AUDIT2MEASURE

D1.2 Protocol on data management processes in the AUDIT-TO-MEASURE project

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DOCUMENT DISSEMINATION LEVEL

Dissemination level	
X	PU – Public
	PP – Restricted to other programme participants (including the EC)
	RE – Restricted to a group specified by the consortium (including the EC)
	CO – Confidential, only for members of the consortium (including the EC)

DOCUMENT HISTORY

Version	Date	Main modification	Entity
V0.1	09-12-2022	First draft version shared for review	IEECP
V0.2	19-12-2022	Second draft version now including partner datasets inputs apart from a few inputs (section 3)	IEECP
V0.3	16-1-2023	Document for review per the quality management plan	IEECP

V0.4	17-01-2023	First review by project coordinator	RSE
V0.5	18-01-2023	1st reviewers comments incorporated	IEECP
V0.6	27-01-2023	Final check by project coordinator	RSE
V1.0	30-01-2023	Deliverable ready for submission	RSE

LEGAL NOTICE

ABOUT

Industry is a key player in energy consumption and economic impact in the European Union (EU) and energy audits represent an important tool to improve energy efficiency in the sector; despite both the spread of energy audits and the knowledge of their benefits, the actual implementation rate of the Energy Savings Measures (ESM) proposed by energy audits is relatively low. **The main aim** of the AUDIT-TO-MEASURE (Leading business towards climate neutrality by speeding up the uptake of energy efficiency measures from the energy audits) project **is to support companies in the uptake of audits measures necessary to reduce the energy consumption supporting their energy transition**. AUDIT-TO-MEASURE will develop and implement a new engagement strategy (called "Audit2Action") to put into action the opportunities emerging from energy audits.

PROJECT PARTNERS

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ABBREVIATIONS

CA	Consortium Agreement
CC	Creative Commons Licenses
DMO	Data Management Officer
DMP	Data Management Plan
EC	European Commission
EDPB	European Data Protection Board
EU	European Union
FAIR	Findable, Accessible, Interoperable and Reusable
FOSS	Free and open-source computer software
GA	Grant Agreement
GDPR	General Data Protection Regulation
WP	Work Package

EXECUTIVE SUMMARY

This protocol on data management processes aims to collect, organise, analyse, store and share the research data deriving from the project in a structured manner. A preliminary estimation of the datasets which are managed during the project is created. This process involved data identification, generation and preservation made by all project partners. The document dedicates space to detailed aspects of the project's adhered protocol for data management processes, especially the FAIR principles, general data protection and ethical aspects are also given. FAIR data management principles are largely accepted and provide the foundation for data treatment throughout the AUDIT-TO-MEASURE project. According to this principle, any data produced and processed by the project should be **F**indable, **A**ccessible, **I**nteroperable and **R**eusable as much as possible and partners should also provide general considerations for the transmission, storage and access of data, especially concerning the use of sensitive ones.

The establishment of this document involved the collaborative input of all Consortium partners who have identified and created a first framework of the datasets for each WP, in this way identifying a first list of potential criticalities. For some of the activities carried out during the project, personal data (i.e., name, background, contact details) might be collected, even though the project will avoid collecting such data unless necessary. In all cases, project partners agree to subject to the General Data Protection Regulations (GDPR) as well as the non-disclosure of information agreements (NDA) subjected to by the signing of the project Grant Agreement (GA) as well as the AUDIT-TO-MEASURE Consortium Agreement (CA).

This document is to be updated throughout the project's duration even though this was not foreseen in the original GA. Reason for this is the preliminary and uncertain nature of many of the in this document's captured data aspects and activities which might change, albeit slightly. Therefore, whenever the need for revision of this document arises throughout the project's implementation, these will be captured and any changes made will be recorded in the document history table presented above.

1. INTRODUCTION

Purpose and audience of the document

This protocol on data management processes aims to collect, organise, analyse, store and present the method for sharing the research data and more general results coming out of the project. The document outlines actions for the provision of the Findable, Accessible, Interoperable and Reusable (FAIR) data principle. Further, it provides an analysis of the main elements of the data management policy that will be used by the consortium, to which the document is addressed. This document will evolve over the course of the project, increasing the information granularity through continuous updates.

Through the elaboration of an open data management plan, the project consortium expects to develop a wider interest toward the results achieved by the project; this will allow partners to better facilitate and exploit project opportunities while ensuring an adequate level of data protection and data security for all related stakeholders at all times through the application of the developed data management processes.

Further, given the data sensitivity in the industrial sectors the consortium works with, it is increasingly important to ensure compliance with all communication and data exchange rules set-out by the GDPR. Such information would include scientific publications issued by the project consortium, white papers and industrial activity data, including costs, technologies and energy consumption coming out of the ESM auditing reports which are at the core of the project.

This data management protocol ensures the energy audit and other essential information of key industry stakeholders remains protected and stakeholders can be confident any input provided is responsibly managed. Stakeholders are actively informed and made aware that they are participating in a public research project: this implies that dissemination and discussion of results is a critical part of the projects implementation and future exploitation effort and, therefore, they should always be clearly communicated and taken in consideration when collaborating with any of the project partners.

It is acknowledged by all consortium partners that the NDA agreed upon by the signing of the projects GA as well as the CA.

Relation to other activities

This document applies to all of the project's workpackages (WP) and underlying tasks and activities, since each of the WPs manages data in some sort of applicable manner.

Structure of the document

The document follows the structure of the *Horizon Europe Data Management template*, and is adopted for use in this LIFE specific programme. The document structure consists of:

- Chapter 2: data summary, which provides the initial overview of the expected datasets for each subsequent WP task;

- Chapter 3: project datasets, providing the "per WP breakdown" of crucial and expected datasets;
- Chapter 4: FAIR data principle, providing an introduction to the topic and how the project adheres to the principles set;
- Chapter 5: non-disclosure of information and how the project protects and limits the sharing of confidential information;
- Chapter 6: allocation of resources and responisilities;
- Chapter 7: data security and ethics;
- Chapter 8: conclusions of the document.

2. DATA SUMMARY

This chapter provides an overview of the types of data which are expected to be managed and processed throughout the project duration. Notably, the AUDIT-TO-MEASURE project deals with the EED Energy Audit reports of companies; therefore, any company information included in these reports are at the centre of the project and are consequently treated with great care and confidentiality. That said, all other relevant data produced and/or acquired as part of the ongoing research activities of the project are treated with the same care and confidentiality. Any data that is used for the project releases as well as for external publications is ensured to be non-sensitive and non-confidential and, if the need arises, this will be confirmed with the applicable and related parties.

The project data coming out of the project can be organized in two main categories:

- **Organizational data**, which are related to the implementation of the project action and typically encompasses the outward facing dissemination activities and general project management deliverables;
- **Technical and scientific data**, which involves raw and processed experimental data, scientific publications as well as potentially software code and algorithms, capacity building curriculum and the collected Energy Audit Report related information of companies partnering with the AUDIT-TO-MEASURE project.

Table 1 provides a first rough categorization of the project's related deliverables and relevant milestones between these two categories. