner	DMO (1 Person p/ Institution)
NORCE	Dorinde Kleinegris
LEITAT	Eduard Borras
UdG	Sebastià Puig
DTI	Nikola Medic
SIMTECH	Fatima Dargam
SOCAR	Özgün Deliismail
AMIRES	Vaclav Smitka

Table 3: ALGAESOL DMOs.

Whenever the DMO is in doubt about an aspect of data management regarding a specific task, he/she can contact SIMTECH's DMO for advice. In turn, for the purpose of implementation control, SIMTECH's DMO contacts the DMOs whenever issues of proper implementation of the data management strategy arise. The DMOs defined for each partner and communicated within the project consortium meeting are as indicated in Table 3. They form the communicative bridge between the Data Management partner leader, SIMTECH, and the individual task contributors, including the respective task leaders and the individual task's team-members.

3.2. Storage Infrastructure

The storage concept of the ALGAESOL project is devised to facilitate collaboration among the partners, while at the same time maintaining the well-established and tried data storage practices of the individual partners. Deliverable D7.1 [16] explains the details about the project's SharePoint repository adopted by the Coordination Team. A further concern is the fulfilment of safety, transparency and the FAIR principles, whenever preparation of datasets is undergoing by the partners. To meet the diverse demands, the project accepts that data will not always be stored centrally, but distributed to several different locations, depending on its nature and purpose. To ensure transparency and to prevent data loss despite the decentralized storage infrastructure, clear rules and procedures regarding storage practices are necessary.

In the following, the different types of repositories including their respective characteristics and purpose in the ALGAESOL project are outlined. Then, rules to ensure the uniform handling of all data throughout the consortium partners are established.

3.2.1. Repositories

The decentralized storage infrastructure of ALGAESOL consists of several types of repositories, each responding to a different sharing and storage need. The characteristics and purpose of each type of repository type are defined in Table 4.

1. **Institutional repositories** are used for the storage of each partner's research data and other outputs and all of its supporting data. The institutional repositories are managed by the respective partners and fulfil the state-of-the-art safety requirements.

2. Data that takes the form of documents (<u>not research data</u>) that needs to be shared among the consortium internally, will be stored on the **ALGAESOL SharePoint repository** managed by the Coordination Team in NORCE, for the whole duration of the project.

3. Data that will be made public, will be stored on a **repository classified as "trusted"** according to the criteria of the EC[6]. As decided in the project kick-off meeting, the general-purpose open-science repository **Zenodo[7]** will be used.

The reasons for choosing **Zenodo** is summarized here by its characteristics. (1) It is **safe** — research is stored safely for the future in CERN Data Centre[8] for as long as the institution exists; (2) It is **trusted** — built and operated by CERN and OpenAIRE[9] to ensure that everyone can join in Open Science; (3) It is **citeable** — every upload is assigned a Digital Object Identifier (DOI), to make them citable and trackable; (4) It implies **no waiting time** — Uploads are made available online as soon as the user hits publish, and the DOI is registered within seconds; (5) It allows **open or closed sharing** — Share e.g. anonymized clinical trial data with only medical professionals via restricted access mode; (6) It supports **versioning** — Easily update datasets with versioning feature; (7) It has **GitHub integration** — Easily preserve user's GitHub repository; and (8) It supplies **usage statistics** — All uploads display standards compliant usage statistics.

Table 4: Use of ALGAESOL Repositories and their Characteristics.

Repositories	Data Types	Access	Backup	Archiving	Costs
Institutional Repositories (managed by the partners' institutions)	Supporting and finalized data	Generally accessible to the individual partner only, however individual datasets are made available by the respective partner to other consortium members based on need.	At least weekly (expected)	Yes	Covered by overhead project budget of each partner
Project SharePoint (managed by NORCE)	Project management data, supporting and finalized <u>documents,</u> such as deliverables. (NOT Research Data)	All files are available to all partners via a secure login procedure	At least weekly	No	Covered by the budget of the Coordination partner project

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[6] EC Trusted Repositories: https://www.openaire.eu/find-trustworthy-data-repository.
[7] Zenodo: https://zenodo.org/
[8] CERN Data Center: https://home.cern/science/computing/data-centre.
[9] OpenAIRE: https://www.openaire.eu/.

Trusted Open Access Repositories (Zenodo[10])	All research data that is not subject to an embargo; all outputs that are of interest to third parties[11]	Publicly and freely accessible	Yes	Yes	Free of charge

Due to this storage infrastructure strategy, all project data has a determinate storage location, including a clear allocation of responsibility for its safety and long-term preservation. Some data will be available in several storage locations at the same time.

3.2.2. Data Handling Procedures

To ensure the efficient and transparent exchange of data, the following usual data handling procedures have been adopted by ALGAESOL:

- **File Storage Structure:** In the ALGAESOL project SharePoint, the partners will follow the uniform file storage structure defined by the project's Coordination Team [16]. There is a general folder for storage of main information, such as contracts, information on reporting and general management, as well as a folder for all deliverables and milestones with each having their subfolder. Furthermore, each WP has been assigned an individual folder, within which further folders shall be created for the individual WP-Tasks. The further file structure is to be defined by the partners according to their needs, in a way that facilitates intuitive navigation and transparency throughout the folders. The partners are advised to adopt similar structures on their individual institutional repositories.

- **Naming Conventions:** Throughout all storage locations, the partners will follow concise naming conventions. Each file needs to reference the WP-Task, the authoring partner(s), its version and a descriptive title of the content of the file.

- **Transparency Mechanisms:** Further, all partners commit to transparency mechanisms in the handling of data. They inform each other about the finalization, upload and deletion of data that is of common concern to all partners. In the ALGAESOL SharePoint, the partners have the possibility to enable notifications whenever documents are uploaded or edited. Whenever necessary, the partners upload data documentation files to ensure quick orientation within the datasets.

3.3.   Satisfying the FAIR Principle

As the main pillar of the Open Science mandate, all research project results (such as publications, data and other outputs) should be made accessible to the public to the greatest extent possible. The FAIR Principle sets out the criteria how this is to be realized (see [6]).

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[10] Zenodo as a trusted repository: https://about.zenodo.org/principles/.
[11] See the individual task tables in Section 4.

The FAIR Principle requires Data to be: Findable, Accessible, Interoperable & Reusable.

In Horizon Europe projects, the FAIR Principle applies mandatorily to research data and is strongly recommended also for other outputs. This section outlines how the FAIR principle is satisfied by the ALGAESOL data management strategy, regarding research data and other outputs.

The data tables provided to the partners for the purpose of defining the ALGAESOL data management strategy (see Annex) was modelled primarily after the Horizon Europe DMP template [11]. Accordingly, the data table covers topics such as the dissemination classification of the data (private, consortium or public). Further, the topic of dataset specific metadata, disciplinary data handling standards, sharing timeline, persistent identifiers, file formatting, ownership and licensing, ethical issues and archiving and preservation were queried. The answers from the partners were adjusted by SIMTECH, as much as needed, so as to meet the FAIR principles.

The partners were instructed to justify thoroughly whenever open access cannot be granted, making clear which permissible reasons allow to do so. Further, the consortium is aware that also closed data can be FAIR ('*as open as possible, as closed as necessary*'). This is achieved in this project by registering the existence of the data in a trusted repository, despite not making the content (fully) accessible (this is possible in the Zenodo repository).

In the following, some aspects of the FAIR principle that concerns all ALGAESOL datasets are outlined below. Section 4 then contains the datasets referring to research data and/or other outputs of the project's WPs with specificities regarding their handling.

3.3.1. Metadata

All types of data require to have information about the location where the data were collected (preferably as latitude and longitude) and depth/height; the time when the data were collected (date and time with clearly specified local time zone); the methodology of the data collection (e.g. sampling methods, instrument types, analytical techniques); how the data is referred to (e.g. station numbers, cast numbers); who collected the data, including name and institution of the data originator(s) and the principal investigator; and the main actions/processes that have been done with or to the data (e.g. details of processing and calibrations applied, algorithms used to compute derived parameters). In conclusion, the datasets[12] should include enough "*metadata*" to be processed and include additional textual or standardized "history" or "comment" fields to prevent any loss of information. Figure 7 illustrates an example of metadata description, from the NVS - NERC Vocabulary Server repository[13].

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[12] Example of datasets description: https://www.usap-dc.org/.
[13] NVS: https://vocab.nerc.ac.uk/collection/.

Figure 7: Example of Metadata Description (source: NVS - NERC Vocabulary Server).

To reflect the ALGAESOL datasets, "***common keywords***" were defined (listed in Table 5), which are to be used as metadata for all public datasets. Below you find a preliminary list of keywords to be further extended by the partners.

Table 5: Common Keywords used for ALGAESOL Project.

#	ALGAESOL Common Keywords
1	*Horizon Europe*
2	*ALGAESOL*
3	*Project Nr. 101147112*
4	*Renewable Biofuel Technology*
5	*Direct-Solar based Conversion*
6	*Microalgae-based Conversion*
7	*Renewable Methanol, Methane & Bio-oils*
8	*Sustainable Aviation & Shipping Fuels*
…	…

In addition to the general metadata keywords in Table 5, the individual datasets will add task-related specific keywords to the metadata (see the data tables in Section 4). Moreover, metadata for all datasets will also include documentation as well as an indication of the type of CC licence that is assigned to the document. As the consortium will use trusted repositories, the interoperability of the metadata is ensured[14].

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[14] See e.g. for Zenodo: https://about.zenodo.org/principles/.

3.3.2. Data Sharing

Unless classified as closed due to IP protection or sensitivity of data, all research data and other outputs will be made public upon their completion (in the latter case, only provided it is of use to third parties). For scientific publications that may result from any part and period of the project action, supporting data will be published at the latest at the time the publication is released.

The research data is to be made public in its raw form, and only curation that is necessary for the intelligibility of the data is performed by the researchers. The task leaders, supported by the respective DMO, are responsible for the adequate curation and sharing of the research data in a trusted repository. The fulfilment of this duty will be monitored by SIMTECH's DMO.

All public data will be linked with each other. This means that all data supporting a publication will reference in its metadata, as well as in the dataset itself, the PID (persistent identifier) of the publication, and vice versa. All other outputs will equally be linked to the project's other results, and vice versa. Further, the ALGAESOL website (https://algaesol.eu/) has a dedicated page[15], in which all public datasets will be linked in a structured manner.

The procedure for the publication of the deliverables is also encouraged to be done by the authoring partners upon completion, if not explicitly specified otherwise, in the individual data tables in section 4. Either ALGAESOL Coordination Team or SIMTECH's DMO will take over the responsibility to publish the project's public deliverables on Zenodo.

The consortium will use the Creative Commons (CC) Licence 4.0 Framework[16] for the purpose of making research data and other outputs available for further use to the public. Either CC-BY or CC0 licences will be applied to research data. Whenever possible, other outputs will also receive CC0 or CC-BY licence, but at times a more restrictive licence may be necessary for protecting the interest of the consortium. Metadata will always receive a CC0 licence. See Figure 8.

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[15] ALGAESOL Website Publications Page https://algaesol.eu/publications-downloads/.

[16] CC 4.0: https://creativecommons.org/version4/.
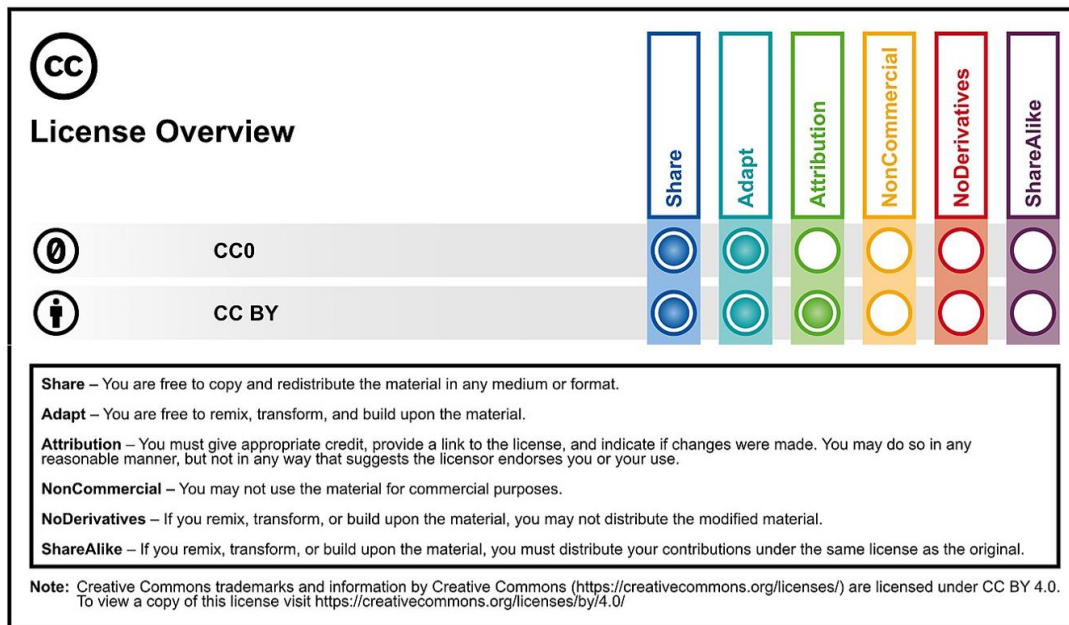
Figure 8: Overview of the CC0 and CC BY licences from the Creative Commons Licence 4.0 Framework.

3.3.3. Archiving & Long-Term Preservation

In relation to the long-term preservation of the ALGAESOL project data, it is defined that the originals of all research datasets and other outputs are going to be stored in the institutional repositories of the respective authoring partners for at least 2-5 years after project completion. Finished research work, in terms of project deliverables and tasks' reports of completed activities, will be stored in the project's SharePoint (maintained by the project Coordination Team – NORCE) for at least 2-5 years after project conclusion. A copy of all public datasets will be stored in a trusted repository (zenodo.org), which provides indefinite long-term storage. This way, all data will be stored at least in two locations (in the case of sensitive data only on the institutional and on the project's repositories), and in most cases in three locations simultaneously (public data institutional repositories and public trusted repositories).

In the case that the project's SharePoint at NORCE, may not be available to the partners at an earlier stage than 2 years after project completion, NORCE shall inform them about it. In any case, partners are advised to make copies of the relevant contents of the project development to their institutional repositories, by the end of the project.

For data that were preliminarily restricted with sensitive dissemination level, whenever the conditions for a dataset being closed fall away, the partners shall make them available on a trusted open repository, and/or within the ALGAESOL Zenodo repository account, even if this occurs only after project completion.

In summary, for the Archiving and Preservation aspects [P, L, M, C], the general assumptions presented below are considered for each Task-Dataset.

P = Long Term Preservation: The Tasks-Datasets will be available for project partners, during the project lifetime and beyond. Preparation data will be archived in the ALGAESOL SharePoint repository (maintained by NORCE). Deliverable Reports will be available within the ALGAESOL SharePoint repository. Whenever the dataset or deliverable is of public dissemination level, it will be made available in Zenodo, within the ALGAESOL Open access Zenodo Community (to be created).

L = Length of Preservation: All Datasets and final Tasks Reports (Deliverables) will be archived in the ALGAESOL SharePoint repository during the complete project lifetime, and for at least 2-5 years after project conclusion. Public Deliverables will be uploaded and preserved in Zenodo, linked to the ALGAESOL Open access Community, for at least 20 years.

M = Prevention Measures for Data Loss (Data Recovery): Prevention measures for data loss and data recovery of Tasks-Datasets and Deliverables will be taken by the ALGAESOL coordination team (NORCE) in relation to the project SharePoint repository, during the project lifetime; and by Zenodo, for long-term preservation. In Zenodo, data files and metadata are backed up daily and replicated into multiple copies in the online system.

C = Estimation of Costs: Cost estimation for data storage and preservation during the project lifetime will be taken by the ALGAESOL coordination partner (NORCE), for all Datasets. The Tasks-Datasets and Deliverables' preparation documents stored in the ALGAESOL SharePoint repository, will be covered by the project budget. In terms of the long-term storage, Zenodo is free to use, there is no cost estimation needed for the long-term preservation of the public Tasks-Datasets and Deliverables within the ALGAESOL Open access Zenodo Community.

4. ALGAESOL Datasets

The elaboration of the ALGAESOL DMP was based on the principles and components summarized in Figure 9, considering the FAIR principles, the project's co-creation, and the Open-Science principles. For the co-creation building of this DMP, a central activity carried out was the completion of the Data-Tables for each Dataset of each Work Package Task.

This section presents the Data-Tables referring to research datasets and/or other outputs that specify their handling, following the order of the WPs-Tasks' numbers. This part is a co-creation involving all project partners, guided by the Data Management partner SIMTECH. Information collected on the Data-Tables shall be updated during the development of the project, within the next DMP versions.

FAIR Principle	ALGAESOL DMP Co-creation	Open Science Principle
• ALGAESOL DMP will include guidelines for FAIR principles for Data Handling. • Data need to be: **F**indable, **A**ccessible, **I**nteroperable, and **R**eusable".	• The DMP will identify all different data types and dataset formats for each data to be created or collected within all WPs-Tasks. • All Consortium Partners shall be involved in the Data Tables completion.	• Data connected to scientific publications will be made available in an open data format, in open and trustful repositories, like the Zenodo repository, and/or open data repositories from ALGAESOL partners.

Figure 9: Main Aspects for building ALGAESOL DMP.

Important aspects of the collected information within the WPs-Tasks Data-Tables are highlighted in Figure 10. The completed Data-Tables, as they were provided by the partners, were reviewed by SIMTECH's DMO, in order to keep alignment within the common ways of presenting them in the DMP. Consequently, the data tables reproduced below contain only information that is specific to the respective datasets, and not all the information completed by the partners. In the Annex of this document includes the template of the dataset tables and the instructions that were provided to the partners.

The data tables presented in the sub-sections that follow are not yet the final data tables, but they are expected to become more detailed as the DMP gets further updated along the project lifetime. Also, further tables may be added, in cases that currently unforeseen datasets are created. Especially the issue of ethical aspects and Intellectual Property (IP) management are yet in a preliminary stage. Potential ethical or legal issues connected with data collection or data sharing, such as data compromising the safety of individuals or groups or other sensitive data have been carefully considered by the partners, and no problematic issues have so far been detected, but will continue to be monitored closely. Further, the clarification of IP ownership and protection will be explored in depth, guided by the Exploitation partner of ALGAESOL in WP6, and the data tables will be amended in accordance with its results.
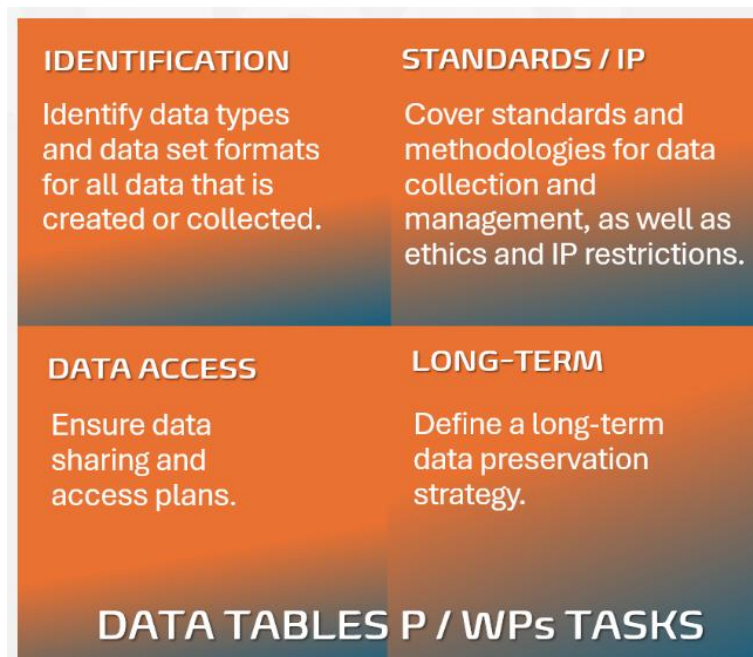
Figure 10: Information Highlights of the Data-Tables.

In some cases, parts of the information of the data tables provided by the partners were not presented in the data-tables that follow, either due to sensitive information or because they discussed points that were already addressed in previous sections of this DMP. For instance, information field about "Data Archiving and Preservation", which is part of the Template of Dataset-Tables (in the Annex of this DMP), were removed from the Tasks Dataset-Tables as this topic has been already presented in Section 3.3.3.

4.1.   Data-Tables WP1

WP1 Task 1.1 Dataset 1/2	
Task title	*Establishment of biofuel requirements and characteristics*
Dataset name	*Full characterization of the target biofuels profiles, their quality and purity*
Task & data manager	*SOCAR*
Other partners involved	*LEITAT, NORCE, UdG, DTI*
Dataset description	*Task T11 has the purpose of defining the quality and characteristics of the specific target fuels for shipping and aviation to be produced in ALGAESOL project. Full characterization of the target biofuels profiles, their quality and purity to be obtained from microalgae neutral lipids and/or (bio)electrochemical processes involved are specified in this task.* *The Datasets resulting from T1.1 are composed of ASTM standards and quality specifications for methane, methanol and sustainable aviation fuels (SAF), used to specify the key parameters for the ALGAESOL biofuel testing.* *This dataset will be used to contribute to deliverable D1.1 ("Biofuel requirements and characteristics" - Type R - Document, Report, Dissemination level SEN - Sensitive, due to Month 04).*
Availability	*Consortium - The T1.1 preparation datasets are available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).* *(The conventional Jet Fuel Analysis results belong to SOCAR STAR Refinery and the quality lab analysis results for ALGAESOL are confidential to public access.)*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *This T1.1 dataset, composed of full characterization of the target biofuels profiles (partly based on technical ASTM Standards, and on International Standard of ISO 23306 for the specification of liquefied natural gas as a fuel for marine applications), is reported in Deliverable D1.1, with sensitive distribution level only available for the ALGAESOL project consortium, within*

	the project SharePoint and following best practice standard of this trustful repository.
Metadata	*Keywords: ALGAESOL, Biofuels, Synthetic Fuels, Aviation Fuel, SAF, Maritime Transportation, ASTM Standards, Biofuels Profiles, Jet-Fuels Analysis.*
Data sharing	*Preparatory data of T1.1 development will be stored partly on SOCAR's institutional repository and partly also on the project's SharePoint repository (maintained by NORCE).* *SOCAR-STAR Refinery analysis, based on ASTM and ISO standards, is used in T1.1 under confidential terms, only available for consortium members.* *Deliverable D1.1 data has sensitive (SEN) dissemination level. It is available since M04 for the ALGAESOL project consortium consultation within the project SharePoint.*
Persistent identifier	*N/A* *Resulting T1.1 published deliverable D1.1 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.*
File formats	*pdf, rtf, doc, xls*
File scale	*Max. 200 MB of generated data.*
Copyright & IP management	*The rights and management of the STAR Refinery Quality Lab Reports belong to the ALGAESOL partner (SOCAR). The IPR protection of the datasets of those analysis reports apply according to Turkish and EU laws.* *The rights to use the T1.1 results for ALGAESOL, applies as defined in the Grant Agreement of the project.* *Future publications using findings from T1.1, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within T1.1 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*

Additional data management procedures	The ones adopted by STAR Refinery (provided by SOCAR).

WP1 Task 1.1 Dataset 2/2	
Task title	*Establishment of biofuel requirements and characteristics*
Dataset name	*Deliverable D1.1 (Biofuel requirements and characteristics)*
Task & data manager	*SOCAR*
Other partners involved	*(LEITAT, NORCE, UdG, DTI) – partners involved in T1.1*
Dataset description	*General Description: This dataset consists of the deliverable D1.1 ("Biofuel requirements and characteristics" - Type R - Document, Report, Dissemination level SEN – Sensitive and limited under the conditions of the Grant Agreement, due to Month 04). D1.1 addresses the findings on the characteristics of methane, methanol, and SAF in relation to their respective uses in shipping and aviation fuels.* *Scope of the collected Dataset: D1.1 reports on the overall requirements, ASTM standards and quality specifications for methane, methanol and for sustainable aviation fuels (SAF) in general.* *Main objectives & usage: to produce the report about Biofuel requirements and characteristics for the ALGAESOL project. SOCAR is responsible for the quality assurance process of the definitions in task T1.1 and for the production of D1.1.* *Main Types of generated data in this D1.1 Dataset, are textual including graphic illustrations and tables.* *Data Reuse: This deliverable data will be needed as the input for the work in WP4 (Purification and Fuel Testing), tasks T4.1, T4.2, T4.3 and T4.4.*
Availability	*Consortium – D1.1 has sensitive (SEN) dissemination level.*

Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *Deliverable D1.1, with sensitive distribution level, is only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.*
Metadata	***Keywords:*** *ALGAESOL, Biofuels, Synthetic Fuels, Aviation Fuel, SAF, Maritime Transportation, ASTM Standards, Biofuels Profiles, Jet-Fuels Analysis.*
Data sharing	*Preparatory data of D1.1 development is stored partly on SOCAR's institutional repository and partly also on the project's SharePoint repository (maintained by NORCE).* *Deliverable D1.1 data has sensitive (SEN) dissemination level. It is available since M04 for the ALGAESOL project consortium consultation within the project SharePoint repository in the EC Portal.* *Whenever D1.1 is distributed, under the consent of the ALGAESOL Consortium, its restricted reuse has to be given consent by the project consortium, for a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated (https://creativecommons.org/licenses/by/4.0/).*
Persistent identifier	*D1.1 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.* *(If agreed with the consortium, a non-sensitive version of the T1.1 deliverable D1.1 can receive a PID from Zenodo (DOI), where it can be registered as sensitive document, with restricted distribution of its full dataset.)*
File formats	***Data / File Formats:*** *.rtf, .txt, .pdf*
File scale	*200 MB (max)*
Copyright & IP management	*The rights to D1.1 SEN deliverable belong to the ALGAESOL project, with IP management as defined in the Grant Agreement of the project.* *Future publications using results from D1.1, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within T1.1 datasets (including D1.1) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ &*

	https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).
Additional data management procedures	*None*

WP5 Task 1.2 Dataset 1/2	
Task title	*Feedstocks benchmark and technical specifications*
Dataset name	*Database of CO2-rich industrial gasses and technical specifications of ALGAESOL's platforms*
Task & data manager	*UdG*
Other partners involved	*SIMTECH, LEITAT, NORCE, DTI, SOCAR*
Dataset description	*Task 1.2 generates a database of CO2-rich industrial gas compositions, including contaminants and renewable feedstock properties to optimize ALGAESOL's platforms for sustainable fuel production (methane, methanol and biofuels) for aviation and shipping.* *The datasets resulting from T1.2 are composed of data coming from industrial processes, inputs from project partners and relevant EU projects, aiming to assess CO2 solubilization and feedstock compatibility with the ALGAESOL's platforms. Quality assurance is ensured by project partners, making the data reliable for both internal use and external stakeholders in carbon capture and renewable energy.* *Results of task T1.2, reported in deliverable D1.2 (Type PU - Report, Public due to Month 6), include the database of CO2-rich industrial gasses and technical specifications of ALGAESOL's platforms.* *The dataset of task T1.2 will be further used in WP2-WP5.*
Availability	*Public. Deliverable D1.2 has Public (PU) dissemination level.*

	D1.2 final version will be published in [Zenodo](https://zenodo.org), and linked within the ALGAESOL Open access Zenodo Community, under a Creative Commons Attribution 4.0 International License. https://creativecommons.org/licenses/by/4.0/
Data handling standards	*The EC encourages Horizon Europe project results to be publicly available and shared via trusted repositories. The use of outcomes of T1.2 will be publicly described and made available for interested stakeholders via the project website, and via Zenodo (https://zenodo.org/), within the dedicated community for the ALGAESOL project, which will be followed as best practice standard.* *No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.*
Metadata	*Keywords: ALGAESOL, renewable feedstocks, CO2-rich industrial gas compositions, database, bioelectrochemical systems, BES, microalgae*
Data sharing	*Preparatory data of T1.2 development will be stored on UdG's institutional repository (CORA.RDR; https://dataverse.csuc.cat/dataverse/UdG) and on the project's SharePoint repository (maintained by NORCE). In UdG repository, D1.2 will be available for at least 10 years.* *Deliverable D1.2 data will be made public in M06 (October 2024) on [Zenodo](https://zenodo.org).*
Persistent identifier	*The final version of the public deliverable D1.2 will receive a PID from Zenodo (DOI), as well as an identification number from UdG's institutional repository, where it will be registered as Public document.*
File formats	*xls, .rtf, .txt, .pdf*
File scale	*Max. 25 MB of generated data.*
Copyright & IP management	*The rights to the definition of the Feedstocks benchmark and technical specifications for ALGAESOL, belong to the partners jointly.* *No IPR protection will be sought for this data set.* *Publications made using the datasets created in T1.2 will be open-access and published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the [CC-BY license scheme](#).*
Ethical issues management	*Personal data of the project members within T1.2 datasets (if any) is treated in accordance with the [EU GDPR legislation](#) (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ &*

	https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).
Additional data management procedures	*None.*

WP5 Task 1.2 Dataset 2/2	
Task title	*Feedstock benchmark and technical specifications*
Dataset name	*Deliverable D1.2 (Feedstock benchmark and technical specifications)*
Task & data manager	*UdG*
Other partners involved	*(SIMTECH, LEITAT, NORCE, DTI, SOCAR) – partners involved in T1.2*
Dataset description	*General Description: This dataset consists of the deliverable D1.2 ("Feedstock benchmark and technical specifications" - Type R - Document, Report, Dissemination level PUB - Public, due to Month 06), which addresses the evaluation and characterization of different CO_2/waste streams to target product and operational parameters.* *Scope of the collected Dataset: D1.2 will report on the specifications of feedstocks technical characteristics and possible operation strategies for ALGAESOL.* *Main objectives & usage: to produce the report about the feedstock benchmark. UdG is responsible for the quality assurance process of the definitions and specifications in task T1.2, and for the production of D1.2.* *Main Types of generated data in this D1.2 Dataset are textual including illustrations and tables.* *Data Reuse: This deliverable data will be needed as the input for the work in WP2, WP3, WP4 and WP5.*
Availability	*Public (PU)*

Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *The publication of the D1.2 as public deliverable in Zenodo (https://zenodo.org/), via the dedicated community for the ALGAESOL project, and in the UdG's institutional public repository (CORA.RDR https://dataverse.csuc.cat/dataverse/UdG), will follow the repositories' best practice standards.*
Metadata	*Zenodo assigns metadata in accordance with Open Science rules.* ***Keywords:*** *ALGAESOL, renewable feedstocks, CO2-rich industrial gas compositions, database, bioelectrochemical systems, BES, microalgae*
Data sharing	*D1.2 deliverable data will be made public in M06 on Zenodo and on the UdG repository. Open-source tools can be used to access and use the data files in this dataset (e.g.: Libreoffice, OpenOffice, etc.).* *D1.2 distribution and reuse will be regulated by a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated.*
Persistent identifier	*DOI*
File formats	***Data / Possible File Formats:*** *xls, pdf*
File scale	*100 MB (max)*
Copyright & IP management	*The rights to D1.2 belong to the ALGAESOL project partners jointly.* *A CC-BY license will be assigned to the deliverable and will be indicated in the metadata of the data via Zenodo. Metadata will have a CC0 license.*
Ethical issues management	*Personal data of the project members within T1.2-D1.2 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

WP1 Task 1.3 Dataset 1/2

Task title	*Specifications of process flows and requirements for component models and use cases*
Dataset name	*Requirements for ALGAESOL Components, Process Models and Use-Cases*
Task & data manager	*SIMTECH*
Other partners involved	*NORCE, LEITAT, DTI, UdG, SOCAR* *(Task T1.3 will be led by SIMTECH counting with contributions from the technical partners UdG, LEITAT, NORCE, DTI, as well as from the Use-Cases Provider SOCAR).*
Dataset description	*Task T1.3 has the purpose of defining all relevant specifications for the project system-level modelling procedure and its process models' characteristics to ensure feasible computational effort, when using the simulation tools provided by SIMTECH (IPSEpro (https://simtechnology.com/ipsepro/) and IPSE GO (https://about.ipsego.app/), compatibility and some necessary adaptability of the showcase web-platform (IPSE GO), to virtually represent the project use-cases in the applications defined for ALGAESOL (Aviation and Shipping), with the required data / information of the real use-case scenario to be provided by SOCAR.* *The Datasets resulting from T1.3 compose the process model features and requirements, for both ALGAESOL overall system simulation and the Use-Cases modelling, as input for further simulation in WP5 (T5.1 and T5.2).* *The outcomes of T1.3 will be relevant for all tasks related to the numerical models that represent ALGAESOL, for modelling its main system solution (in WP2, WP3), and especially in WP5 for the creation of customized component models in IPSEpro for simulating the overall process and for the modelling and showcase of the virtual Use-Cases, using IPSE GO.* *Results of task T1.3 will be reported in deliverable D1.3 ("Specifications of process flows and requirements for component models and use cases" - Type R - Document, Report, Dissemination level PUB - Public, due to Month 06).*

Availability	*Consortium - The T1.3 preparation dataset will be only available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).* *Public - The final version of the deliverable D1.3 has Public (PU) dissemination level. It will be published in* [Zenodo](), *and linked within the ALGAESOL Open access Zenodo Community, under a Creative Commons Attribution 4.0 International License.* https://creativecommons.org/licenses/by/4.0/
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *The EC encourages Horizon Europe project results to be publicly available and shared via trusted repositories. The use of outcomes of T1.3 for the process modelling of ALGAESOL system and virtual use-cases will be publicly described in Deliverable D1.3 and published in Zenodo (*https://zenodo.org/*), via the dedicated community for the ALGAESOL project, which will be followed as best practice standard.*
Metadata	*Keywords: ALGAESOL, Use-Cases, Biofuels, Synthetic Fuels, Aviation Fuel, SAF, Maritime Transportation, Simulation, Process Models, IPSEpro, IPSE GO, Solar-based conversion models, Microalgae-based conversion models.*
Data sharing	*Preparatory data of T1.3 development will be stored partly on SIMTECH's institutional repository and partly also on the project's SharePoint repository (maintained by NORCE).* *Deliverable D1.3 data will be made public in M06 (October 2024) on Zenodo.*
Persistent identifier	*The final version of the public deliverable D1.3 will receive a PID from Zenodo (DOI).*
File formats	*pdf, rtf, doc, xls, jpg, png*
File scale	*Max. 200 MB of generated data.*
Copyright & IP management	*The rights to the definition of the requirements and specifications for customized component models, system simulation, and use-cases models for ALGAESOL, belong to the partners jointly. IPR protection for this data set will be worked out at advanced stages of the project exploitation stage.* *Publications using the datasets created in T1.3 will be open-access and published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the* [CC-BY license scheme]().

Ethical issues management	*Personal data of the project members within T1.3 datasets (if any) is treated in accordance with the [EU GDPR legislation](https://scienceeurope.org/our-priorities/eu-legislation/gdpr/) (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None.*

WP1 Task 1.3 Dataset 2/2

Task title	*Specifications of process flows and requirements for component models and use cases*
Dataset name	*Deliverable D1.3 (Specifications of process flows and requirements for component models and use cases)*
Task & data manager	*SIMTECH*
Other partners involved	*(NORCE, LEITAT, DTI, UdG, SOCAR) – partners involved in T1.3*
Dataset description	***General Description:*** *This dataset consists of the deliverable D1.3 ("Specifications of process flows and requirements for component models and use cases" - Type R - Document, Report, Dissemination level PUB - Public, due to Month 06), which addresses the definition of all relevant specifications for the project system-level modelling procedure and its process models' characteristics to ensure feasible computational effort, when using the simulation tools provided by SIMTECH.* ***Scope of the collected Dataset:*** *D1.3 will report on the overall requirements for the ALGAESOL process model and use-cases virtual implementation using the simulation tools IPSEpro (https://simtechnology.com/ipsepro/) and IPSE GO (https://about.ipsego.app/), for the applications defined for ALGAESOL (Aviation and Shipping).* ***Main objectives & usage:*** *to produce the report about the requirements and specifications of the ALGAESOL overall process simulation, and the use-cases*

	simulations implemented for ALGAESOL in IPSE GO. SIMTECH is responsible for the quality assurance process of the definitions in task T1.3, and for the production of D1.3. ***Main Types of** generated data in this D1.3 Dataset are textual including illustrations and tables.* ***Data Reuse**: This deliverable data will be mainly needed as the input for the work in WP5, tasks T5.1 and T5.2.*
Availability	*Public*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *The publication of the D1.3 in Zenodo (https://zenodo.org/), via the dedicated community for the ALGAESOL project, will be followed as best practice standard.*
Metadata	*Zenodo assigns metadata in accordance with Open Science rules.* ***Keywords:** ALGAESOL, Use-Cases, Biofuels, Synthetic Fuels, Aviation Fuel, SAF, Maritime Transportation, Simulation, Process Models, IPSEpro, IPSE GO, Solar-based conversion models, Microalgae-based conversion models.*
Data sharing	*D1.3 deliverable data will be made public in M06 on Zenodo.* *Open-source tools can be used to access and use the data files in this dataset (e.g.: Libreoffice, OpenOffice, etc.).* *D1.3 distribution and reuse will be regulated by a [Creative Commons Attribution 4.0 International License](#), provided that appropriate credit is given, and any changes are indicated.*
Persistent identifier	*DOI*
File formats	***Data / File Formats:** .csv, .rtf, .txt, .pdf.*
File scale	*100 MB (max)*
Copyright & IP management	*The rights to D1.3 belong to the ALGAESOL project partners jointly.* *A CC-BY license will be assigned to the deliverable and will be indicated in the metadata of the data via Zenodo. Metadata will have a CC0 license.*

Ethical issues management	*Personal data of the project members within T1.3-D1.3 datasets (if any) is treated in accordance with the [EU GDPR legislation](#) (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

WP1 Task 1.4 Dataset 1/2

Task title	*Sustainability Analyses – goal and scope definition*
Dataset name	*Sustainability Analyses Framework Specifications for ALGAESOL*
Task & data manager	*NORCE*
Other partners involved	*LEITAT, DTI, UdG, SIMTECH, SOCAR*
Dataset description	*Task T1.4 defines the production systems of ALGAESOL to be assessed to ensure reliable and harmonised methods that can serve as the basis for reproducible, comparable and verifiable Life Cycle Sustainability Assessment (LCA, LCC and S-LCA) results for the project, in accordance with ISO 14040/14044 Standards.* *The datasets resulting from T1.4 will embed preparation data for a consistent LCA framework, including relevant information on the goal of the study, product system and system boundaries, functional unit, impact indicators and rules for allocations. This dataset will contribute to deliverable D1.4.* *Results of task T1.4, will be reported in deliverable D1.4 ("Sustainability goal and scope framework defined". Type Report, SEN-Sensitive dissemination level - due to Month 6).*

	The dataset of task T1.4 will be further used as the basis for data collection and assessment in WP5 T5.3.
Availability	*Consortium. - The T1.4 development datasets are available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).* *Deliverable D1.4, generated from T1.4, has Sensitive (SEN) dissemination level.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *This T1.4 dataset, composed of the framework specifications for ALGAESOL LCA, based on ISO 14040/14044 Standards, is reported in Deliverable D1.4, with sensitive distribution level only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.*
Metadata	*Keywords: ALGAESOL, Sustainability Analysis, Life Cycle Sustainability Assessment, LCA, LCC, S-LCA*
Data sharing	*Preparatory data of T1.4 development will be stored on the project's SharePoint repository (maintained by NORCE).* *Datasets for the preparation of the LCA, LCC, and S-LCA analyses, based on ISO 14040/14044 Standards, are used in T1.4 and available for consortium members only.* *Deliverable D1.4 data has sensitive (SEN) dissemination level. It is available since M06 for the ALGAESOL project consortium consultation within the project SharePoint.*
Persistent identifier	*Resulting T1.4 published deliverable D1.4 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.*
File formats	*xls, .rtf, .txt, .pdf*
File scale	*Max. 100 MB of generated data.*
Copyright & IP management	*The rights to the definition of the Feedstocks benchmark and technical specifications for ALGAESOL, belong to the partners jointly.*

	The IPR protection of the datasets will be defined and apply according to the EU laws. The rights to use the T1.4 results for ALGAESOL, applies as defined in the Grant Agreement of the project. *Publications made using the datasets created in T1.4 will be open-access and published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme.*
Ethical issues management	*Personal data of the project members within T1.4 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None.*

WP1 Task 1.4 Dataset 2/2
Task title   *Sustainability Analyses – goal and scope definition*

Task title	*Sustainability Analyses – goal and scope definition*
Dataset name	*Deliverable D1.4 (Sustainability goal and scope framework defined)*
Task & data manager	*NORCE*
Other partners involved	*(NORCE, LEITAT, DTI, UdG, SOCAR) – partners involved in T1.4*
Dataset description	***General Description:*** *This dataset consists of the deliverable D1.4 ("Sustainability goal and scope framework defined" - Type R - Document, Report, Dissemination level SEN - Sensitive, due to Month 06), which addresses the definition of the sustainable life cycle assessment framework.* ***Scope of the collected Dataset:*** *D1.4 will report on the ALGAESOL LCA, LCC, and S-LCA framework specifications, including information on the goals of*

	the study, production system and system boundaries, functional units, impact indicators, and rules for allocations. ***Main objectives & usage***: *to produce the report about of the specifications of the sustainability goal and scope of the LCA, LCC, and S-LCA framework. NORCE is responsible for the quality assurance process of the definitions in task T1.4, and for the production of D1.4.* ***Main Types of*** *generated data in this D1.4 Dataset are textual including illustrations and tables.* ***Data Reuse***: *This deliverable data will be needed as the input for the work in WP5, task T5.3.*
Availability	*Consortium – D1.4 has sensitive (SEN) dissemination level.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *Deliverable D1.4, with sensitive distribution level, is only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.*
Metadata	***Keywords:*** *ALGAESOL, Sustainability Analysis, Life Cycle Sustainability Assessment, LCA, LCC, S-LCA*
Data sharing	*Preparatory data of D1.4 development is stored on the project's SharePoint repository (maintained by NORCE).* *Deliverable D1.4 data has sensitive (SEN) dissemination level. It is available since M06 for the ALGAESOL project consortium consultation within the project SharePoint repository in the EC Portal.* *Whenever D1.4 is distributed, under the consent of the ALGAESOL Consortium, its restricted reuse has to be given consent by the project consortium, for a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated (https://creativecommons.org/licenses/by/4.0/).*
Persistent identifier	*D1.4 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.* *(If agreed with the consortium, a non-sensitive version of the T1.4 deliverable D1.4 can receive a PID from Zenodo (DOI), where it can be registered as sensitive document, with restricted distribution of its full dataset.)*

File formats	**Data / File Formats:** *.csv, .rtf, .txt, .pdf.*
File scale	*100 MB (max)*
Copyright & IP management	*The rights to D1.4 SEN deliverable belong to the ALGAESOL project, with IP management as defined in the Grant Agreement of the project.* *Future publications using results from D1.4, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within T1.4 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

4.2.   Data-Tables WP2

WP2 Task 2.1 Dataset 1/4	
Task title	*T2.1 Sunlight harvesting & management* *T2.1.1 Design & Synthesis of Engineered Photoactive Materials*
Dataset name	*Designs & Synthesis of Photoactive materials*
Task & data manager	*LEITAT*
Other partners involved	*SIMTECH*
Dataset description	*T2.1.1 has the purpose to identify the most promising photoanode materials for being integrated in BES reactors for CO_2 conversion to MeOH and CH_4. This will be achieved by developing photoanode materials with high photocatalytic activity.* *Results of T2.1.1 will be reported in the following deliverables:* - *D2.1 Photoanode and solar concentration system V1 (Report, M15). Partner responsible, LEITAT. Dissemination level: Sensitive (SEN).* - *D2.2 Photoanode and solar concentration system V2 (Report, M27). Partner responsible, LEITAT. Dissemination level: Sensitive (SEN).* *Datasets will include information regarding: materials synthesis protocols and results; physicochemical and electrochemical characterization; materials performance in terms of oxidation reaction under different experimental conditions; long-term stability tests; material optimization when interacting with T2.2, T2.3 and T3.3.*
Availability	*Consortium: The T2.1.1 preparation datasets will be available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).* *Different photoanodes will be transferred to T2.2, T2.3 and T3.3 to be tested in different experimental set-ups (P-BE-MA, P-EC and P-BE), resulting in an iterative process to promote material optimization.*

Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *This T2.1.1 dataset, composed of the identification data of the most promising photoanode materials for being integrated in BES reactors for CO_2 conversion to MeOH and CH_4, will be reported in Deliverables D2.1 and D2.2, published in the EC Portal, with sensitive distribution level, only available for the ALGAESOL project consortium, with copies on the project SharePoint, following best practice standard of this trustful repository.*
Metadata	*Keywords: ALGAESOL, Photoelectrodes, Photocatalystic Response, Light Harvesting, Oxidation Reaction, Photoactive Materials*
Data sharing	*Preparatory data of T2.1.1 development will be stored partially on LEITAT's institutional repository, and partly also on the project's SharePoint repository (maintained by NORCE).* *The photoanodes materials developed specifications will be shared with the interested consortium members, complying with the dissemination level requirements of Deliverables D2.1 and D2.2, which have sensitive (SEN) dissemination levels.* *The use of outcomes of T2.1.1 for developing ALGAESOL photoanode materials, if requested by interested researchers and stakeholders, will be considered for distribution under the consent of ALGAESOL consortium, complying with the dissemination level requirements.*
Persistent identifier	*Not applicable for the T2.1.1 development Datasets.* *Resulting T2.1.1 published deliverables D2.1 and D2.2 will receive the EC identifiers for ALGAESOL deliverables with SEN dissemination level.* *(If agreed with the consortium, non-sensitive versions of deliverables D2.1 and D2.2 can receive PIDs from Zenodo (DOI), where they can be registered as sensitive document, with restricted distribution of their full dataset.)*
File formats	*Experimental Data: .xlsx, .csv, .jpg, .rtf* *Internal Reports: .docx, pdf* *Deliverable Report: .pdf*
File scale	*Less than 500 MB of generated data (to be revised during project execution)*
Copyright & IP management	*The rights to the developed photoanode materials belong to LEITAT. IPR protection for these will be worked out at advanced stages of the project*

	exploitation stage. The rights to use the T2.1.1 results for ALGAESOL, applies as defined in the Grant Agreement of the project. *Publications made using the datasets created in T2.1.1 will be non-sensitive and will be published in Zenodo, and linked to the ALGAESOL Open access Zenodo Community, assigned to the* [CC-BY license scheme](#)*.*
Ethical issues management	*Personal data of the project members within T2.1.1 datasets (if any) is treated in accordance with the* [EU GDPR legislation](#) *(EU Regulation 2016/679 GDPR). (*https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html*).*
Additional data management procedures	*None.*

WP2 Task 2.1 Dataset 2/4

Task title	*T2.1 Sunlight harvesting & management* *T2.1.2 Design and Manufacturing of Efficient Solar Concentrators*
Dataset name	*Design and Manufacturing of Efficient Solar Concentrators*
Task & data manager	*LEITAT*
Other partners involved	*SIMTECH*
Dataset description	*T2.1.2 has the purpose to develop a solar concentrator to maximize the light intensity into the photoanode.* *Results of T2.1.2 will be reported in the following deliverables:* - *D2.1 Photoanode and solar concentration system V1 (Report, M15). Partner responsible, LEITAT. Dissemination level: Sensitive.*

	- *D2.2 Photoanode and solar concentration system V2 (Report, M27). Partner responsible, LEITAT. Dissemination level: Sensitive.* *Datasets will include information regarding: solar concentrator design information (absorption, transmittance of materials synthetized in T2.1.1; light concentration required; photoanode area to be covered).*
Availability	*Consortium: The T2.1.2 preparation datasets will be available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).* *Information about solar concentrator devices will be transferred to T2.2, T2.3 and T3.3, to be tested in different experimental set-ups (P-BE-MA, P-EC and P-BE), to increase the efficiency of photocatalytic reaction. Data regarding solar concentrator will be delivered to SIMTECH to incorporate into the simulation tools (IPSEpro and IPSE GO) for the modelling of conversion paths.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *This T2.1.2 dataset will compose the deliverables D2.1 and D2.2 to be published in the EC Portal, with sensitive distribution level, only available for the ALGAESOL project consortium, with copies on the project SharePoint, following best practice standard of this trustful repository.*
Metadata	*Keywords: solar concentration, light concentration, absorption, transmittance spectra*
Data sharing	*Preparatory data of T2.1.2 development will be stored on LEITAT's institutional repository and partly also on the project's SharePoint repository (maintained by NORCE).* *The solar concentrator specifications will be shared with the interested consortium members, complying with the dissemination level requirements.* *The use of outcomes of T2.1.2 for developing ALGAESOL solar concentrator, if requested by interested researchers and stakeholders, will be considered for distribution under the consent of ALGAESOL consortium, complying with the dissemination level requirements.*
Persistent identifier	*Not applicable for the T2.1.2 development Datasets.* *Resulting T2.1.2 published deliverables D2.1 and D2.2 will receive the EC identifiers for ALGAESOL deliverables with SEN dissemination level.*

	(If agreed with the consortium, non-sensitive versions of deliverables D2.1 and D2.2 can receive PIDs from Zenodo (DOI), where they can be registered as sensitive document, with restricted distribution of their full dataset.)
File formats	*Concentrator design: .stl* *Experimental Data: .xlsx, .csv, .jpg, .rtf* *Internal Reports: .docx* *Deliverable Report: .pdf*
File scale	*< 500 MB of generated data (to be revised during project execution)*
Copyright & IP management	*The rights to the developed solar concentrator belong to LEITAT. IPR protection for these will be worked out at advanced stages of the project exploitation stage. The rights to use the T2.1.2 results for ALGAESOL, applies as defined in the Grant Agreement of the project.* *Publications made using the datasets created in T2.1.2 will be non-sensitive, and will be published in Zenodo, and linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within T2.1.2 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None.*

WP2 Task 2.1 Dataset 3/4	
Task title	*T2.1 Sunlight harvesting & management*
Dataset name	*Deliverable D2.1 (Photoanode and solar concentration V1)*

Task & data manager	LEITAT
Other partners involved	(SIMTECH) – partner involved in T2.1
Dataset description	**General Description:** *This dataset consists of the deliverable D2.1 ("Photoanode and solar concentration V1" - Type R - Document, Report, Dissemination level SEN - Sensitive, due to Month 15).* **Scope of the collected Dataset:** *D2.1 will report on the Photoanode with a photocurrent of at least 10mA cm-2 during operation and Faradaic conversion efficiency > 85%.* **Main objectives & usage:** *to produce the report about of the Version1 of the Photoanode and solar concentration. LEITAT is responsible for the quality assurance process of the definitions in task T2.1 including its sub-tasks, and for the production of D2.1.* **Main Types of** *generated data in this D2.1 Dataset are textual including illustrations and tables.* **Data Reuse:** *This deliverable data will be needed as the input for the work in WP2, tasks T2.2, T2.3; and WP3 task T3.3.*
Availability	*Consortium – D2.1 has sensitive (SEN) dissemination level.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *Deliverable D2.1, with sensitive distribution level, is only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.*
Metadata	**Keywords:** *ALGAESOL, Photoelectrodes, Photocatalystic Response, Light Harvesting, Oxidation Reaction, Photoactive Materials, Solar Concentration, Light Concentration, Absorption, Transmittance Spectra*
Data sharing	*Preparatory data of D2.1 development is stored on LEITAT's institutional repository, and partly also on the project's SharePoint repository (maintained by NORCE).* *Deliverable D2.1 data has sensitive (SEN) dissemination level. It will be available in M15 for the ALGAESOL project consortium consultation within the project SharePoint repository in the EC Portal.*

	Deliverable D2.1 has Sensitive (SEN) dissemination level. However, whenever it is distributed with consent of the ALGAESOL Consortium, its reuse is allowed under a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated. *https://creativecommons.org/licenses/by/4.0/*
Persistent identifier	*D2.1 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.* *(If agreed with the consortium, a non-sensitive version of the deliverable D2.1 can receive a PID from Zenodo (DOI), where it can be registered as sensitive document, with restricted distribution of its full dataset.)*
File formats	***Data / File Formats:*** *.pdf*
File scale	*500 MB (max)*
Copyright & IP management	*The rights to D2.1 SEN deliverable belong to the ALGAESOL project, with IP management of its reported development as defined in the Grant Agreement of the project.* *Future publications using results from D2.1, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within D2.1 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

WP2 Task 2.1 Dataset 4/4
Task title	*T2.1 Sunlight harvesting & management*
Dataset name	*Deliverable D2.2 (Photoanode and solar concentration V2)*
Task & data manager	*LEITAT*
Other partners involved	*(SIMTECH) – partner involved in T2.1*
Dataset description	*General Description: This dataset consists of the deliverable D2.2 ("Photoanode and solar concentration V2" - Type R - Document, Report, Dissemination level SEN - Sensitive, due to Month 27).* *Scope of the collected Dataset: D2.2 will report on the Photoanode with a photocurrent of at least 10mA cm-2 during operation and Faradaic conversion efficiency > 85%.* *Main objectives & usage: to produce the report about of the Version2 of the Photoanode and solar concentration. LEITAT is responsible for the quality assurance process of the definitions in task T2.1 including its sub-tasks, and for the production of D2.2.* *Main Types of generated data in this D2.2 Dataset are textual including illustrations and tables.* *Data Reuse: This deliverable data will be needed as the input for the work in WP2, tasks T2.2, T2.3; and WP3 task T3.3.*
Availability	*Consortium – D2.2 has sensitive (SEN) dissemination level.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *Deliverable D2.2, with sensitive distribution level, is only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.*
Metadata	*Keywords: ALGAESOL, Photoelectrodes, Photocatalystic Response, Light Harvesting, Oxidation Reaction, Photoactive Materials, Solar Concentration, Light Concentration, Absorption, Transmittance Spectra*

Data sharing	*Preparatory data of D2.2 development is stored on LEITAT's institutional repository, and partly also on the project's SharePoint repository (maintained by NORCE).* *Deliverable D2.2 data has sensitive (SEN) dissemination level. It will be available in M27 for the ALGAESOL project consortium consultation within the project SharePoint repository in the EC Portal.* *Deliverable D2.2 has Sensitive (SEN) dissemination level. However, whenever it is distributed with consent of the ALGAESOL Consortium, its reuse is allowed under a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated.* *https://creativecommons.org/licenses/by/4.0/*
Persistent identifier	*D2.2 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.* *(If agreed with the consortium, a non-sensitive version of the deliverable D2.2 can receive a PID from Zenodo (DOI), where it can be registered as sensitive document, with restricted distribution of its full dataset.)*
File formats	***Data / File Formats:** .pdf*
File scale	*500 MB (max)*
Copyright & IP management	*The rights to D2.2 SEN deliverable belong to the ALGAESOL project, with IP management of its reported development as defined in the Grant Agreement of the project.* *Future publications using results from D2.2, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within D2.2 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

WP2 Task 2.2 Dataset 1/2

Task title	*T2.2 P-EC conversion of sun & CO$_2$ into MeOH* *T2.2.1 Development of efficient and stable cathode*
Dataset name	*Development of efficient and stable cathode*
Task & data manager	*LEITAT*
Other partners involved	*SIMTECH*
Dataset description	*T2.2.1 has the purpose to develop different types of cathodes to be employed for CO$_2$ reduction reaction at low overpotential and high current densities.* *Results of T2.2.1 will be reported in the following deliverables:* - *D2.3: 2-chamber photo(bio)electrochemical reactors for CO$_2$ reduction to MeOH and CH$_4$ V1 (Report, M18). Partner responsible, LEITAT. Dissemination level: Sensitive (SEN).* - *D2.4: 2-chamber photo(bio)electrochemical reactors for CO$_2$ reduction to MeOH and CH$_4$ V2 (Report, M30). Partner responsible, LEITAT. Dissemination level: Sensitive (SEN).* *Datasets will include information regarding: composition of electrode catalysts; electrode geometries; electrochemical characterization tests; CO$_2$ reduction tests (in terms of resulting products determination); anode counter reaction process description and operation; chronoamperometry tests; leaching tests; reuse and/or regeneration of spent catalyst.*
Availability	*Consortium: The T2.2.1 datasets will be available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).* *Information about the cathodes for CO$_2$ reduction into MeOH will be transferred to T2.2.2, to be integrated in a light conversion BES device.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *This T2.2.1 dataset will compose the deliverables D2.3 and D2.4 to be published in the EC Portal, with sensitive distribution level, only available for the ALGAESOL project consortium, with copies on the project SharePoint, following best practice standard of this trustful repository.*

Metadata	*Keywords: CO_2 Reduction Reaction; Production Rate, Selectivity, Energy Efficiency*
Data sharing	*Preparatory data of T2.2.1 development will be stored on LEITAT's institutional repository and partly also on the project's SharePoint repository (maintained by NORCE).* *The different cathode materials specifications will be shared with the interested consortium members, complying with the dissemination level requirements.* *The use of outcomes of T2.2.1 for developing ALGAESOL cathodes for CO_2 reduction to MeOH, if requested by interested researchers and stakeholders, will be considered for distribution under the consent of ALGAESOL consortium, complying with the dissemination level requirements.*
Persistent identifier	*Not applicable for the T2.2.1 development Datasets.* *Resulting T2.2.1 published deliverables D2.3 and D2.4 will receive the EC identifiers for ALGAESOL deliverables with SEN dissemination level.* *(If agreed with the consortium, non-sensitive versions of deliverables D2.3 and D2.4 can receive PIDs from Zenodo (DOI), where they can be registered as sensitive document, with restricted distribution of their full dataset.)*
File formats	*Cathode design: .stl* *Experimental Data: .xlsx, .csv, .jpg, .rtf* *Internal Reports: .docx* *Deliverable Report: .pdf*
File scale	*< 500 MB of generated data (to be revised during project execution)*
Copyright & IP management	*The rights to the cathode materials for CO_2 reduction to MeOH belong to LEITAT. IPR protection for these will be worked out at advanced stages of the project exploitation stage. The rights to use the T2.2.1 results for ALGAESOL, applies as defined in the Grant Agreement of the project.* *Publications made using the datasets created in T2.2.1 will be non-sensitive, and will be published in Zenodo, and linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues	*Personal data of the project members within T2.2.1 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679*

management	GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).
Additional data management procedures	*None.*

WP2 Task 2.2 Dataset 2/2	
Task title	*T2.2 P-EC conversion of sun & CO$_2$ into MeOH* *T2.2.2 Integration into an efficient light conversion device*
Dataset name	*Integration into an efficient light conversion device*
Task & data manager	*LEITAT*
Other partners involved	*SIMTECH*
Dataset description	*T2.2.2 has the purpose to integrate the resulting photoanodes from T2.1 with the resulting cathodes from T2.2.1 in a 2-chamber-phototelectrochemical planar reactor (P-EC).* *Results of T2.2.2 will be reported in the following deliverables:* - *D2.3 2-chamber photo(bio)electrochemical reactors for CO$_2$ reduction to MeOH and CH$_4$ V1 (Report, M18). Partner responsible, LEITAT. Dissemination level: Sensitive (SEN).* - *D2.4 2-chamber photo(bio)electrochemical reactors for CO$_2$ reduction to MeOH and CH$_4$ V2 (Report, M30). Partner responsible, LEITAT. Dissemination level: Sensitive (SEN).* *Datasets will include information regarding: oxidation reactions (substrates: water and organic matter); selection of photoanode reaction (based on current measurements); P-EC reactor description; P-EC process performance under different operational conditions; identification of P-EC resulting products.*

Availability	*Consortium: The T2.2.2 datasets will be available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *This T2.2.2 dataset will compose the deliverables D2.3 and D2.4 to be published in the EC Portal, with sensitive distribution level, only available for the ALGAESOL project consortium, with copies on the project SharePoint, following best practice standard of this trustful repository.*
Metadata	*Keywords: CO_2 Reduction Reaction; Production Rate, Selectivity, Energy Efficiency, Process Integration*
Data sharing	*Preparatory data of T2.2.2 development will be stored on LEITAT's institutional repository and partly also on the project's SharePoint repository (maintained by NORCE).* *The different cathode materials specifications will be shared with the interested consortium members, complying with the dissemination level requirements. LEITAT will transfer relevant data to SIMTECH to incorporate into the simulation.* *The use of outcomes of T2.2.2 integrating ALGAESOL resulting photoanodes from T2.1 with the resulting cathodes from T2.2.1 in a 2-chamber-phototelectrochemical planar reactor (P-EC), if requested by interested researchers and stakeholders, will be considered for distribution under the consent of ALGAESOL consortium, complying with the dissemination level requirements.*
Persistent identifier	*Not applicable for the T2.2.2 development Datasets.* *Resulting T2.2.2 published deliverables D2.3 and D2.4 will receive the EC identifiers for ALGAESOL deliverables with SEN dissemination level.* *(If agreed with the consortium, non-sensitive versions of deliverables D2.3 and D2.4 can receive PIDs from Zenodo (DOI), where they can be registered as sensitive document, with restricted distribution of their full dataset.)*
File formats	*P-EC reactor design: .stl* *Experimental Data: .xlsx, .csv, .jpg, .rtf* *Internal Reports: .docx* *Deliverable Report: .pdf*

File scale	*< 500 MB of generated data (to be revised during project execution)*
Copyright & IP management	*The rights to the integrated efficient light conversion device for CO_2 reduction to MeOH using a photoanode belong to LEITAT. IPR protection for these will be worked out at advanced stages of the project exploitation stage. The rights to use the T2.2.2 results for ALGAESOL, applies as defined in the Grant Agreement of the project.* *Publications made using the datasets created in T2.2.2 will be non-sensitive, and will be published in Zenodo, and linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within T2.2.2 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None.*

WP2 Task 2.3 Dataset 1/2	
Task title	*T2.3 P-BE conversion of sun & CO_2 into CH_4* *T2.3.1 Development of efficient and stable bioelectrochemical cathode*
Dataset name	*Development of efficient and stable bioelectrochemical cathode*
Task & data manager	*LEITAT*
Other partners involved	*SIMTECH, UdG*
Dataset description	*T2.3.1 has the purpose to design and construct a double chambered BES reactor to produce biomethane from CO_2.* *Results of T2.3.1 will be reported in the following deliverables:*

	- D2.3: 2-chamber photo(bio)electrochemical reactors for CO_2 reduction to MeOH and CH_4 V1 (Report, M18). Partner responsible, LEITAT. Dissemination level: Sensitive (SEN). - D2.4: 2-chamber photo(bio)electrochemical reactors for CO_2 reduction to MeOH and CH_4 V2 (Report, M30). Partner responsible, LEITAT. Dissemination level: Sensitive (SEN). *Datasets will include information regarding: CO_2 dissolution in the catholyte; CO_2 into CH_4 conversion process efficiency, process parameters optimization, process energetic efficiency, electrochemical process characterization information, kinetic behaviour of electromethanogenic cathode.*
Availability	*Consortium: The T2.3.1 datasets will be available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *This T2.3.1 dataset will compose the deliverables D2.3 and D2.4 to be published in the EC Portal, with sensitive distribution level, only available for the ALGAESOL project consortium, with copies on the project SharePoint, following best practice standard of this trustful repository.*
Metadata	*Keywords: Electrometahnogenesis, CO_2 Conversion, Process Selectivity, Energy Efficiency*
Data sharing	*Preparatory data of T2.3.1 development will be stored on LEITAT's institutional repository and partly also on the project's SharePoint repository (maintained by NORCE).* *The electromethanogenic biocathode operational conditions specifications will be shared with the interested consortium members, complying with the dissemination level requirements.* *The use of outcomes of T2.3.1 for the ALGAESOL design and construction of a double chambered BES reactor to produce biomethane from CO_2, if requested by interested researchers and stakeholders, will be considered for distribution under the consent of ALGAESOL consortium, complying with the dissemination level requirements.*
Persistent identifier	*Not applicable for the T2.3.1 development Datasets.* *Resulting T2.3.1 published deliverables D2.3 and D2.4 will receive the EC identifiers for ALGAESOL deliverables with SEN dissemination level.*

	(If agreed with the consortium, non-sensitive versions of deliverables D2.3 and D2.4 can receive PIDs from Zenodo (DOI), where they can be registered as sensitive document, with restricted distribution of their full dataset.)
File formats	*Cathode design: .stl* *Experimental Data: .xlsx, .csv, .jpg, .rtf* *Internal Reports: .docx* *Deliverable Report: .pdf*
File scale	*< 500 MB of generated data (to be revised during project execution)*
Copyright & IP management	*The rights to electromethanogenic biocathode belong to LEITAT and UdG, according to the experimental activities undertaken during project execution. IPR protection for these will be worked out at advanced stages of the project exploitation stage. The rights to use the T2.3.1 results for ALGAESOL, applies as defined in the Grant Agreement of the project.* *Publications made using the datasets created in T2.3.1 will be non-sensitive, and will be published in Zenodo, and linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within T2.3.1 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None.*

WP2 Task 2.3 Dataset 2/2
Task title — *T2.3 P-BE conversion of sun & CO_2 into CH_4* *T2.3.2 Integration into an efficient light conversion device*
Dataset name — *Integration into an efficient light conversion device*

Task & data manager	*LEITAT*
Other partners involved	*SIMTECH, UdG*

Dataset description	*T2.3.2 has the purpose to integrate the resulting photoanodes from T2.1 with the resulting electromethanogenic biocathodes from T2.3.1 in a 2-chamber-photobioelectrochemical planar reactor (P-BE).*
	
	Results of T2.3.2 will be reported in the following deliverables:
	
	  - *D2.3 2-chamber photo(bio)electrochemical reactors for CO_2 reduction to MeOH and CH_4 V1 (Report, M18). Partner responsible, LEITAT. Dissemination level: Sensitive (SEN).*
	  - *D2.4 2-chamber photo(bio)electrochemical reactors for CO_2 reduction to MeOH and CH_4 V2 (Report, M30). Partner responsible, LEITAT. Dissemination level: Sensitive (SEN).*
	
	Datasets will include information regarding: oxidation reactions (substrates: water and organic matter); anode/biocathode surface ratio optimization; P-BE reactor design specifications; integrated process parameters optimization, process energetic efficiency, electrochemical process characterization information, kinetic behaviour of electromethanogenic cathode; P-BE reactor description; P-BE process performance under different operational conditions; identification of P-BE resulting products.

Availability	*Consortium: The T2.3.2 datasets will be available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *This T2.3.2 dataset will compose the deliverables D2.3 and D2.4 to be published in the EC Portal, with sensitive distribution level, only available for the ALGAESOL project consortium, with copies on the project SharePoint, following best practice standard of this trustful repository.*
Metadata	*Keywords: Electrometahnogenesis, CO_2 Conversion, Process Selectivity, Energy Efficiency, Integrated P-BE, Photoanode*
Data sharing	*Preparatory data of T2.3.2 development will be stored on LEITAT's institutional repository and partly also on the project's SharePoint repository (maintained by NORCE).*

	The integrated P-BE reaction for CO_2 reduction to CH_4 using a photoanode operational conditions specifications will be shared with the interested consortium members, complying with the dissemination level requirements. LEITAT will transfer relevant data to SIMTECH to incorporate into the simulation. The use of outcomes of T2.3.2 for developing ALGAESOL integrated P-BE reaction for CO_2 reduction to CH_4), if requested by interested researchers and stakeholders, will be considered for distribution under the consent of ALGAESOL consortium, complying with the dissemination level requirements.
Persistent identifier	Not applicable for the T2.3.2 development Datasets. Resulting T2.3.2 published deliverables D2.3 and D2.4 will receive the EC identifiers for ALGAESOL deliverables with SEN dissemination level. (If agreed with the consortium, non-sensitive versions of deliverables D2.3 and D2.4 can receive PIDs from Zenodo (DOI), where they can be registered as sensitive document, with restricted distribution of their full dataset.)
File formats	P-BE reactor design: .stl Experimental Data: .xlsx, .csv, .jpg, .rtf Internal Reports: .docx Deliverable Report: .pdf
File scale	< 500 MB of generated data (to be revised during project execution)
Copyright & IP management	The rights to integrated P-BE reaction for CO_2 reduction to CH_4 using a photoanode belong to LEITAT, according to the experimental activities undertaken during project execution. IPR protection for these will be worked out at advanced stages of the project exploitation stage. The rights to use the T2.3.2 results for ALGAESOL, applies as defined in the Grant Agreement of the project. Publications made using the datasets created in T2.3.2 will be non-sensitive, and will be published in Zenodo, and linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).
Ethical issues management	Personal data of the project members within T2.3.2 datasets (if any) is treated in accordance with the _EU GDPR legislation_ (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).

Additional data management procedures	None.

WP2 Tasks T2.2 & T2.3 Dataset 1/2

Task title	T2.2 P-EC conversion of sun & CO_2 into MeOH T2.3 P-BE conversion of sun & CO_2 into CH_4
Dataset name	*Deliverable D2.3 (2-chamber photo(bio)electrochemical reactors for CO_2 reduction to MeOH and CH_4 V1)*
Task & data manager	*LEITAT*
Other partners involved	*(SIMTECH, UdG) – partners involved in T2.2 and T2.3*
Dataset description	***General Description:*** *This dataset consists of the deliverable D2.3 ("2-chamber photo(bio)electrochemical reactors for CO_2 reduction to MeOH and CH_4 V1" - Type R - Document, Report, Dissemination level SEN - Sensitive, due to Month 18).* ***Scope of the collected Dataset:*** *D2.3 will report on the Summary of laboratory trials describing the design, development and performance of the reactor producing 40 g-MeOH/m2/day and 2 m3- CH_4/m3/day.* ***Main objectives & usage:*** *to produce the report about of the Version1 of the 2-chamber photo(bio)electrochemical reactors for CO_2 reduction to MeOH and CH_4. LEITAT is responsible for the quality assurance process of the definitions in tasks T2.2 and T2.3, including sub-tasks, and for the production of D2.3.* ***Main Types of*** *generated data in this D2.3 Dataset are textual including illustrations and tables.* ***Data Reuse****: This deliverable data will be needed as the input for the work in WP4, tasks T4.2 and T4.3 (to test the purification methods developed); and in WP5 (for the simulations).*
Availability	*Consortium – D2.3 has sensitive (SEN) dissemination level.*

Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *Deliverable D2.3, with sensitive distribution level, is only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.*
Metadata	***Keywords:*** *ALGAESOL, CO_2 Reduction Reaction; Production Rate, Selectivity, Energy Efficiency, Process Integration*
Data sharing	*Preparatory data of D2.3 development is stored on LEITAT's institutional repository, and partly also on the project's SharePoint repository (maintained by NORCE).* *Deliverable D2.3 (SEN) will be available in M18 for the ALGAESOL project consortium consultation within the project SharePoint repository in the EC Portal.* *Deliverable D2.3 has sensitive (SEN) dissemination level. However, whenever it is distributed with consent of the ALGAESOL Consortium, its reuse can be allowed under a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated.* https://creativecommons.org/licenses/by/4.0/
Persistent identifier	*D2.3 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.* *(If agreed with the consortium, a non-sensitive version of the deliverable D2.3 can receive a PID from Zenodo (DOI), where it can be registered as sensitive document, with restricted distribution of its full dataset.)*
File formats	***Data / File Formats:*** *.pdf*
File scale	*500 MB (max)*
Copyright & IP management	*The rights to D2.3 SEN deliverable belong to the ALGAESOL project, with IP management of its reported development as defined in the Grant Agreement of the project.* *Future publications using results from D2.3, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (*https://creativecommons.org/about/cclicenses/*).*
Ethical issues	*Personal data of the project members within D2.3 datasets (if any) is treated in accordance with the* EU GDPR legislation *(EU Regulation 2016/679 GDPR).*

management	(https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).
Additional data management procedures	*None*

WP2 Tasks T2.2 & T2.3 Dataset 2/2	
Task title	*T2.2 P-EC conversion of sun & CO_2 into MeOH* *T2.3 P-BE conversion of sun & CO_2 into CH_4*
Dataset name	*Deliverable D2.4 (2-chamber photo(bio)electrochemical reactors for CO_2 reduction to MeOH and CH_4 V2)*
Task & data manager	*LEITAT*
Other partners involved	*(SIMTECH, UdG) – partner involved in T2.2 and in T2.3*
Dataset description	***General Description:*** *This dataset consists of the deliverable D2.4 ("2-chamber photo(bio)electrochemical reactors for CO_2 reduction to MeOH and CH_4 V2" - Type R - Document, Report, Dissemination level SEN - Sensitive, due to Month 30).* ***Scope of the collected Dataset:*** *D2.4 will report on the Summary of laboratory trials describing the design, development and performance of the reactor producing 40 g-MeOH/m2/day and 2 m3- CH_4/m3/day.* ***Main objectives & usage:*** *to produce the report about of the Version2 of the 2-chamber photo(bio)electrochemical reactors for CO_2 reduction to MeOH and CH_4. LEITAT is responsible for the quality assurance process of the definitions in tasks T2.2 and T2.3, including sub-tasks, and for the production of D2.4.* ***Main Types of*** *generated data in this D2.4 Dataset are textual including illustrations and tables.*

	Data Reuse: *This deliverable data will be needed as the input for the work in WP4, tasks T4.2 and T4.3 (to test the purification methods developed); and in WP5 (for the simulations).*
Availability	*Consortium – D2.4 has sensitive (SEN) dissemination level.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *Deliverable D2.4, with sensitive distribution level, is only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.*
Metadata	*Keywords: ALGAESOL, CO_2 Reduction Reaction; Production Rate, Selectivity, Energy Efficiency, Process Integration*
Data sharing	*Preparatory data of D2.4 development is stored on LEITAT's institutional repository, and partly also on the project's SharePoint repository (maintained by NORCE).* *Deliverable D2.4 (SEN) will be available in M30 for the ALGAESOL project consortium consultation within the project SharePoint repository in the EC Portal.* *Deliverable D2.4 has sensitive (SEN) dissemination level. However, whenever it is distributed with consent of the ALGAESOL Consortium, its reuse can be allowed under a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated.* https://creativecommons.org/licenses/by/4.0/
Persistent identifier	*D2.4 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.* *(If agreed with the consortium, a non-sensitive version of the deliverable D2.4 can receive a PID from Zenodo (DOI), where it can be registered as sensitive document, with restricted distribution of its full dataset.)*
File formats	*Data / File Formats: .pdf*
File scale	*500 MB (max)*
Copyright & IP management	*The rights to D2.4 SEN deliverable belong to the ALGAESOL project, with IP management of its reported development as defined in the Grant Agreement of the project.*

	Future publications using results from D2.4, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).
Ethical issues management	*Personal data of the project members within D2.4 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

WP2 Task 2.4 Dataset 1/2	
Task title	*T2.4 AD+BES for zero waste approach and circularity*
Dataset name	*Recovering high-purity biogas from residual organic streams*
Task & data manager	*LEITAT*
Other partners involved	*SIMTECH*
Dataset description	*T2.4 has the purpose to develop a technology, based on the incorporation of bioelectrodes in an anaerobic digestion, to recover high-purity biogas from residual organic streams of the process developed in T2.3, T3.3 and T3.4* *Results of T2.4 will be reported in the following deliverable:* - *D2.5 AD+BES process for residual biomass valorisation (Report, M32). Partner responsible, LEITAT. Dissemination level: Public (PU).* *Datasets will include information regarding: AD+BES process performance for CH_4 production; AD+BES reactor specifications; AD+BES inoculation and start-up process; physicochemical characterization of the liquid residual streams; biogas composition; relevant information for process modelling.*

Availability	*Consortium - The T2.4 preparation dataset will be available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).* *Public - The final version of the deliverable D2.5 has Public (PU) dissemination level. It will be published in Zenodo, and linked within the ALGAESOL Open access Zenodo Community, under a Creative Commons Attribution 4.0 International License.* *https://creativecommons.org/licenses/by/4.0/*
Data handling standards	*The EC encourages Horizon Europe project results to be publicly available and shared via trusted repositories. The use of outcomes of T2.4 for developing ALGAESOL AD+BES for zero waste and biomethane recovery, will be publicly described and made available for interested stakeholders, via the project website, and via Zenodo (https://zenodo.org/), within the dedicated community for the ALGAESOL project, which will be followed as best practice standard.* *No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.*
Metadata	*Keywords: ALGAESOL, AD+BES; Zero Waste; Residual Organic Streams; Biomethane*
Data sharing	*Preparatory data of T2.4 development will be stored on LEITAT's institutional repository and partly also on the project's SharePoint repository (maintained by NORCE).* *The AD+BES for zero waste and biomethane recovery specifications will be shared with the interested consortium members, complying with the dissemination level requirements. LEITAT will transfer relevant data to SIMTECH to incorporate into the simulation tools.* *Deliverable D2.5 data will be made public in M32 on Zenodo.*
Persistent identifier	*The outcomes of T2.4 will produce the final version of D2.5, which is a public deliverable. D2.5 will receive a PID from Zenodo (DOI).*
File formats	*AD+BES reactor design: .stl* *Experimental Data: .xlsx, .csv, .jpg, .rtf* *Internal Reports: .docx* *Deliverable Report: .pdf*

File scale	*< 500 MB of generated data (to be revised during project execution)*
Copyright & IP management	*The rights to AD+BES for zero waste and biomethane recovery belong to LEITAT, according to the experimental activities undertaken during project execution. IPR protection for these will be worked out at advanced stages of the project exploitation stage.* *Publications made using the datasets created in T2.4 will be published in Zenodo, and linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme.*
Ethical issues management	*Personal data of the project members within T2.4 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None.*

WP2 Task T2.4 Dataset 2/2	
Task title	*T2.4 AD+BES for zero waste approach and circularity*
Dataset name	*Deliverable D2.5 (AD+BES process for residual biomass valorisation)*
Task & data manager	*LEITAT*
Other partners involved	*(SIMTECH) – partner involved in T2.4*
Dataset description	*General Description: This dataset consists of the deliverable D2.5 ("AD+BES process for residual biomass valorisation" - Type R - Document, Report, Dissemination level PU - Public, due to Month 32).* *Scope of the collected Dataset: D2.5 will report on the Summary of laboratory trials, including design, development and performance targeting to recover 250L-CH$_4$/kg-VS.*

	Main objectives & usage: to produce the report about the AD+BES process for residual biomass valorisation. LEITAT is responsible for the quality assurance process of the definitions in task T2.4, and for the production of D2.5. ***Main Types of*** generated data in this D2.5 Dataset are textual including illustrations and tables. ***Data Reuse***: This deliverable data will be needed as the input for the work in WP4, tasks T4.2 and T4.3 (to test the purification methods developed); and in WP5 (for the simulations).
Availability	*Public – D2.5 has public (PU) dissemination level.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *The publication of the D2.5 as public deliverable in Zenodo (https://zenodo.org/), via the dedicated community for the ALGAESOL project, will follow the repositories' best practice standards.*
Metadata	*Zenodo assigns metadata in accordance with Open Science rules.* ***Keywords:*** *ALGAESOL, AD+BES; Zero Waste; Residual Organic Streams; Biomethane*
Data sharing	*Preparatory data of D2.5 development is stored on LEITAT's institutional repository, and partly also on the project's SharePoint repository (maintained by NORCE).* *Deliverable D2.5 (PU) data will be made public in M32 on Zenodo. Open-source tools can be used to access and use the data files in this dataset (e.g.: Libreoffice, OpenOffice, etc.).* *D2.5 distribution and reuse will be regulated by a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated.*
Persistent identifier	*D2.5 will receive a PID from Zenodo (DOI)*
File formats	***Data / File Formats:*** *.pdf*
File scale	*500 MB (max)*

Copyright & IP management	*The rights to D2.5 belong to the ALGAESOL project partners jointly.* *A CC-BY license will be assigned to the deliverable and will be indicated in the metadata of the data via Zenodo. Metadata will have a CC0 license.* *Future publications using results from D2.5, will be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within D2.5 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

4.3. Data-Tables WP3

WP3 Task 3.1 Dataset 1/2	
Task title	*T3.1 Microalgae strain optimization*
Dataset name	*Data on optimised strain*
Task & data manager	*NORCE*
Other partners involved	*-*
Dataset description	*Task T3.1 works with Data on strain performance of optimised strain(s) compared to wild-type in terms of growth rate, lipid content and fatty acid profile.* *Optimised strains will be generated through mutagenesis processes and selection (from agar plates/wells plates) using among others flow cytometery and/or fluorescence spectroscopy.* *Data will come from offline and online measurements from lab-scale cultivation (plates – erlenmeyers – small photobioreactors (up to 25L)) of the various strains:* *- Growth conditions (pH, T, light intensity, reactor description)* *- Growth data (cell counts, flow cytometry, optical density, dry weight)* *- Lipid content and fatty acid prolife* *Similar data exist for the wild-type strain, and will be used to compare current experimental data with new ones, both for the wild-type and the newly selected and optimised strains.* *Results of T3.1 will be reported in the D3.1 "Best 3 C. sorokiniana strains with improved lipid productivity" (Report, M21). Partner responsible, NORCE. Dissemination level: Public (PU).*
Availability	*Consortium - The T3.1 preparation dataset will be available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).* *Public - Deliverable 3.1 has a Public dissemination level.*

	It will be published in Zenodo, and linked within the ALGAESOL Open access Zenodo Community, under a Creative Commons Attribution 4.0 International License. https://creativecommons.org/licenses/by/4.0/
Data handling standards	*The EC encourages Horizon Europe project results to be publicly available and shared via trusted repositories. The use of outcomes of T3.1 on ALGAESOL Microalgae strain optimization, will be publicly described and made available for interested stakeholders, via the project website, and via Zenodo (https://zenodo.org/), within the dedicated community for the ALGAESOL project, which will be followed as best practice standard.* *No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.*
Metadata	*The following standard will be used for description of metadata: Minimum Information Standard for Engineered Organism Experiments (MIEO — The Joint Initiative for Metrology in Biology (stanford.edu)).* *Keywords: ALGAESOL, Microalgae, Strain Number, Wild Type Culture Collection Number, Lipid Content, Fatty Acid Content, Growth Rate*
Data sharing	*Preparatory data of T3.1 development will be stored on the project's SharePoint repository (maintained by NORCE).* *The use of outcomes of T3.1 will be publicly described and made available for interested stakeholders via the project website in Deliverable D3.1.* *T3.1 data will be shared on Zenodo, as soon as its report is public.* *Deliverable D3.1 will be published in M21.* *Data will be shared in XLSX, CSV and pdf and should not need specific software that isn't publicly available.* *Results of the work done in T3.1 will also have a peer-reviewed publication under open-access, and a link to this publication and related data will be openly published in Zenodo, upon publication of the peer-reviewed paper.*
Persistent identifier	*The dataset of T3.1 will produce the final version of D3.1, which is a public deliverable. The data will be assigned a persistent identifier, as D3.1 will receive a PID from Zenodo (DOI).*
File formats	*.xlsx, .csv, .pdf*
File scale	*Small scale (within GB) of generated data*

Copyright & IP management	*The rights to the dataset of T3.1, belong to the partners jointly. IP protection for this data follows the plan of the Grant Agreement. CC-BY license applies.* *T3.1 does not re-use data, unless comparing to publicly available data.* *Publications made using the datasets created in T3.1 will be published in Zenodo, and linked to the ALGAESOL Open access Zenodo Community, assigned to the [CC-BY license scheme](#).*
Ethical issues management	*There are no potential ethical or legal issues. Personal data of the project members within T3.1 datasets (if any) is treated in accordance with the [EU GDPR legislation](#) (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None.* *(We are not following other data management procedures than those of Horizon Europe.)*

WP3 Task T3.1 Dataset 2/2
Task title   *T3.1 Microalgae strain optimization*

Task title	*T3.1 Microalgae strain optimization*
Dataset name	*Deliverable D3.1 (Best 3 C. sorokiniana strains with improved lipid productivity)*
Task & data manager	*NORCE*
Other partners involved	*-*
Dataset description	***General Description:*** *This dataset consists of the deliverable D3.1 "Best 3 C. sorokiniana strains with improved lipid productivity" - Type R - Document, Report, Dissemination level PU - Public, due to Month 21.* ***Scope of the collected Dataset:*** *D3.1 will report on the 3 high lipid-producing strains of C. sorokiniana and strategy to increase their lipid productivity by 75%.*

	Main objectives & usage: to produce the report about the Microalgae strain optimization. NORCE is responsible for the quality assurance process of the definitions in task T3.1, and for the production of D3.1. *Main Types of* generated data in this D3.1 Dataset are textual including illustrations and tables. *Data Reuse*: This deliverable data will be needed as the input for the work in WP3, tasks T3.2 and T3.3.
Availability	*Public – D3.1 has public (PU) dissemination level.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *The publication of D3.1 as public deliverable in Zenodo (https://zenodo.org/), via the dedicated community for the ALGAESOL project, will follow the repositories' best practice standards.*
Metadata	*Zenodo assigns metadata in accordance with Open Science rules.* *The following standard will be used for description of metadata in D3.1: Minimum Information Standard for Engineered Organism Experiments (MIEO — The Joint Initiative for Metrology in Biology (stanford.edu)).* ***Keywords:*** *ALGAESOL, Microalgae, Strain Number, Wild Type Culture Collection Number, Lipid Content, Fatty Acid Content, Growth Rate*
Data sharing	*Preparatory data of D3.1 development will be stored on the project's SharePoint repository (maintained by NORCE).* *Deliverable D3.1 (PU) data will be made public in M21 on Zenodo. Open-source tools can be used to access and use the data files in this dataset (e.g.: Libreoffice, OpenOffice, etc.).* *D3.1 distribution and reuse will be regulated by a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated.*
Persistent identifier	*D3.1 will receive a PID from Zenodo (DOI)*
File formats	***Data / File Format:*** *.pdf*
File scale	*1 MB (max)*

Copyright & IP management	*The rights to D3.1 belong to the ALGAESOL project partners jointly.* *A CC-BY license will be assigned to the deliverable and will be indicated in the metadata of the data via Zenodo. Metadata will have a CC0 license.* *Future publications using results from D3.1, will be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*There are no potential ethical or legal issues involved. Personal data of the project members within D3.1 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

WP3 Task 3.2 Dataset 1/3	
Task title	*T3.2 Microbial contamination control strategies*
Dataset name	*Data of the microbial contamination strategies*
Task & data manager	*DTI*
Other partners involved	*NORCE, LEITAT, UdG*
Dataset description	*The objective of task T3.2 is to develop strategies for the control of microbial contamination in C. sorokiniana closed production systems.* *Data will be generated from experimental investigations from DTI labs. The following sets of data are expected:* *• Data on sample analysis for the presence of potential contamination* *• Experimental data on control and reduction of microbial contamination*

	• *Protocols on strategies how to quantify and control the contamination in cultures*
	Results of T3.2 will be reported in the deliverables:
	• *D3.2 "Microbial contamination control strategies - V1" (Report, M12). Partner responsible, DTI. Dissemination level: Public (PU).*
	• *D3.3 "Microbial contamination control strategies – V2" (Report, M21). Partner responsible, DTI. Dissemination level: Public (PU).*
Availability	*Consortium - The T3.2 preparation dataset will be available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).*
	Public - Deliverables D3.2 and D3.3 have Public dissemination level.
	They will be published in [Zenodo](#), and linked within the ALGAESOL Open access Zenodo Community, under a Creative Commons Attribution 4.0 International License. https://creativecommons.org/licenses/by/4.0/
Data handling standards	*The EC encourages Horizon Europe project results to be publicly available and shared via trusted repositories. The use of outcomes of T3.2 on ALGAESOL Microbial contamination control strategies, will be publicly described and made available for interested stakeholders, via the project website, and via Zenodo (https://zenodo.org/), within the dedicated community for the ALGAESOL project, which will be followed as best practice standard.*
	No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.
Metadata	*Keywords: ALGAESOL, Microbial Contamination, Contamination Control Strategy, Biofuel*
Data sharing	*Preparatory data of T3.2 development will be stored on the project's SharePoint repository (maintained by NORCE).*
	The use of outcomes of T3.2 will be publicly described and made available for interested stakeholders via the project website in Deliverables D3.2 & D3.3, and T3.2 data will be shared on [Zenodo](#), as soon as D3.2 report is published in M12, and further updated within D3.3 in M21.
	The final version of the public deliverables D3.2 and D3.3 will also be available on the DTI institute web page: https://www.dti.dk/projects/algaesol/46208.

Persistent identifier	*The dataset of T3.2 will produce the deliverables D3.2 & D3.3, which are public deliverables. The data will be assigned persistent identifiers, as D3.2 and D3.3 will receive a PID from Zenodo (DOI).*
File formats	*.xlsx, .pdf*
File scale	*< 200 MB of generated data (to be revised during project execution)*
Copyright & IP management	*The rights to the created dataset of T3.2, belong to the partners jointly. IP protection for this data follows the plan of the Grant Agreement.* *Publications and reports made using the datasets generated at DTI for T3.2, will be open access, available at DTI repository, and published in Zenodo, and linked to the ALGAESOL Open access Zenodo Community, assigned to the [CC-BY license scheme](#).*
Ethical issues management	*Personal data of the project members within T3.2 datasets (if any) is treated in accordance with the [EU GDPR legislation](#) (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None.*

WP3 Task T3.2 Dataset 2/3	
Task title	*T3.2 Microbial contamination control strategies*
Dataset name	*Deliverable D3.2 (Microbial contamination control strategies - V1)*
Task & data manager	*DTI*
Other partners involved	*(NORCE, LEITAT, UdG) – partners involved in T3.2*

Dataset description	*General Description:* This dataset consists of the deliverable D3.2 "Microbial contamination control strategies - V1" - Type R - Document, Report, Dissemination level PU - Public, due to Month 12. *Scope of the collected Dataset:* D3.2 will report on the Strategies for controlling common microbial contaminations in C. sorokiniana in a closed production system. *Main objectives & usage:* to produce the version1 of the report about the Microbial contamination control strategies. DTI is responsible for the quality assurance process of the definitions in task T3.2, and for the production of D3.2. *Main Types of* generated data in this D3.2 Dataset are textual including illustrations and tables. *Data Reuse:* This deliverable data will be needed for the work in WP2, and WP4.
Availability	*Public – D3.2 has public (PU) dissemination level.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *The publication of D3.2 as public deliverable in Zenodo (https://zenodo.org/), via the dedicated community for the ALGAESOL project, will follow the repositories' best practice standards.*
Metadata	*Zenodo assigns metadata in accordance with Open Science rules.* *Keywords:* ALGAESOL, Microbial Contamination, Contamination Control Strategy, Biofuel
Data sharing	*Preparatory data of D3.2 development will be stored on the project's SharePoint repository (maintained by NORCE).* *Deliverable D3.2 (PU) data will be made public in M12 on Zenodo. Open-source tools can be used to access and use the data files in this dataset (e.g.: Libreoffice, OpenOffice, etc.).* *D3.2 distribution and reuse will be regulated by a [Creative Commons Attribution 4.0 International License](#), provided that appropriate credit is given, and any changes are indicated.*
Persistent identifier	*D3.2 will receive a PID from Zenodo (DOI)*

File formats	***Data / File Format:*** *.pdf*
File scale	*< 200 MB of generated data (to be revised during project execution)*
Copyright & IP management	*The rights to D3.2 belong to the ALGAESOL project partners jointly.* *A CC-BY license will be assigned to the deliverable and will be indicated in the metadata of the data via Zenodo. Metadata will have a CC0 license.* *Future publications using results from D3.2, will be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within D3.2 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

WP3 Task T3.2 Dataset 3/3

Task title	*T3.2 Microbial contamination control strategies*
Dataset name	*Deliverable D3.3 (Microbial contamination control strategies – V2)*
Task & data manager	*DTI*
Other partners involved	*(NORCE, LEITAT, UdG) – partners involved in T3.2*
Dataset description	***General Description:*** *This dataset consists of the deliverable D3.3 "Microbial contamination control strategies – V2" - Type R - Document, Report, Dissemination level PU - Public, due to Month 21.*

	Scope of the collected Dataset: D3.3 will report on the Strategies for controlling common microbial contaminations in C. sorokiniana in a closed production system. *Main objectives & usage*: to produce the version2 of the report about the Microbial contamination control strategies. DTI is responsible for the quality assurance process of the definitions in task T3.2, and for the production of D3.3. *Main Types of* generated data in this D3.3 Dataset are textual including illustrations and tables. *Data Reuse*: This deliverable data will be needed for the work in WP2, and WP4.
Availability	*Public – D3.3 has public (PU) dissemination level.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *The publication of D3.3 as public deliverable in Zenodo (https://zenodo.org/), via the dedicated community for the ALGAESOL project, will follow the repositories' best practice standards.*
Metadata	*Zenodo assigns metadata in accordance with Open Science rules.* *Keywords:* ALGAESOL, Microbial Contamination, Contamination Control Strategy, Biofuel
Data sharing	*Preparatory data of D3.3 development will be stored on the project's SharePoint repository (maintained by NORCE).* *Deliverable D3.3 (PU) data will be made public in M21 on Zenodo. Open-source tools can be used to access and use the data files in this dataset.* *D3.3 distribution and reuse will be regulated by a [Creative Commons Attribution 4.0 International License](), provided that appropriate credit is given, and any changes are indicated.*
Persistent identifier	*D3.3 will receive a PID from Zenodo (DOI)*
File formats	*Data / File Format: .pdf*
File scale	*< 200 MB of generated data (to be revised during project execution)*

Copyright & IP management	*The rights to D3.3 belong to the ALGAESOL project partners jointly.* *A CC-BY license will be assigned to the deliverable and will be indicated in the metadata of the data via Zenodo. Metadata will have a CC0 license.* *Future publications using results from D3.3, will be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within D3.3 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

WP3 Task 3.3 Dataset 1/3

Task title	*T3.3 BES - microalgae production process optimisation taking profit of light management* *T3.3 Sub-Tasks:* *T3.3.1 BES-microalgae* *T3.3.2 Integration into a highly efficient system powered by sunlight*
Dataset name	*Data of the P-BE-MA system*
Task & data manager	*UdG*
Other partners involved	*LEITAT, NORCE, SIMTECH*
Dataset description	*Task 3.3 has the objective to develop, optimize and implement a system combining light harvesting photoanode coupled with bioelectrochemical cathode for microalgae lipid production (P-BE-MA).*

	Data comes from the experimental study carried out at the UdG's labs. The following sets of data are expected: - *Data on the operation of the bioelectrochemical systems (BE) for CO_2 conversion into acetate.* - *Data on the performance of the microalgae reactor (MA) using the optimised heterotrophic microalgae strain provided by NORCE using as combined feedstock (CO_2 and the effluent of the BE).* - *Data on the integration of the photoanodes (P) developed in T2.1 by LEITAT into the P-BE-MA system.* *The dataset of this task will be further used in WPs 4-6.* *Results of task T3.3 will be reported in Deliverables 3.4 and 3.5:* - *D3.4 "P-BE-MA reactor - V1" (Report, M18). Partner responsible, UdG. Dissemination level: Public (PU).* - *D3.5 "P-BE-MA reactor – V2" (Report, M30). Partner responsible, UdG. Dissemination level: Public (PU).*
Availability	*Consortium - The T3.3 preparation dataset will be available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).* *Public - Deliverables 3.4 and D3.4 have Public dissemination level.* *They will be published in Zenodo, and linked within the ALGAESOL Open access Zenodo Community, under a Creative Commons Attribution 4.0 International License. https://creativecommons.org/licenses/by/4.0/*
Data handling standards	*The EC encourages Horizon Europe project results to be publicly available and shared via trusted repositories. The use of outcomes of T3.3 on ALGAESOL BES microalgae production process optimisation taking profit of light management, will be publicly described and made available for interested stakeholders via the project website, via publication in the UdG's repository (CORA.RDR; https://dataverse.csuc.cat/dataverse/UdG), and via Zenodo (https://zenodo.org/), within the dedicated community for the ALGAESOL project, which will be followed as best practice standard.* *No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.*
Metadata	*Keywords: ALGAESOL, bioelectrochemical systems, microalgae, CO2-to-X, Sun-to-X.*
Data sharing	*Preparatory data of T3.3 development will be stored on the project's SharePoint repository (maintained by NORCE).*

	The use of outcomes of T3.3 will be publicly described and made available for interested stakeholders via the project website, via publication in Deliverables D3.4 and D3.5, and T3.3 data will be shared on [Zenodo](#), as soon as D3.4 report is published in M18, and further updated with D3.5 in M30. *The final versions of deliverables D3.4 and D3.5 (PU) will also be available on UdG's repository (CORA.RDR https://dataverse.csuc.cat/dataverse/UdG).*
Persistent identifier	*The dataset of T3.2 will produce deliverables D3.4 and D3.5, which are public deliverables. The data will be assigned a persistent identifier, as D3.4 and D3.5 will receive PID from Zenodo (DOI). The final version of the public deliverables D3.4 and D3.5 will also receive a PID from UdG's repository (CORA.RDR; https://dataverse.csuc.cat/dataverse/UdG).*
File formats	*.xlsx, .pdf*
File scale	*Max. 200 MB of generated data*
Copyright & IP management	*The rights to the created dataset of T3.3, belong to the partners jointly. IP protection for this data follows the plan of the Grant Agreement.* *Publications made using the datasets created in T3.3 will be open-access, published in UdG's repository, and published in Zenodo, and linked to the ALGAESOL Open access Zenodo Community, assigned to the [CC-BY license scheme](#).*
Ethical issues management	*Personal data of the project members within T3.3 datasets (if any) is treated in accordance with the [EU GDPR legislation](#) (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None.*

WP3 Task T3.3 Dataset 2/3

Task title	*T3.3 BES - microalgae production process optimisation taking profit of light management (Sub-Tasks: T3.3.1 BES-microalgae; T3.3.2 Integration into a highly efficient system powered by sunlight)*

Dataset name	*Deliverable D3.4 (P-BE-MA reactor - V1)*
Task & data manager	*UdG*
Other partners involved	*(LEITAT, NORCE, SIMTECH) – partners involved in T3.3*
Dataset description	*General Description: This dataset consists of the deliverable D3.4 "P-BE-MA reactor - V1" - Type R - Document, Report, Dissemination level PU - Public, due to Month 18.* *Scope of the collected Dataset: D3.4 will report on the Summary of design, development and performance trials targeting 20 g/m2/day.* *Main objectives & usage: to produce the version1 of the report about the ALGAESOL BES microalgae production process optimisation taking profit of light management. UdG is responsible for the quality assurance process of the definitions in task T3.3, and for the production of D3.4.* *Main Types of generated data in this D3.4 Dataset are textual including illustrations and tables.* *Data Reuse: This deliverable data will be needed for the work in WP4, WP5 and WP6.*
Availability	*Public – D3.4 has public (PU) dissemination level.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *The publication of D3.4 as public deliverable in Zenodo (https://zenodo.org/), via the dedicated community for the ALGAESOL project, will follow the repositories' best practice standards.*
Metadata	*Zenodo assigns metadata in accordance with Open Science rules.* *Keywords: ALGAESOL, bioelectrochemical systems, microalgae, CO2-to-X, Sun-to-X.*
Data sharing	*Preparatory data of D3.4 development will be stored on the project's SharePoint repository (maintained by NORCE).* *Deliverable D3.4 (PU) data will be made public in M18 on Zenodo. Open-source tools can be used to access and use the data files in this dataset (e.g.: Libreoffice, OpenOffice, etc.).*

	D3.4 will also be available on the UdG's repository (CORA.RDR https://dataverse.csuc.cat/dataverse/UdG). D3.4 distribution and reuse will be regulated by a [Creative Commons Attribution 4.0 International License](#), provided that appropriate credit is given, and any changes are indicated.
Persistent identifier	D3.4 will receive a PID from Zenodo (DOI)
File formats	***Data / File Format:*** *.pdf*
File scale	Max. 200 MB
Copyright & IP management	The rights to D3.4 belong to the ALGAESOL project partners jointly. A CC-BY license will be assigned to the deliverable and will be indicated in the metadata of the data via Zenodo. Metadata will have a CC0 license. Future publications using results from D3.4, will be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).
Ethical issues management	Personal data of the project members within D3.4 datasets (if any) is treated in accordance with the [EU GDPR legislation](#) (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).
Additional data management procedures	None

WP3 Task T3.3 Dataset 3/3
Task title — T3.3 BES - microalgae production process optimisation taking profit of light management (Sub-Tasks: T3.3.1 BES-microalgae; T3.3.2 Integration into a highly efficient system powered by sunlight)
Dataset name — Deliverable D3.5 (P-BE-MA reactor – V2)

Task & data manager	*UdG*
Other partners involved	*(LEITAT, NORCE, SIMTECH) – partners involved in T3.3*
Dataset description	***General Description:*** *This dataset consists of the deliverable D3.5 "P-BE-MA reactor – V2" - Type R - Document, Report, Dissemination level PU - Public, due to Month 30.* ***Scope of the collected Dataset:*** *D3.5 will report on the Summary of design, development and performance trials targeting 20 g/m2/day.* ***Main objectives & usage:*** *to produce the version2 of the report about the ALGAESOL BES microalgae production process optimisation taking profit of light management. UdG is responsible for the quality assurance process of the definitions in task T3.3, and for the production of D3.5.* ***Main Types of*** *generated data in this D3.5 Dataset are textual including illustrations and tables.* ***Data Reuse****: This deliverable data will be needed for the work in WP4, WP5 and WP6.*
Availability	*Public – D3.5 has public (PU) dissemination level.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *The publication of D3.5 as public deliverable in Zenodo (https://zenodo.org/), via the dedicated community for the ALGAESOL project, will follow the repositories' best practice standards.*
Metadata	*Zenodo assigns metadata in accordance with Open Science rules.* ***Keywords:*** *ALGAESOL, bioelectrochemical systems, microalgae, CO2-to-X, Sun-to-X.*
Data sharing	*Preparatory data of D3.5 development will be stored on the project's SharePoint repository (maintained by NORCE).* *Deliverable D3.5 (PU) data will be made public in M30 on Zenodo. Open-source tools can be used to access and use the data files in this dataset (e.g.: Libreoffice, OpenOffice, etc.).* *D3.5 will also be available on the UdG's repository (CORA.RDR https://dataverse.csuc.cat/dataverse/UdG).*

	D3.5 distribution and reuse will be regulated by a *Creative Commons Attribution 4.0 International License*, provided that appropriate credit is given, and any changes are indicated.
Persistent identifier	*D3.5 will receive a PID from Zenodo (DOI)*
File formats	***Data / File Format:*** *.pdf*
File scale	*Max. 200 MB*
Copyright & IP management	*The rights to D3.5 belong to the ALGAESOL project partners jointly.* *A CC-BY license will be assigned to the deliverable and will be indicated in the metadata of the data via Zenodo. Metadata will have a CC0 license.* *Future publications using results from D3.5, will be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within D3.5 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

WP3 Task 3.4 Dataset 1/2
Task title	*T3.4 Harvesting and lipid extraction of microalgal biomass*
Dataset name	*Harvesting and lipid extraction of microalgae biomass*
Task & data manager	*LEITAT*

Other partners involved	*UdG*
Dataset description	*Task 3.4 aims to optimize microalgae harvesting using membrane filtration and improve lipid extraction. LEITAT will focus on enhancing membrane performance, testing various extraction techniques, and selecting the optimal method based on lipid yield. The remaining biomass will be repurposed for other processes.* *Data comes from the experimental study carried out at the LEITAT labs. The following sets of data are expected:* *- Data on the harvesting of microalgae.* *- Data on microalgae lipid extraction.* *Results of this task will be reported in Deliverable 3.6 "Optimised microalgal harvesting and lipid extraction" (Report, M32). Partner responsible, LEITAT. Dissemination level: Public (PU).*
Availability	*Consortium - The T3.4 preparation dataset will be available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).* *Public - The final version of the deliverable D3.6 has Public (PU) dissemination level. It will be published in [Zenodo](), and linked within the ALGAESOL Open access Zenodo Community, under a Creative Commons Attribution 4.0 International License.* *https://creativecommons.org/licenses/by/4.0/*
Data handling standards	*The EC encourages Horizon Europe project results to be publicly available and shared via trusted repositories. The use of outcomes of T3.4 will be publicly described and made available for interested stakeholders via the project website, and via Zenodo (https://zenodo.org/), within the dedicated community for the ALGAESOL project, which will be followed as best practice standard.* *No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.*
Metadata	*Keywords: ALGAESOL, Microalgae, Harvesting, Microalgae Oil, Extraction, Membrane.*
Data sharing	*Preparatory data of T3.4 development will be stored on LEITAT's institutional repository and partly also on the project's SharePoint repository (maintained by NORCE).*

	The protocol for lipid extraction will be shared with the interested consortium members, complying with the dissemination level requirements. *Deliverable D3.6 data will be made public in M32 on [Zenodo](#).*
Persistent identifier	*The outcomes of T3.4 will produce the final version of D3.6, which is a public deliverable. D3.6 will receive a PID from Zenodo (DOI).*
File formats	*Experimental Data: .xlsx, .csv, .jpg* *Internal Reports: .docx .pdf* *Deliverable Report: .pdf*
File scale	*< 500 MB of generated data (to be revised during project execution)*
Copyright & IP management	*The rights to the created data belong to the partners jointly. IP protection for this data follows the plan of the Grant Agreement.* *Publications and reports made using data generated at LEITAT for T3.4 will be open access and available at LEITAT repository, and published in Zenodo, and linked to the ALGAESOL Open access Zenodo Community, assigned to the [CC-BY license scheme](#).*
Ethical issues management	*Personal data of the project members within T3.4 datasets (if any) is treated in accordance with the [EU GDPR legislation](#) (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None.*

WP3 Task T3.4 Dataset 2/2	
Task title	*T3.4 Harvesting and lipid extraction of microalgal biomass*
Dataset name	*Deliverable D3.6 (Optimised microalgal harvesting and lipid extraction)*

Task & data manager	*LEITAT*
Other partners involved	*(UdG) – partner involved in T3.4*
Dataset description	*General Description: This dataset consists of the deliverable D3.6 ("Optimised microalgal harvesting and lipid extraction" - Type R - Document, Report, Dissemination level PU - Public, due to Month 32).* *Scope of the collected Dataset: D3.6 will report on the Optimised protocols with 60% reduced energy demand and at least 70% extraction of the lipid content.* *Main objectives & usage: to produce the report about the Harvesting and lipid extraction of microalgal biomass. LEITAT is responsible for the quality assurance process of the definitions in T3.4, and for the production of D3.6.* *Main Types of generated data in this D3.6 Dataset are textual including illustrations and tables.* *Data Reuse: This deliverable data will be needed as the input for the work in WP2 task T2.4; and WP4 task T4.1.*
Availability	*Public – D3.6 has public (PU) dissemination level.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *The publication of the D3.6 as public deliverable in Zenodo (https://zenodo.org/), via the dedicated community for the ALGAESOL project, will follow the repositories' best practice standards.*
Metadata	*Zenodo assigns metadata in accordance with Open Science rules.* *Keywords: ALGAESOL, Microalgae, Harvesting, Microalgae Oil, Extraction, Membrane.*
Data sharing	*Preparatory data of D3.6 development is stored on LEITAT's institutional repository, and partly also on the project's SharePoint repository (maintained by NORCE).* *Deliverable D3.6 (PU) data will be made public in M32 on Zenodo. Open-source tools can be used to access and use the data files in this dataset (e.g.: Libreoffice, OpenOffice, etc.).*

	D3.6 distribution and reuse will be regulated by a *Creative Commons Attribution 4.0 International License*, provided that appropriate credit is given, and any changes are indicated.
Persistent identifier	*D3.6 will receive a PID from Zenodo (DOI)*
File formats	***Data / File Formats:*** *.pdf*
File scale	*500 MB (max)*
Copyright & IP management	*The rights to D3.6 belong to the ALGAESOL project partners jointly.* *A CC-BY license will be assigned to the deliverable and will be indicated in the metadata of the data via Zenodo. Metadata will have a CC0 license.* *Future publications using results from D3.6, will be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within D3.6 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

4.4. Data-Tables WP4

WP4 Task 4.1 Dataset 1/2	
Task title	*T4.1 Catalyst development and lipid conversion for sustainable aviation fuel production*
Dataset name	*Catalyst development and lipid conversion for sustainable aviation fuel production*
Task & data manager	*SOCAR*
Other partners involved	*LEITAT*
Dataset description	*Task T4.1 addresses the characterization, pre-treatment, conversion and purification steps targeting the fuel composition towards requirements and characteristics:* - *To develop solid catalyst to convert algal lipids into sustainable aviation fuel (SAF)* - *To optimize catalyst synthesis parameters of acid type, calcination temperature and metal & support content* - *To optimize the reaction parameters in order to yield higher algal lipid conversion and SAF yield.* - *To compare the fine-tuned product with the conventional jet fuel with respect to standard methods* *The Datasets resulting from T4.1 will be used to contribute to deliverable D4.1 "Purification and algal lipid conversion into biofuel" (Type R - Document, Report, Dissemination level SEN - Sensitive, due to Month 32).*
Availability	*Consortium - The T4.1 preparation datasets are available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *This T4.1 dataset is reported in Deliverable D4.1, with sensitive distribution level only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.*

Metadata	Keywords: ALGAESOL, Biofuels, Synthetic Fuels, Aviation Fuel, SAF, Maritime Transportation, ASTM Standards, Biofuels Profiles, Jet-Fuels Analysis.
Data sharing	Preparatory data of T4.1 development will be stored partly on SOCAR's institutional repository and partly also on the project's SharePoint repository (maintained by NORCE). Deliverable D4.1 data has sensitive (SEN) dissemination level. It will be available in M32 for the ALGAESOL project consortium consultation within the project SharePoint, and published on the EC Portal. Deliverable D4.1 has (SEN) dissemination level. However, whenever the reuse of outcomes of T4.1 for implementing ALGAESOL project is allowed, they will be publicly described, with consent of the ALGAESOL Consortium, with reuse ruled under a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated. https://creativecommons.org/licenses/by/4.0/.
Persistent identifier	Resulting T4.1 published deliverable D4.1 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.
File formats	Xml, crv, pdf, rtf, doc, xlsx
File scale	Max. 200 MB of generated data (to be revised during project execution)
Copyright & IP management	The rights to use the T4.1 created component catalyst dataset for ALGAESOL belong to the partners jointly. IP applies as defined in the project Grant Agreement. Future publications using findings from T4.1, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).
Ethical issues management	Personal data of the project members within T4.1 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).
Additional data management procedures	None

WP4 Task 4.1 Dataset 2/2

Task title	*T4.1 Catalyst development and lipid conversion for sustainable aviation fuel production*
Dataset name	*Deliverable D4.1 (Purification and algal lipid conversion into biofuel)*
Task & data manager	*SOCAR*
Other partners involved	*(LEITAT) – partner involved in T4.1*
Dataset description	***General Description:*** *This dataset consists of the deliverable D4.1 ("Purification and algal lipid conversion into biofuel" - Type R - Document, Report, Dissemination level SEN – Sensitive and limited under the conditions of the Grant Agreement, due to Month 32).* ***Scope of the collected Dataset:*** *D4.1 reports on the Summary of laboratory experiments describing the catalyst development and subsequent conversion and upgrading of lipids into sustainable aviation fuel.* ***Main objectives & usage****: to produce the report about Catalyst development and lipid conversion for sustainable aviation fuel production / Purification and algal lipid conversion into biofuel, for the ALGAESOL project. SOCAR is responsible for the quality assurance process of the definitions in task T4.1 and for the production of D4.1.* ***Main Types of*** *generated data in this D4.1 Dataset, are textual including graphic illustrations and tables.* ***Data Reuse****: This deliverable data will be needed as for the work in WP4 tasks T4.2, T4.3 and T4.4.*
Availability	*Consortium – D4.1 has sensitive (SEN) dissemination level.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *Deliverable D4.1, with sensitive distribution level, is only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.*

Metadata	**Keywords:** *ALGAESOL, Biofuels, Synthetic Fuels, Aviation Fuel, SAF, Maritime Transportation, ASTM Standards, Biofuels Profiles, Jet-Fuels Analysis.*
Data sharing	*Preparatory data of D4.1 development is stored partly on SOCAR's institutional repository and partly also on the project's SharePoint repository (maintained by NORCE).* *Deliverable D4.1 data has sensitive (SEN) dissemination level. It is available since M32 for the ALGAESOL project consortium consultation within the project SharePoint repository in the EC Portal.* *Whenever D4.1 is distributed, under the consent of the ALGAESOL Consortium, its restricted reuse has to be given consent by the project consortium, for a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated (https://creativecommons.org/licenses/by/4.0/).*
Persistent identifier	*D4.1 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.* *(If agreed with the consortium, a non-sensitive version of the T4.1 deliverable D4.1 can receive a PID from Zenodo (DOI), where it can be registered as sensitive document, with restricted distribution of its full dataset.)*
File formats	***Data / File Format:** .pdf*
File scale	*200 MB (max)*
Copyright & IP management	*The rights to D4.1 SEN deliverable belong to the ALGAESOL project, with IP management as defined in the Grant Agreement of the project.* *Future publications using results from D4.1, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within T4.1 datasets (including D4.1) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

WP4 Task 4.2 Dataset 1/2	
Task title	*T4.2 Purification of methanol into fuels*
Dataset name	*Purification of methanol into fuels*
Task & data manager	*LEITAT*
Other partners involved	*-*
Dataset description	*Task T4.2 addresses the methanol purification and dehydration, coming from task T2.2, by adopting a combined distillation and pervaporation method to reduce the energy needed for methanol dehydration.* *Results of T4.2 will be reported in deliverable D4.2 "Purification and process design for MeOH into fuels" (Type R - Document, Report, Dissemination level SEN - Sensitive, due to Month 32, Partner responsible – LEITAT).* *Datasets in T4.2 will include information regarding materials synthesis protocols and results; separation performance set-ups and results under different experimental conditions; long-term stability tests.*
Availability	*Consortium - The T4.2 preparation datasets will be available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *This T4.2 dataset is reported in Deliverable D4.2, with sensitive distribution level only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.*
Metadata	*Keywords: ALGAESOL, Methanol, Membrane, Distillation, Pervaporation*
Data sharing	*Preparatory data of T4.2 development will be stored on LEITAT's institutional repository, and partly also on the project's SharePoint repository (maintained by NORCE).*

	The specifications of the methanol purification process will be shared with the interested consortium members, complying with the dissemination level requirements. *Deliverable D4.2 data has sensitive (SEN) dissemination level. It will be available in M32 for the ALGAESOL project consortium consultation within the project SharePoint, and published on the EC Portal.*
Persistent identifier	*Resulting T4.2 published deliverable D4.2 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.*
File formats	*Experimental Data: .xlsx, .csv, .jpg* *Internal Reports: .docx* *Deliverable Report: .pdf*
File scale	*Max. 500 MB of generated data (to be revised during project execution)*
Copyright & IP management	*The rights to use the T4.2 developed photoanode materials belong to LEITAT. IPR protection for these will be worked out at advanced stages of the project exploitation stage. The rights to use the T4.2 results for ALGAESOL, applies as defined in the Grant Agreement of the project.* *Publications made using the datasets created in T4.2, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within T4.2 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

WP4 Task 4.2 Dataset 2/2

Task title	*T4.2 Purification of methanol into fuels*
Dataset name	*Deliverable D4.2 (Purification and process design for MeOH into fuels)*
Task & data manager	*LEITAT*
Other partners involved	*-*
Dataset description	*General Description: This dataset consists of the deliverable D4.2 ("Purification and process design for MeOH into fuels" - Type R - Document, Report, Dissemination level SEN – Sensitive and limited under the conditions of the Grant Agreement, due to Month 32).* *Scope of the collected Dataset: D4.2 reports on the MeOH dehydrogenation process using 40% less energy targeting at least 90% purity.* *Main objectives & usage: to produce the report about Purification and process design for MeOH into fuels for the ALGAESOL project. LEITAT is responsible for the quality assurance process of the definitions in task T4.2 and for the production of D4.2.* *Main Types of generated data in this D4.2 Dataset, are textual including graphic illustrations and tables.* *Data Reuse: This deliverable data will be needed as for the work in WP4 tasks T4.3 and T4.4.*
Availability	*Consortium – D4.2 has sensitive (SEN) dissemination level.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *Deliverable D4.2, with sensitive distribution level, is only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.*
Metadata	*Keywords: ALGAESOL, Methanol, Membrane, Distillation, Pervaporation*
Data sharing	*Preparatory data of D4.2 development will be stored on LEITAT's institutional repository, and partly also on the project's SharePoint repository (maintained by NORCE).*

	Deliverable D4.2 data will be available in M32 for the ALGAESOL project consortium consultation within the project SharePoint repository, and in the EC Portal.
	Deliverable D4.2 has (SEN) dissemination level. However, whenever the reuse of outcomes of T4.2 for developing the methanol purification process in ALGAESOL is allowed for among interested researchers and stakeholders, they will be publicly described with consent of the ALGAESOL Consortium, complying with the dissemination level requirements, with reuse ruled under a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated.
	https://creativecommons.org/licenses/by/4.0/.
Persistent identifier	*D4.2 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.*
	(If agreed with the consortium, a non-sensitive version of the T4.2 deliverable D4.2 can receive a PID from Zenodo (DOI), where it can be registered as sensitive document, with restricted distribution of its full dataset.)
File formats	***Data / File Format:*** *.pdf*
File scale	*500 MB (max)*
Copyright & IP management	*The rights to D4.2 SEN deliverable belong to the ALGAESOL project, with IP management as defined in the Grant Agreement of the project.*
	Future publications using results from D4.2, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).
Ethical issues management	*Personal data of the project members within T4.2 datasets (including D4.2) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

WP4 Task 4.3 Dataset 1/2	
Task title	*T4.3 Purification of methane into fuels*
Dataset name	*Purification of methane into fuels*
Task & data manager	*LEITAT*
Other partners involved	*-*
Dataset description	*Task T4.3 addresses the methane purification by the MOF-based Mixed Matrix Membrane fabrication and optimization.* *Datasets will include information regarding materials synthesis protocols and results; separation performance set-ups and results under different experimental conditions; long-term stability tests.* *Results of T4.3 will be reported in deliverable D4.3 "Purification and process design for methane into fuel" (Type R - Document, Report, Dissemination level SEN - Sensitive, due to Month 32, Partner responsible – LEITAT).*
Availability	*Consortium - The T4.3 preparation datasets will be available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *This T4.3 dataset is reported in Deliverable D4.3, with sensitive distribution level only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.*
Metadata	*Keywords: ALGAESOL, Methane, Membrane, Gas Separation, Metal-organic Framework*
Data sharing	*Preparatory data of T4.3 development will be stored on LEITAT's institutional repository, and partly also on the project's SharePoint repository (maintained by NORCE).* *The specifications of the methane purification process will be shared with the interested consortium members, complying with the dissemination level requirements.*

	Deliverable D4.3 data has sensitive (SEN) dissemination level. It will be available in M32 for the ALGAESOL project consortium consultation within the project SharePoint, and published on the EC Portal. *The use of outcomes of T4.3, for developing in ALGAESOL the methane purification process, will be described in a non-sensitive way, and made available for interested stakeholders, complying with the dissemination level requirements.*
Persistent identifier	*Resulting T4.3 published deliverable D4.3 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.*
File formats	*Experimental Data: .xlsx, .csv, .jpg* *Internal Reports: .docx* *Deliverable Report: .pdf*
File scale	*Max. 500 MB of generated data (to be revised during project execution)*
Copyright & IP management	*The rights to use the T4.3 datasets belong to LEITAT. IP protection for these will be worked out at advanced stages of the project exploitation stage. The rights to use the T4.3 results for ALGAESOL, applies as defined in the Grant Agreement of the project.* *Publications made using the datasets created in T4.3, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within T4.3 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

WP4 Task 4.3 Dataset 2/2	
Task title	*T4.3 Purification of methane into fuels*
Dataset name	*Deliverable D4.3 (Purification and process design for methane into fuel)*
Task & data manager	*LEITAT*
Other partners involved	*-*
Dataset description	***General Description:*** *This dataset consists of the deliverable D4.3 ("Purification and process design for methane into fuel" - Type R - Document, Report, Dissemination level SEN – Sensitive and limited under the conditions of the Grant Agreement, due to Month 32).* ***Scope of the collected Dataset:*** *D4.3 reports on the Methane purification process using MOF-based mixed matrix membranes targeting 97% purity and 40% less energy used.* ***Main objectives & usage****: to produce the report about Purification and process design for Methane into fuels, for the ALGAESOL project. LEITAT is responsible for the quality assurance process of the definitions in task T4.3 and for the production of D4.3.* ***Main Types of*** *generated data in this D4.3 Dataset, are textual including graphic illustrations and tables.* ***Data Reuse****: This deliverable data will be needed for the work in WP4 tasks T4.2 and T4.4.*
Availability	*Consortium – D4.3 has sensitive (SEN) dissemination level.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *Deliverable D4.3, with sensitive distribution level, is only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.*
Metadata	***Keywords:*** *ALGAESOL, Methane, Membrane, Gas Separation, Metal-organic Framework*

Data sharing	*Preparatory data of D4.3 development will be stored on LEITAT's institutional repository, and partly also on the project's SharePoint repository (maintained by NORCE).* *Deliverable D4.3 data will be available in M32 for the ALGAESOL project consortium consultation within the project SharePoint repository, and in the EC Portal.* *Deliverable D4.3 has (SEN) dissemination level. However, whenever the reuse of outcomes of T4.3 for developing the methane purification process in ALGAESOL is allowed, among interested researchers and stakeholders, they will be publicly described with consent of the ALGAESOL Consortium, complying with the dissemination level requirements, with reuse ruled under a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated.* https://creativecommons.org/licenses/by/4.0/.
Persistent identifier	*D4.3 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.* *(If agreed with the consortium, a non-sensitive version of the T4.3 deliverable D4.3 can receive a PID from Zenodo (DOI), where it can be registered as sensitive document, with restricted distribution of its full dataset.)*
File formats	***Data / File Format:*** *.pdf*
File scale	*500 MB (max)*
Copyright & IP management	*The rights to D4.3 SEN deliverable belong to the ALGAESOL project, with IP management as defined in the Grant Agreement of the project.* *Future publications using results from D4.3, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (*https://creativecommons.org/about/cclicenses/*).*
Ethical issues management	*Personal data of the project members within T4.3 datasets (including D4.3) is treated in accordance with the* [EU GDPR legislation](#) *(EU Regulation 2016/679 GDPR). (*https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ *&* https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html*).*
Additional data management procedures	*None*

WP4 Task 4.4 Dataset 1/2
Task title	*T4.4 Assessment of fuels*
Dataset name	*Quality assessment of biofuels*
Task & data manager	*SOCAR*
Other partners involved	*LEITAT*
Dataset description	*Task T4.4 addresses the following fuels' assessment activities:* - *To test the upgraded and purified fuels from T4.1-T4.3* - *To perform biofuel assessment according to ASTM and ISO standards* - *To analyze methane and methanol concentration levels, impurities* - *To compare the fuel composition with required standards* *The Datasets resulting from T4.4 will be used to contribute to deliverable D4.4 "Quality assessment of the final biofuels" (Type R - Document, Report, Dissemination level SEN - Sensitive, due to Month 36).*
Availability	*Consortium - The T4.4 preparation datasets will be available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *This T4.4 dataset is reported in Deliverable D4.4, with sensitive distribution level only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.*
Metadata	*Keywords: ALGAESOL, Biofuels, Fuels Assessment, Fuels Standards, ASTM & ISO Standards, Purified Fuels (to be revised during project execution)*
Data sharing	*Preparatory data of T4.4 development will be stored partly on SOCAR's institutional repository and partly also on the project's SharePoint repository (maintained by NORCE).*

	Deliverable D4.4 will be available in M36 for the ALGAESOL project consortium consultation within the project SharePoint, and published on the EC Portal.
	Deliverable D4.4 has (SEN) dissemination level. However, whenever the reuse of outcomes of T4.4 for implementing ALGAESOL project is allowed, among interested researchers and stakeholders, they will be described in a non-sensitive way, with consent of the ALGAESOL Consortium, with reuse ruled under a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated.
	https://creativecommons.org/licenses/by/4.0/.
Persistent identifier	*Resulting T4.4 published deliverable D4.4 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.*
File formats	*Xml, crv, pdf, rtf, doc, xlsx*
File scale	*Max. 200 MB of generated data (to be revised during project execution)*
Copyright & IP management	*The rights to use the T4.4 created dataset for ALGAESOL belong to the partners jointly. IP applies as defined in the project Grant Agreement.*
	Future publications using findings from T4.4, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).
Ethical issues management	*Personal data of the project members within T4.4 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

WP4 Task 4.4 Dataset 2/2
Task title	*T4.4 Assessment of fuels*
Dataset name	*Deliverable D4.4 (Quality assessment of the final biofuels)*
Task & data manager	*SOCAR*
Other partners involved	*(LEITAT) – partner involved in T4.4*
Dataset description	*General Description: This dataset consists of the deliverable D4.4 ("Quality assessment of the final biofuels" - Type R - Document, Report, Dissemination level SEN – Sensitive and limited under the conditions of the Grant Agreement, due to Month 36).* *Scope of the collected Dataset: D4.4 reports on the Summary of analysis reports assessing the quality of the final fuels produced within tasks T4.1-T4.3.* *Main objectives & usage: to produce the report about Quality assessment of the final biofuels, for the ALGAESOL project. SOCAR is responsible for the quality assurance process of the definitions in task T4.4 and for the production of D4.4.* *Main Types of generated data in this D4.4 Dataset, are textual including graphic illustrations and tables.* *Data Reuse: This deliverable data will be needed for the work in WP5 and WP6.*
Availability	*Consortium – D4.4 has sensitive (SEN) dissemination level.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *Deliverable D4.4, with sensitive distribution level, is only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.*
Metadata	*Keywords: ALGAESOL, Biofuels, Fuels Assessment, Fuels Standards, ASTM & ISO Standards, Purified Fuels (to be revised during project execution)*

Data sharing	*Preparatory data of D4.4 development will be stored partly on SOCAR's institutional repository and partly also on the project's SharePoint repository (maintained by NORCE).* *Deliverable D4.4 data has sensitive (SEN) dissemination level. It will be available in M36 for the ALGAESOL project consortium consultation within the project SharePoint repository in the EC Portal.* *Whenever D4.4 is distributed, under the consent of the ALGAESOL Consortium, its restricted reuse has to be given consent by the project consortium, for a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated (https://creativecommons.org/licenses/by/4.0/).*
Persistent identifier	*D4.4 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.* *(If agreed with the consortium, a non-sensitive version of the T4.4 deliverable D4.4 can receive a PID from Zenodo (DOI), where it can be registered as sensitive document, with restricted distribution of its full dataset.)*
File formats	***Data / File Format:** .pdf*
File scale	*200 MB (max) - (to be revised during project execution)*
Copyright & IP management	*The rights to D4.4 SEN deliverable belong to the ALGAESOL project, with IP management as defined in the Grant Agreement of the project.* *Future publications using results from D4.4, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within T4.4 datasets (including D4.4) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

4.5. Data-Tables WP5

WP5 Task 5.1 Dataset 1/2	
Task title	*T5.1 Creation of customized models of the ALGAESOL overall process simulation*
Dataset name	*Models of the ALGAESOL overall process simulation*
Task & data manager	*SIMTECH*
Other partners involved	*NORCE, LEITAT, DTI, UdG, SOCAR*
Dataset description	*Task T5.1 has the purpose of modelling, fine-tuning and testing of the individual and customized component-models of the overall ALGAESOL system, via their implementation in the process simulation environments IPSEpro (https://simtechnology.com/ipsepro/process-simulation-and-heat-balance-software) and IPSE GO (https://about.ipsego.app/).* *The Dataset resulting from T5.1 development will compose the project's library of components (ALGAESOL_Lib), to be used in the simulation of all process models. ALGAESOL_Lib will be created using the Model Development Kit (MDK) of the IPSEpro simulation environment and will be used both in IPSEpro and in IPSE GO simulation platforms, for configurating, simulating and optimizing the process models of the project.* *Results of task T5.1, reported in deliverable D5.1 (Type DEM - Demonstrator, Dissemination level SEN – Sensitive, due to Month 25), include the library of all components needed to implement ALGAESOL solution and the simulation of the overall project technology using the ALGAESOL_Lib. Development of T5.1 receives input from WP1-T1.3, WP2, WP3 and WP4 for the development and fine-tuning of the customized component models. Hence the outcomes are co-created with the respective involved partners. SIMTECH is responsible for the quality assurance process of the customized models co-created in T5.1.* *The dataset of task T5.1 will be further used in WP5-task T5.2 for the implementation of the virtual Use-Cases exploiting the project solution, prospecting the use of biofuels in aviation and maritime transportation areas.* *Due to the project-specific nature of the task, existing data cannot be fully reused. However, SIMTECH will use basic components of its available commercialized libraries for IPSEpro and IPSE GO*

	(https://about.ipsego.app/model-libraries), to serve as starting point for the development of the customized components for ALGAESOL.
Availability	Consortium - The data used and created in T5.1, to develop the component models of ALGAESOL_Lib, will be only available to the consortium and invited end-users, within the IPSEpro and IPSE GO platforms. Results of T5.1 will be reported in Deliverable D5.1, which has Sensitive (SEN) dissemination level. However, whenever it is distributed with consent of the ALGAESOL Consortium, its reuse is allowed under a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated. https://creativecommons.org/licenses/by/4.0/.
Data handling standards	The EC encourages Horizon Europe project results to be publicly available and shared via trusted repositories. The use of outcomes of T5.1 for implementing ALGAESOL virtual use-cases (in T5.2) will be publicly described and made available for interested stakeholders, via a dedicated website to demonstrate the Use-Cases (linked to the project website). No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset. Deliverable D5.1 will include results of T5.1, with sensitive distribution level. It is only available for the ALGAESOL project consortium. Report about it will be stored within the project SharePoint and following best practice standard of this trustful repository.
Metadata	Keywords: Component Models, Model Library, ALGAESOL_Lib, IPSEpro, MDK, IPSE GO, Process Model, Simulation, Solar-based conversion models, Microalgae-based conversion models.
Data sharing	Preparatory data of T5.1 development will be stored on SIMTECH's institutional repository, and partly also on the project's SharePoint repository (maintained by NORCE). The ALAGAESOL_Lib, and the ALGAESOL overall simulated process model will be hosted and shared (at a later stage) among the project consortium, and invited end-users and stakeholders, the IPSE GO web platform. The extra versions/updates of the ALGAESOL_Lib and of the ALGAESOL overall process model, simulated in IPSE GO, will be shared immediately in the IPSE GO web platform, adapted to ALGAESOL usage, after task completion (no embargo).

	The handling of the dataset within IPSE GO requires users' registration, controlled by SIMTECH. Reuse, sharing and validation of the generated data processed in T5.1 (in terms of ALGAESOL_Lib individual components and project-versions of the overall process model of the project) will occur among registered users within the IPSE GO platform.
	Deliverable D5.1 data has sensitive (SEN) dissemination level. It will be available in M25 for the ALGAESOL project consortium consultation, with description of use within the project SharePoint, and published in the EC Portal.
Persistent identifier	*Resulting T5.1 published deliverable D5.1 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.*
	A version of D5.1, if agreed by the consortium, will receive a PID from Zenodo (DOI), where it will be registered as sensitive document, with restricted distribution of its full dataset.
File formats	*Proprietary format to be used with IPSEpro and IPSE GO projects (e.g.: ALGAESOL_Lib has extension ".msi").*
File scale	*Max. 300 MB of generated data.*
Copyright & IP management	*The rights to the created component models in ALGAESOL_Lib and to the ALGAESOL overall process model, created and simulated via IPSEpro and IPSE GO, belong to the partners jointly. IPR protection for this data set will be worked out at advanced stages of the project exploitation stage.* *The rights and management of the simulation platforms IPSEpro and IPSE GO belong to the ALGAESOL simulation partner (SIMTECH). IP protection of those tools apply according to Austrian and EU laws for software IPR.* *Publications made using the datasets created in T5.1 will be made non-sensitive, and will be published in Zenodo, and linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within T5.1 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None.*

WP5 Task 5.1 Dataset 2/2	
Task title	*T5.1 Creation of customized models of the ALGAESOL overall process simulation*
Dataset name	*D5.1 (Individual component models & ALGAESOL_Lib)*
Task & data manager	*SIMTECH*
Other partners involved	*(NORCE, LEITAT, DTI, UdG, SOCAR) – partners involved in T5.1*
Dataset description	*General Description: This dataset consists of the deliverable D5.1 (*Individual component models & ALGAESOL_Lib - Type DEM — Demonstrator, Pilot, Prototype, Dissemination level SEN - Sensitive, due to Month 25), which addresses the creation of customized individual component models of the ALGAESOL overall process simulation.*
	Scope of the collected Dataset: D5.1 will report on the Individual components needed to implement the project's integrated solution, and the ALGAESOL_Lib customized library of components. for the ALGAESOL project. Outcomes of task T5.1 implemented and reported in D5.1 include: the ALGAESOL_Lib library of component models, created using IPSEpro (https://simtechnology.com/ipsepro/), and to be showcased within IPSE GO (https://about.ipsego.app/).
	Main objectives & usage: to produce the report about of the ALGAESOL Individual component models & ALGAESOL_Lib. SIMTECH is responsible for the quality assurance process of datasets created in task T5.1, and for the production of D5.1.
	Main Types of generated data in this D5.1 Dataset IPSEpro and IPSE GO simulation projects (e.g.: Component models and process models data, produced using IPSEpro and IPSE GO). The supporting datasets are proprietary format data for the use within SIMTECH's simulation platforms (e.g.: ALGAESOL_Lib has extension ".msi").
	Data Reuse: Results from task WP5-T5.1, reported in D5.1 (Individual component models & ALGAESOL_Lib), will be generated using outcomes from WP1, WP2, WP3 and WP4 and from existing published high-quality peer-reviewed literature and/or from material stored in open access or

	proprietary sites will be reused. This deliverable will be useful to implement the ALGAESOL Virtual Use-Cases in WP5 task T5.2.
Availability	*Consortium – D5.1 has sensitive (SEN) dissemination level.* *D5.1 data, from the results of T5.1, used to implement the ALGAESOL-Lib with individual component models for the project, will be available to the consortium and selected end-users, within the IPSEpro and IPSE GO platforms.*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *Deliverable D5.1, with sensitive distribution level, is only available for the ALGAESOL project consortium. Report of how to use T5.1 implementation results, embedded in D5.1, will be reported within the project SharePoint and following best practice standard of this trustful repository.*
Metadata	***Keywords:*** *ALGAESOL, Use-Cases, Biofuels, Synthetic Fuels, Aviation Fuel, SAF, Maritime Transportation, Simulation, Process Models, IPSEpro, IPSE GO, Solar-based conversion models, Microalgae-based conversion models.*
Data sharing	*Deliverable D5.1 data has sensitive (SEN) dissemination level. It will be available in M25 for the ALGAESOL project consortium consultation, with description of use within the project SharePoint, and published in the EC Portal.* *As part of D5.1, the use of outcomes of T5.1 for implementing ALGAESOL_Lib will have its representation available for interested stakeholders, via a dedicated website to demonstrate the Use-Cases (linked to the project website).*
Persistent identifier	*D5.1 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.* *A version of D5.1 report, if agreed by the consortium, will receive a PID from Zenodo (DOI), where it will be registered as sensitive document, with restricted distribution of its full dataset.*
File formats	***Data / File Formats:*** *Deliverable Report: .csv, .rtf, .txt, .pdf.* *Demo: Proprietary format to be used with IPSEpro and IPSE GO projects (e.g.: ALGAESOL_Lib has extension ".msi").*

File scale	300 MB (max)
Copyright & IP management	The rights to the created component models in ALGAESOL_Lib, within D5.1 belong to the ALGAESOL project partners jointly.IPR protection for this data set will be worked out at advanced stages of the project exploitation stage. The rights and management of the simulation platforms IPSEpro and IPSE GO belong to the ALGAESOL simulation partner (SIMTECH). IP protection of those tools apply according to Austrian and EU laws for software IPR. Publications made using the datasets created within D5.1 will be made non-sensitive, and will be published in Zenodo, and linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).
Ethical issues management	Personal data of the project members within D5.1 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).
Additional data management procedures	None

WP5 Task 5.2 Dataset 1/2	
Task title	T5.2 Use-Cases Process Modelling
Dataset name	Process Models of the ALGAESOL Use-Cases
Task & data manager	SIMTECH
Other partners involved	NORCE, LEITAT, DTI, UdG, SOCAR
Dataset description	Task T5.2 has the purpose of implementing (modelling, fine-tuning, testing, and showcasing) the ALGAESOL Use-Cases, using the outcomes of task T5.1 and the simulation tools IPSEpro (https://simtechnology.com/ipsepro/) and

	IPSE GO (https://about.ipsego.app/), in a collaborative way with the project partners and end-users involved. (Task T5.2 will count with data provision from SOCAR, as well as from all technical partners.) The Datasets resulting from T5.2 development compose the Use-Cases' simulations to be configured and made available as interactive models in the IPSE GO Web-based Simulation Platform, adapted and customized for the use of the ALGAESOL project. Results of task T5.2 will be reported in deliverable D5.2 ("Overall process model and use-cases implementation" - Type R - Document, Report, Dissemination level PUB - Public, due to Month 36). It will include the description of the use-cases simulations implemented for ALGAESOL in IPSE GO. SIMTECH is responsible for the quality assurance process of the Use-Cases models co-created in task T5.2, as well as of the deliverable D5.2. The dataset of task T5.2 will be further used in the exploitation phase of the ALGAESOL project, for the process of engagement with interested stakeholders in the virtual Use-Cases, prospecting the use of biofuels in aviation and maritime transportation areas. Due to the project-specific nature of the task, existing data cannot be fully reused. SIMTECH will, however, use the overall ALGAESOL process model simulated in IPSE GO within task T5.1, to serve as starting point for the development of the use-cases for ALGAESOL.
Availability	Consortium - The data used in T5.2 to implement the Use-Cases of ALGAESOL project will be only available to the consortium and selected end-users, within the IPSEpro and IPSE GO platforms. Public – Results of T5.2 will be reported in the deliverable D5.2, with Public (PU) dissemination level. It will be published in Zenodo, and linked within the ALGAESOL Open access Zenodo Community, under a Creative Commons Attribution 4.0 International License. https://creativecommons.org/licenses/by/4.0/
Data handling standards	The EC encourages Horizon Europe project results to be publicly available and shared via trusted repositories. The use of outcomes of T5.2 for the implementation of ALGAESOL virtual use-cases will be publicly described in Deliverable D5.2. The publication of the D5.2 in Zenodo (https://zenodo.org/), via the dedicated community for the ALGAESOL project, will be followed as best practice standard.
Metadata	Keywords: ALGAESOL, Use-Cases, Biofuels, Synthetic Fuels, Aviation Fuel, SAF, Maritime Transportation, Simulation, Process Models, IPSEpro, IPSE GO, Solar-based conversion models, Microalgae-based conversion models.

Data sharing	*Preparatory data of T5.2 development will be stored partly on SIMTECH's institutional repository and partly also on the project's SharePoint repository (maintained by NORCE).* *The ALGAESOL Use-Cases simulated process models, as well as the ALGAESOL overall process model will be hosted and shared (at a later stage) among the project consortium, and invited end-users and stakeholders, the IPSE GO web platform.* *The handling of the dataset within IPSE GO requires users' registration, controlled by SIMTECH. Reuse, sharing and validation of the generated data processed in T5.2 (in terms of the ALGAESOL modelled use-cases including the overall process model of the project) will occur among registered users within the IPSE GO platform.* *Apart from the report shared via Deliverable D5.2, results of the implemented ALGAESOL Use-Cases in T5.2 will also be described and made available for interested stakeholders' interactive verification, via a dedicated website (maintained by SIMTECH and linked to the project website) to demonstrate the project's Virtual Use-Cases.*
Persistent identifier	*Resulting data of T5.2 will be reported in the final version of the public deliverable D5.2, which will receive a PID from Zenodo (DOI).*
File formats	*Use-Cases Process Models in the simulation environments: Proprietary format to be used with IPSEpro and IPSE GO projects (with file extensions ".pro" and ".proj"), including ALGAESOL_Lib (with extension ".mdk").* *Deliverable Report D5.2: File formats pdf, rtf, doc, xls*
File scale	*Max. 300 MB of generated data.*
Copyright & IP management	*The rights to the implemented Use-Cases for ALGAESOL, created and simulated via IPSEpro and IPSE GO, belong to the partners jointly. IPR protection for this data set will be worked out at advanced stages of the project exploitation stage.* *The rights and management of the simulation platforms IPSEpro and IPSE GO belong to the ALGAESOL simulation partner (SIMTECH). IP protection of those tools apply according to Austrian and EU laws for software IPR.* *Publications made using the datasets created in T5.2 will be open-access and published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*

Ethical issues management	*Personal data of the project members within T5.2 datasets (if any) is treated in accordance with the [EU GDPR legislation](https://scienceeurope.org/our-priorities/eu-legislation/gdpr/) (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None.*

WP5 Task 5.2 Dataset 2/2	
Task title	*T5.2 Use-Cases Process Modelling*
Dataset name	*Deliverable D5.2 (Overall process model and use-cases implementation)*
Task & data manager	*SIMTECH*
Other partners involved	*(NORCE, LEITAT, DTI, UdG, SOCAR) – partners involved in T5.2*
Dataset description	***General Description:** This dataset consists of the deliverable D5.2 (Overall process model and use-cases implementation - Type R - Document, Report, Dissemination level PUB - Public, due to Month 36), which addresses the simulation and optimization of the integrated solution and its incorporation in the virtual use-cases demonstrating 25% fuel production cost reduction.* ***Scope of the collected Dataset:** It will report on the overall process model and use-cases implementation for the ALGAESOL project, on the basis of the dataset 1/1 of WP5-T5.1 and the dataset ½ of WP5-T5.2. D5.2 will address results of task T5.2 of modelling, fine-tuning, testing, and showcasing the ALGAESOL Use-Cases, using the outcomes of task T5.1, the ALGAESOL_Lib library of component models, and the simulation tools IPSEpro (https://simtechnology.com/ipsepro/) and IPSE GO (https://about.ipsego.app/). D5.2 will include the description of the use-cases simulations implemented for ALGAESOL in IPSE GO.* ***Main objectives & usage:** to produce the report about of the ALGAESOL overall process simulation, and the use-cases simulations implemented for ALGAESOL in IPSE GO. SIMTECH is responsible for the quality assurance*

	process of the Use-Cases models co-created in task T5.2, and for the production of D5.2.
	***Main Types of** generated data in this D5.2 Dataset are textual including illustrations and tables. Supporting data for the production of D5.2 are the component models and process models data, produced using IPSEpro and IPSE GO within tasks T5.1 and T5.2 of WP5. The supporting datasets are proprietary format data for the use within SIMTECH's simulation platforms.*
	***Data Reuse**: Existing data from task WP5-T5.1, reported in D5.1 (Individual component models & ALGAESOL_Lib) will be reused.*
	D5.2 deliverable will be useful to stakeholders interested in the outcomes of ALGAESOL project, within the sustainable biofuel market for aviation and shipping transportation areas. Results of the implemented ALGAESOL Use-Cases will be described in D5.2 and made available for interested stakeholders' interactive verification, via a dedicated website (maintained by SIMTECH and linked to the project website) to demonstrate the project's virtual Use-Cases.
Availability	*Public*
Data handling standards	*The publication of the D5.2 in Zenodo (https://zenodo.org/), via the dedicated community for the ALGAESOL project, will be followed as best practice standard.*
Metadata	*Zenodo assigns metadata in accordance with Open Science rules.* ***Keywords:** ALGAESOL, Use-Cases, Biofuels, Synthetic Fuels, Aviation Fuel, SAF, Maritime Transportation, Simulation, Process Models, IPSEpro, IPSE GO, Solar-based conversion models, Microalgae-based conversion models.*
Data sharing	*D5.2 deliverable data will be made public in M36 on Zenodo.* *Open-source tools can be used to access and use the data files in this dataset (e.g.: Libreoffice, OpenOffice, etc.).* *As a supporting part of D5.2, the outcomes of T5.2 for implementing ALGAESOL Conversion Paths and potential use-cases, will have its representation available for interested stakeholders, via a dedicated website to demonstrate the Use-Cases (linked to the project website).*
Persistent identifier	*DOI*
File formats	***Data / File Formats:***

	Deliverable Report D5.2: File formats .csv, .rtf, .txt, .pdf. *Demo: Use-Cases Process Models in the simulation environments: Proprietary format to be used with IPSEpro and IPSE GO projects (with file extensions ".pro" and ".proj"), including ALGAESOL_Lib (with extension ".mdk").*
File scale	*300 MB (max)*
Copyright & IP management	*The rights to D5.2 belong to the ALGAESOL project partners jointly.* *A CC-BY license will be assigned to the deliverable and will be indicated in the metadata of the data via Zenodo. Metadata will have a CC0 license.* *The rights and management of the simulation platforms IPSEpro and IPSE GO belong to the ALGAESOL simulation partner (SIMTECH). IP protection of those tools apply according to Austrian and EU laws for software IPR.* *Publications made using the datasets created within D5.2 will be open-access, and will be published in Zenodo, and linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within D5.2 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

WP5 Task 5.3 Dataset 1/2	
Task title	*T5.3 Sustainability analyses (LCA, LCC, S-LCA)*
Dataset name	*Sustainability analysis*
Task & data manager	*NORCE*

Other partners involved	*LEITAT, UdG, SIMTECH, DTI, SOCAR*
Dataset description	*Task T5.3 dataset addresses the sustainability (economic, environmental, social) of the ALGAESOL value chains, using the results of the WP1, T5.1, T5.2 and T5.3, as well as the characteristics of the components developed in WP2, WP3 and WP4.* *Scope of the Dataset to be collected: T5.3 is based on the goal and scope description from task T1.4. It will report on the sustainability of overall value chain model or specific aspects of it, based on the processes developed under WP2, WP3 and WP4 in the ALGAESOL project, modelled in SIMAPro software.* *Main objectives: The first series of assessments ("optimization assessments") will focus on the process design and scale-up strategies and will be performed in parallel with product development during the project. The second series of assessments ("improvement assessments") will focus on the improvement of competitiveness with other biofuel production pathways and evaluate impacts in a broader context, and will be performed at the end of the project.* *The T5.3 datasets will contribute to the deliverable D5.3 "Final sustainability assessment report" (Type R — Document, report, Dissemination level: SEN – Sensitive, due to Month 36). D5.3 will describe the outcome of both assessments. A potential peer-reviewed open access publication might focus on a specific set within the optimization assessments. NORCE is responsible for the quality assurance process of the developments in task T5.3 and the production of D5.3.*
Availability	*Consortium - The data used to develop the full sustainability analysis in task T5.3 will be only available to the consortium, and potentially invited end-users. Datasets will be available within the ALGAESOL SharePoint repository (maintained by NORCE).*
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *This T5.3 dataset will be reported in Deliverable D5.3 in Month 36, with sensitive distribution level only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.* *Peer-reviewed publications using data from T5.3 will be published through open access. The publication of peer reviewed articles in Zenodo (https://zenodo.org/), linked to the dedicated community for the ALGAESOL project, will be followed as best practice standard.*
Metadata	*Keywords: ALGAESOL, Biofuels, Synthetic Fuels, Aviation Fuel, SAF, Maritime Transportation, Sustainability Analysis, LCA, S-LCA, LCC, Process Models,*

	Solar-based Conversion Models, Microalgae-based Conversion Models, Value Chain.
Data sharing	*Preparatory data of T5.3 development will be stored on the project's SharePoint repository (maintained by NORCE).* *Deliverable D5.3 will be available in M36 for the ALGAESOL project consortium consultation within the project SharePoint, and published on the EC Portal.* *Deliverable D5.3 has Sensitive (SEN) dissemination level. However, whenever it is distributed with consent of the ALGAESOL Consortium, its reuse is allowed under a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated. https://creativecommons.org/licenses/by/4.0/. Also peer-reviewed publications using T5.3 datasets will be published through open access.*
Persistent identifier	*Resulting T5.3 published deliverable D5.3 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.* *Peer-reviewed open-access publications using data from T5.3, published in Zenodo, will receive a PID from Zenodo (DOI).*
File formats	*.csv, .rtf, .txt, .pdf.*
File scale	*Small size (GB scale) of generated data*
Copyright & IP management	*The rights to use the T5.3 created dataset for ALGAESOL, belong to the partners jointly. IP applies as defined in the project Grant Agreement.* *Future publications using findings from T5.3, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within T5.3 datasets (if any) is treated in accordance with the [EU GDPR legislation](#) (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

WP4 Task 5.3 Dataset 2/2	
Task title	*T5.3 Sustainability analyses (LCA, LCC, S-LCA)*
Dataset name	*Deliverable D5.3 (Final sustainability assessment report)*
Task & data manager	*NORCE*
Other partners involved	*(LEITAT, UdG, SIMTECH, DTI, SOCAR) – partners involved in T5.3*
Dataset description	***General Description:*** *This dataset consists of the deliverable D5.3 (Final sustainability assessment report - Type R — Document, report, Dissemination level: SEN – Sensitive, due to Month 36), addressing the sustainability (economic, environmental, social) of the ALGAESOL value chains. To produce D5.3, the results and deliverables of the WP1, T5.1, T5.2 and T5.3, as well as the characteristics of the components developed in WP2, WP3 and WP4, will be used.* ***Scope of the collected Dataset:*** *D5.3 reports on the Final report on total sustainability assessment (LCSA) including LCA, LCC, S-LCA from T5.3 and guidelines for interpretation and dissemination. NORCE is responsible for the quality assurance process of the developments in task T5.3 and the production of D5.3.* ***Main objectives & usage****: D5.3 will describe the outcomes of the "optimization" and of the "improvement" assessments carried out in T5.3.* ***Main Types of*** *generated data in D5.3: excelfiles, simapro modelling/data, word files, pdf.* ***Data Reuse****: Existing data from task WP5-T5.1 to T5.4, which were generated using outcomes from WP1, WP2, WP3 and WP4 and from existing published high-quality peer-reviewed literature and/or from material stored in open access or proprietary sites will be reused (e.g. EcoInvent Database). This deliverable will be useful to stakeholders interested in the outcomes of ALGAESOL project, and moving on with detailed development of the value chains for prototypes and demonstrators to pave the way for the sustainable biofuel market for aviation and shipping transportation. Results will be described in D5.3 and we aim to publish parts in a peer-reviewed publication, made available for interested stakeholders', via the ALGAESOL website and Zenodo.*

Availability	Consortium – D5.3 has sensitive (SEN) dissemination level.
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.* *Deliverable D5.3, with sensitive distribution level, is only available for the ALGAESOL project consortium, within the project SharePoint and following best practice standard of this trustful repository.* *Prevention measures for data loss and data recovery of the T5.3 Dataset, including D5.3 Data, will be taken by the ALGAESOL sustainability assessment partners NORCE (especially regarding LCA and LCC data) and LEITAT (especially regarding S-LCA data), during the project lifetime.*
Metadata	***Keywords:*** *ALGAESOL, Biofuels, Synthetic Fuels, Aviation Fuel, SAF, Maritime Transportation, Sustainability Analysis, LCA, S-LCA, LCC, Process Models, Solar-based Conversion Models, Microalgae-based Conversion Models, Value Chain.*
Data sharing	*Preparatory data of D5.3 development will be stored on the project's SharePoint repository (maintained by NORCE).* *Deliverable D5.3 will be available in M36 for the ALGAESOL project consortium consultation, within the project SharePoint repository and in the EC Portal.* *Deliverable D5.3 has Sensitive (SEN) dissemination level. However, whenever it is distributed with consent of the ALGAESOL Consortium, its reuse is allowed under a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated.* https://creativecommons.org/licenses/by/4.0/. *Also, peer-reviewed publications using T5.3 datasets will be published through open access. A potential peer-reviewed open access publication might focus on a specific set within the optimization assessments, and will be published in Zenodo, linked to the ALGAESOL Open access Community, and assigned to the CC-BY license scheme.*
Persistent identifier	*D5.3 will receive the EC identifier for ALGAESOL deliverable with SEN dissemination level.* *(If agreed with the consortium, a non-sensitive version of the T5.3 deliverable D5.3 can receive a PID from Zenodo (DOI), where it can be registered as sensitive document, with restricted distribution of its full dataset.)*
File formats	***Data / File Format:*** *.pdf*

File scale	Small size (GB scale)
Copyright & IP management	The rights to D5.3 SEN deliverable belong to the ALGAESOL project, with IP management as defined in the Grant Agreement of the project.
	Future publications using results from D5.3, shall have sensitive parts removed to be open-access, so that a copy can be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).
Ethical issues management	Personal data of the project members within D5.3 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).
Additional data management procedures	None

WP5 Task 5.4 Dataset 1/2

Task title	T5.4 Value chain design and scale-up strategies
Dataset name	Value chain design and scale-up strategies
Task & data manager	NORCE
Other partners involved	AMIRES, LEITAT, UdG, SIMTECH, DTI, SOCAR
Dataset description	Task T5.4 dataset addresses the value chain design of the process paths and their scale up strategy. It will be using the results and deliverables of the T5.1 – T5.3 as well as the characteristics of the components developed in WP2, WP3 and WP4.
	Scope of the Dataset to be collected: T5.4 will report on the overall value chain model based on the processes and use-cases of the ALGAESOL project.

	Main objectives: identify the entire value chain it of the paths developed in ALGAESOL, as well as to provide strategies for upscaling.
	The T5.4 datasets will contribute to the deliverable D5.4 "Value chain design and scale-up strategy" (Type R — Document, report, Dissemination level: PU – Public, due to Month 36). NORCE is responsible for the quality assurance process of the developments in task T5.4 and the production of D5.4.
Availability	*Public – The final version of the deliverable D5.4 has Public (PU) dissemination level. It will be published in Zenodo, and linked within the ALGAESOL Open access Zenodo Community, under a Creative Commons Attribution 4.0 International License. https://creativecommons.org/licenses/by/4.0/*
	The final datasets used to develop the value chain design and scale-up strategies in task T5.4 will also be publicly available. However, the preparation data will be only available to the consortium, within the ALGAESOL SharePoint repository (maintained by NORCE).
Data handling standards	*No specific disciplinary data handling standards (for data collection, aggregation, storage and sharing) are required for this dataset.*
	The EC encourages Horizon Europe project results to be publicly available and shared via trusted repositories. The outcomes of T5.4 value chain design and scale-up strategies of ALGAESOL project, will be publicly described in Deliverable D5.4 in Month 36, and published in Zenodo (https://zenodo.org/), via the dedicated community for the ALGAESOL project, which will be followed as best practice standard.
	Peer-reviewed publications using data from T5.4 will also be published through open access, via Zenodo, linked to the dedicated community for the ALGAESOL project.
Metadata	*Keywords: ALGAESOL, Use-Cases, Biofuels, Synthetic Fuels, Aviation Fuel, SAF, Maritime Transportation, Simulation, Process Models, IPSEpro, IPSE GO, Solar-based conversion models, Microalgae-based conversion models, value chain, scaling up.*
Data sharing	*Preparatory data of T5.4 development will be stored on the project's SharePoint repository (maintained by NORCE).*
	Deliverable D5.4 (PU) will be available in M36, and the deliverable data will be made public on Zenodo. Also peer-reviewed publications using T5.4 datasets will be published through open-access, and linked to the Zenodo Open Science Community for the ALGAESOL project.
Persistent identifier	*Resulting T5.4 published deliverable D5.4 will receive a PID from Zenodo (DOI).*

File formats	*.csv, .rtf, .txt, .pdf.*
File scale	*Expected to be max 100 MB of generated data.*
Copyright & IP management	*The rights to use the T5.4 created dataset for ALGAESOL, belong to the partners jointly. IP protection for this dataset applies as defined in the project Grant Agreement.* *Future publications using findings from T5.4 will be open-access and published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the* [CC-BY license scheme](#)
Ethical issues management	*Personal data of the project members within T5.4 datasets (if any) is treated in accordance with the* [EU GDPR legislation](#) *(EU Regulation 2016/679 GDPR). (*https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ *&* [https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html)](https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).
Additional data management procedures	*None*

WP5 Task 5.4 Dataset 2/2	
Task title	*T5.4 Value chain design and scale up strategies*
Dataset name	*Deliverable D5.4 (Value chain design and scale-up strategy)*
Task & data manager	*NORCE*
Other partners involved	*(AMIRES, LEITAT, UdG, SIMTECH, DTI, SOCAR) – partners involved in T5.4*
Dataset description	***General Description:*** *This dataset consists of the deliverable D5.4 (Value chain design and scale-up strategy - Type R - Document, Report, Dissemination level PUB - Public, due to Month 36), which addresses the value chain design of the process paths and their scale up strategy, using the results and deliverables of the T5.1 – T5.3, as well as the characteristics of*

	the components developed in WP2, WP3 and WP4. NORCE is responsible for the quality assurance process and the production of D5.4.
	Scope of the collected Dataset: It will report on the overall value chain model based on the processes and use-cases of the ALGAESOL project. D5.4 will address results of task T5.4 of modelling the entire value chain, using the outcomes of task T5.1 – T5.3. Results obtained via the simulation tools IPSEpro (https://simtechnology.com/ipsepro/) and IPSE GO (https://about.ipsego.app/) will be the main source for the data set. D5.4 will include the description of scale up strategies to different production paths developed in ALGAESOL.
	Main objectives & usage: to produce the report about entire value chain of the paths developed in ALGAESOL, as well as to provide strategies for upscaling. D5.4 will focus on the design of the value chain, required auxiliaries and the scale up strategy providing a solid base for exploitation and industrialization activities. NORCE is responsible for the identification of the value paths up-scaling strategies and D5.4.
	Main Types of generated data in this D5.4 Dataset are text plus illustrations and tables. Supporting data for D5.4 are the component models and their characteristic, as well as the models developed in T5.1 – T5.3 by applying IPSEpro and IPSE GO. The supporting datasets are proprietary format data for the use within SIMTECH's simulation platforms.
	Data Reuse: Existing data from task WP5-T5.1 to T5.3 (individual component models & ALGAESOL_Lib), and data generated using outcomes from WP1, WP2, WP3 and WP4 and from existing published high-quality peer-reviewed literature and/or from material stored in open access or proprietary sites will be reused.
	This deliverable will be useful to stakeholders interested in the outcomes of ALGAESOL project, and moving on with detailed development of the value chains for prototypes and demonstrators to pave the way for the sustainable biofuel market for aviation and shipping transportation. Results will be described in D5.4 and made available for interested stakeholders', via the ALGAESOL website
Availability	*Public*
Data handling standards	*The publication of the D5.4 in Zenodo (https://zenodo.org/), via the dedicated community for the ALGAESOL project, will be followed as best practice standard.*
Metadata	*Zenodo assigns metadata in accordance with Open Science rules.*

	Keywords: ALGAESOL, Use-Cases, Biofuels, Synthetic Fuels, Aviation Fuel, SAF, Maritime Transportation, Simulation, Process Models, IPSEpro, IPSE GO, Solar-based conversion models, Microalgae-based conversion models, value chain, scaling up.
Data sharing	*D5.4 deliverable data will be made public in M36 on Zenodo.* *Open-source tools can be used to access and use the data files in this dataset (e.g.: Libreoffice, OpenOffice, etc.).*
Persistent identifier	*DOI*
File formats	***Data / File Formats:*** *.csv, .rtf, .txt, .pdf.*
File scale	*100 MB (max)*
Copyright & IP management	*The rights to D5.4 belong to the ALGAESOL project partners jointly.* *A CC-BY license will be assigned to the deliverable and will be indicated in the metadata of the data via Zenodo. Metadata will have a CC0 license.* *Publications made using the datasets created within D5.4 will also be open-access, and will be published in Zenodo, linked to the ALGAESOL Open access Zenodo Community, assigned to the CC-BY license scheme (https://creativecommons.org/about/cclicenses/).*
Ethical issues management	*Personal data of the project members within D5.4 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None*

4.6.   Data-Tables WP6

WP6 Task 6.1 Dataset 1/1

Task title	*T6.1 Dissemination and communication activities*
Dataset name	*Dissemination and communication activities, including Deliverables:* • *D6.1 - Initial communication kit (PU – M04)* • *D6.2 - Dissemination and communication plan - V1 (SEN – M06)* • *D6.3 - Dissemination and communication plan – V2 (SEN – M24)*
Task & data manager	*AMIRES*
Other partners involved	*All project partners*
Dataset description	*No research datasets will be generated.* *To fulfil task T6.1 and complete deliverable D6.1, visual material will be generated and made it public to increase awareness about the project and to help later dissemination of the results. D6.1 is Dissemination level PU – Public.* *Publicly available information will be collected (e.g.: Information about events, their place and date, presentation titles, etc.) and included in the dissemination and communication plan, as part of D6.2 and D6.3, Dissemination level SEN – Sensitive.*
Availability	*Public- the final version of the deliverable 6.1 (communication kit) will be public.* *Consortium- the final version of the deliverable 6.2 and 6.3 (Dissemination and communication plans V1 and V2, respectively) will be available for the consortium.* *Deliverables D6.2 and D6.3 have Sensitive (SEN) dissemination level. However, whenever it is distributed with consent of the ALGAESOL Consortium, its reuse is allowed under a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated.* *https://creativecommons.org/licenses/by/4.0/*

Data handling standards	*N/A*
Metadata	*Keywords: ALGAESOL, Initial Communication Kit, Dissemination, Communication*
Data sharing	*Data will be stored on AMIRES repository (OwnCloud) and partly also on the project's SharePoint repository (maintained by NORCE).* *The initial communication kit will be publicly shared via ALGAESOL's website and LinkedIn page, up to 3 years after the project ends.*
Persistent identifier	*N/A*
File formats	*pdf, jpeg, png, pptx*
File scale	*Max. 100 MB*
Copyright & IP management	*N/A*
Ethical issues management	*Personal data of the project members within T6.1 (if any) is treated in accordance with the [EU GDPR legislation](https://scienceeurope.org/our-priorities/eu-legislation/gdpr/) (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None.*

WP6 Task 6.2 Dataset 1/1	
Task title	*T6.2 Exploitation, IP management and commercialization roadmapping*
Dataset name	*Exploitation, IP management and commercialization roadmapping, including Deliverables:* • *D6.4 - Exploitation plan -V1 (SEN – M12)*

	• *D6.5 - Exploitation plan -V1 (SEN – M36)*
Task & data manager	*AMIRES*
Other partners involved	*All project partners*
Dataset description	*No research datasets will be generated.* *To fulfil task 6.2 and complete D6.4 and D6.5, by M12 the outcomes and exploitable results of the project will be identified, and the ownership of Intellectual Property will be defined.* *Exploitation plans V1 and V2 for each ALGAESOL partner will be developed and, from M25-M36, exploitation plans of partners will focus on developing specific and actionable commercialization roadmaps. Dissemination level SEN – Sensitive.*
Availability	*Consortium- the final version of the D6.4 and D6.5 will be shared within the consortium.* *Deliverables D6.4 and D6.5 have Sensitive (SEN) dissemination level. However, whenever it is distributed with consent of the ALGAESOL Consortium, its reuse is allowed under a Creative Commons Attribution 4.0 International License, provided that appropriate credit is given, and any changes are indicated. https://creativecommons.org/licenses/by/4.0/*
Data handling standards	*N/A*
Metadata	*Keywords: ALGAESOL, Exploitation, IP management, commercialization roadmapping*
Data sharing	*Data will be stored on AMIRES repository (OwnCloud) and partly also on the project's SharePoint repository (maintained by NORCE). The initial communication kit will be publicly shared via ALGAESOL's website and LinkedIn page, up to 3 years after the project ends.*
Persistent identifier	*N/A*
File formats	*Pdf, xlsx*

File scale	Max. 100 MB
Copyright & IP management	N/A
Ethical issues management	Personal data of the project members within T6.2 (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).
Additional data management procedures	None.

WP6 Task 6.3 Dataset 1/1	
Task title	T6.3 International cooperation strategies
Dataset name	International cooperation strategies, including Deliverables: • D6.6 - International cooperation strategies -V1 (PU – M12) • D6.7 - International cooperation strategies -V2 (PU – M36)
Task & data manager	NORCE
Other partners involved	All project partners
Dataset description	No research datasets will be generated. In this Task NORCE will, in cooperation with all consortium partners, build up a network of international partnerships taking advantage of already existing platforms (e.g.: Mission Innovation 2.0 and the SUNERGY initiative) and building new relationships with relevant stakeholder groups. In the first year (M1-M12) the landscape will be analyzed to identify the best and most suitable collaboration opportunities (D6.4). Afterwards, cooperation strategies with a long-term outlook will be developed together with the identified partners (D6.4 update). These activities will take the form of joint events and consultations, position papers or even on-site technology demonstrations in the later phase of the project. This Task will utilize the dissemination and communication tools and strategies developed in T6.1 and its activities will be aligned with the results of T6.2 to ensure the involvement

	of international partners in all exploitation and scale-up activities. This will result in early and wide adoption of ALGAESOL technologies and increase the export potential of European industry. *Datasets in T6.3 include: list of stakeholders; and Datasets for the public deliverables on international cooperation strategies, V1(D6.6) and V2 (D6.7).*
Availability	*Stakeholder list: Private* *Deliverables D6.6 and D6.7 are public.*
Data handling standards	*The publication of the D6.6 and D6.7 in Zenodo (https://zenodo.org/), via the dedicated community for the ALGAESOL project, will be followed as best practice standard*
Metadata	*Zenodo assigns metadata in accordance with Open Science rules.* ***Keywords:*** *ALGAESOL, Biofuels, Synthetic Fuels, Aviation Fuel, SAF, Maritime Transportation, Stakeholders, Events, Cooperation Strategies*
Data sharing	*T6.3 Data will be stored on on the project's SharePoint repository (maintained by NORCE).* *D6.6 will be made public in M20 on Zenodo. D6.7 will be made public in M38 on Zenodo.*
Persistent identifier	*DOI*
File formats	*pdf*
File scale	*Max. 100 MB*
Copyright & IP management	*The rights to D6.6 and D6.7 belong to the ALGAESOL project partners jointly.* *A CC-BY license will be assigned to the deliverable and will be indicated in the metadata of the data via Zenodo. Metadata will have a CC0 license.*
Ethical issues management	*Personal data of the project members within T6.3 datasets (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None.*

4.7.   Data-Tables WP7

WP7 Tasks T7.1, T7.2, T7.3 Dataset 1/1
Task title	*T7.1 – Coordination and Management, decision structure & internal communication* *T7.2 – Project Risk Management* *T7.3 – Administrative and Financial Management*
Dataset name	*Project Management Data, including Deliverable D7.1 - Project manual (SEN – M01)*
Task & data manager	*NORCE*
Other partners involved	*All project partners*
Dataset description	*No research datasets will be generated.* *This dataset includes data for the deliverable D7.1 (Project Manual, Type R - Document, Report, Dissemination level SEN, due to Month 01), which includes a project management plan with a Gantt chart and a Work Breakdown Structure, a schedule per task, responsible partner, related subtasks, deliverables and dependencies on other tasks.* *This dataset contains all data that is collected and generated in connection with the project's management. It is mainly of textual and numerical type. It contains the latest version of the work plan (updated at regular intervals), the deadlines of the deliverables, the procedures to be followed for financial management and project management, etc. It also contains data regarding all official project meetings (agendas, invitations, minutes and action lists), as well as all data connected with quality and risk mitigation control of the project.*
Availability	*Consortium*
Data handling standards	*N/A*
Metadata	*N/A*

Data sharing	Final data will be stored on the project's SharePoint repository (maintained by NORCE), only shared within the consortium.
Persistent identifier	N/A
File formats	pdf, rtf, xls
File scale	Max. 100 MB
Copyright & IP management	N/A
Ethical issues management	Personal data of the project members (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).
Additional data management procedures	None.

WP7 Task 7.4 Dataset 1/1	
Task title	T7.4 Data Management
Dataset name	Deliverable D7.2 Data Management Plan
Task & data manager	SIMTECH
Other partners involved	All project partners, especially each institution's assigned DMO (Data Management Officer).
Dataset description	This dataset consists of the deliverable D7.2 (DMP Type R - Document, Report, Dissemination level PUB - Public, due to Month 06), which reports the outcomes of WP7 Task 7.4, which has the purpose of developing a project-specific data management plan.

	The DMP (D7.2) will be regularly updated throughout the project lifetime. For this purpose, data from the partners will be collected concerning the data and other outputs of their WP tasks. *The final deliverable (DMP) is useful to other projects, especially to those operating under the Horizon Europe framework. Further, the DMP is useful to all researchers and stakeholders interested in any of the ALGAESOL project's results, as it enables them to easily understand the data structure and handling of the entire project.* *Due to the project-specific nature of the task, existing data cannot be reused. However, for the creation of the DMP, a template from Horizon Europe will be used.*
Availability	*Public - The data used to prepare the data management plan will be only available to the consortium. The final versions of the deliverable (DMP) will be public.*
Data handling standards	*The EC encourages DMPs to be publicly available and shared via trusted repositories. The publication of the DMP in Zenodo (https://zenodo.org/), via the dedicated community for the ALGAESOL project, will be followed as best practice standard.* *The DMP template from Horizon Europe [11] is used for developing the content of D7.2.*
Metadata	*Zenodo assigns metadata in accordance with Open Science rules.* *Keywords: DMP, Data Management Plan, FAIR data, Open Science, Project Management.*
Data sharing	*Preparatory data will be stored on SIMTECH's institutional repository and partly also on the project's SharePoint repository (maintained by NORCE).* *The DMP will be publicly shared via Zenodo (at a later date than its release in October 2024), as ALGAESOL D7.2-DMP-V1.0. The first version will be available in M6, then regular updates will be released, at least three extra versions in total (by the end of each project-implementation year).* *The extra versions of the ALGAESOL DMP will be shared immediately in Zenodo after completion (no embargo).*
Persistent identifier	*The final versions of the DMP will receive a PID from Zenodo (DOI).*
File formats	*pdf, rtf, xls*

File scale	*Max. 100 MB*
Copyright & IP management	*The rights to the created DMP belong to the partners jointly.* *A CC-BY license will be assigned to the DMP deliverables and will be indicated in the metadata of the data via Zenodo/ARGOS. Metadata will have a CC0 license (https://creativecommons.org/about/cclicenses/).* *No IPR protection will be sought for this data set.*
Ethical issues management	*Personal data of the project members (if any) is treated in accordance with the EU GDPR legislation (EU Regulation 2016/679 GDPR). (https://scienceeurope.org/our-priorities/eu-legislation/gdpr/ & https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html).*
Additional data management procedures	*None.*

5. Conclusions

This first Data Management Plan version 1.0 (DMP – D7.2) outlined the handling of the ALGAESOL project data, providing orientation to the project partners, as well as to third parties, such as researchers, policy makers and other stakeholders, regarding the content, validity and accessibility of the project's data and other outputs. This document also stated the data management strategy for the ALGAESOL project, which was co-created by involving all partners under the lead of SIMTECH.

As can be seen in the Data-Tables of the WP-Tasks presented in Section 4, some tasks are not yet fully completed. The responsible partners (DMOs) will be motivated by SIMTECH's DMO to bring their contents in the subsequent versions of the DMP.

This initial data management plan of the ALGAESOL project will be updated for every reporting period (RP) and possibly also in between the reports in case major developments and changes are made to the project implementation that affect the project's data management.

For every RP a new version of this DMP will be released and published on the project's SharePoint repository, as well as on the ALGAESOL open-access Zenodo repository. The planned versions of the DMP will mainly reflect the changes to the data tables made in the following periods:

- **Version 1** *(current version)*: M1-M6, released in M6 (October 2024)

- **Version 2:** with content updated with the development period of M7-M18

- **Version 3:** with content updated with the development period of M19-36

Degree of progress

The degree of fulfilment of the Data Management activities within WP7-Task T7.4, with respect of what reported in the DoA, with the elaboration of the 1st version of the ALGAESOL Data Management Plan (DMP-V1.0), is estimated to be 40% completed, with its remaining part to be completed with the updates of the DMP throughout the project duration and with actual generation of the datasets, applying the data management strategy defined in D7.2.

6. References

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[13].   Axiom Data Science. Data Management Best Practices: https://www.axiomdatascience.com/best-practices/index.html#.

[14].   OpenAire Guide for Researchers: How to find a trustworthy repository for your data. https://www.openaire.eu/find-trustworthy-data-repository.

[15].   Science Europe (2019). Practical Guide to the International Alignment of Research Data Management from. DOI:10.5281/zenodo.4915861, https://doi.org/10.5281/zenodo.4915861; https://scienceeurope.org/media/4brkxxe5/se_rdm_practical_guide_extended_final.pdf.

[16].   Horizon Europe Project ALGAESOL, Nr. 101147112, Deliverable D7.1: Project Manual V1.0, 31/05/2024.

[17].   GDPR: The General Data Protection Regulation (EU) 2016/679 & The Data Protection Law Enforcement Directive (EU) 2016/680. EU GDPR legislation.

7. Annex

7.1.   Guidelines for Filling out the Data Tables

ALGAESOL

Sustainable aviation and shipping fuels
from microalgae and direct solar BES technologies

WP7 – Project and consortium management

Task T7.4 – Data Management (SIMTECH)

SIMTECH

Guidelines for the Data Management Table

The purpose of the DMP is to **plan and document your research and work methodologies** and to ensure that the data is handled in the best possible way as well as **in accordance with the Open Science[17] requirements of the EC**.

For **every WP task**, please fill out the table exemplified below for all research data sets, as well as for all data sets pertaining to other outputs that result from your task (e.g.: software, workflows, protocols, prototypes, presentations, posters etc.). It may be that a task will generate more than one type of data set. In that case, please make a copy of the table within your WP-Task table file, for each type of data set and number them accordingly (e.g.: Dataset X/X: 1/3, 2/3, 3/3, etc.).

Research data handling needs to conform to Open Science requirements *('as open as possible, as closed as necessary')*. Consult the *Practical Guide to the International Alignment of Research Data Management* from *"Science Europe"*[18] and the *HE Programme Guide*[19] for detailed guidance on the requirements.

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[17] https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/open-science_en

[18] https://doi.org/10.5281/zenodo.4915862

[19] https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/programme-guide_horizon_en.pdf, esp pp 37ff.

Note that the rules on Open Science are **mandatory for research data**, while they are only recommended for all other data. Nevertheless, it is strongly suggested (and positively affects the DMP review by the EC) to conform as much as possible to the Open Science rules also in the latter case whenever that is reasonable.

Please be as specific as possible when you fill out the table and justify thoroughly when Open Science requirements cannot be conformed to.

For each WP-Task, you find a form in the project SharePoint Folder of WP7-T7.4 that needs to be completed and then uploaded again back to the same place. The file name convention adopted is: WP (Z) and task (Y.Y) in the following format: **DM-WPZ-TY.Y-v01.docx.**

7.2.   Data Table Template

Data Management Table

WPY Task Y.Y Dataset X/X	
Task title	*Title of the task as it is mentioned in the Gantt chart.*
Dataset name	*Choose a name for the data set that facilitates its identification.*
Task & data manager	*Name of task leader (institution) and name of the individual responsible for the data management of the task.*
Other partners involved	*Name of other partner institutions working on the task.*
Dataset description	*Describe the data and its purpose, origin and nature in relation to project objectives, quality assurance processes applied in its creation/generation, to whom it is useful outside the project.* *State whether there is similar, already existing data; justify if reuse of existing data has been discarded.*
Availability	*Choose "Private", "Consortium" or "Public".*
Data handling standards	*If any, indicate if there are existing disciplinary standards in topic area governing data collection, aggregation, storage and sharing.*
Metadata	*If any, indicate whether there are disciplinary standards for assigning metadata. If there are none, indicate how metadata will be created, whether they are interoperable and how long it will be available.* *Indicate which keywords (beside the general project-specific keywords) will be assigned to make your data findable.*
Data sharing	*Indicate whether and with whom the data will be shared, and on which (trusted) repository.* *Indicate when and until when the data will be shared. If any, state existence of embargo period (permissible only in case of future commercial exploitation, sensitivity of data etc.).* *State the software or tools necessary for reuse and validation of the data. Explain whether/where/what kind of data documentation there will be to ensure validation of the data analysis to persons outside the project.*

Persistent identifier	*Indicate whether a persistent identifier will be assigned and which kind (e.g.: DOI).*
File formats	*Indicate file formats of the data reused and/or generated.*
File scale	*Indicate the expected size of the data reused and/or generated.*
Archiving and preservation	*[P, L, M, C]* *Outline the procedure for long-term preservation (P), length of preservation (L), prevention measures for data loss (data recovery) (M), and make an estimation of costs and how those will be covered (C).*
Copyright & IP management	*Indicate who will have the rights to the data created/collected and which/how Creative Commons (CC) license[20] will be assigned to both data and metadata (in most cases only CC0 or CC-BY are permitted).* *If you are reusing data that belongs to someone else, indicate whether you have permission or license to use and store it in a repository.*
Ethical issues management	*State if there are potential ethical or legal issues connected with data collection or data sharing, e.g.: sensitive data, see especially the EU Regulation 2016/679 GDPR.[21]*
Additional data management procedures	*Indicate with links if you are following other data management procedures than those of Horizon Europe (e.g.: institutional procedures).*

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[20] https://creativecommons.org/about/cclicenses/

[21] https://scienceeurope.org/our-priorities/eu-legislation/gdpr/; https://ec.europa.eu/assets/rtd/ethics-data-protection-decision-tree/index.html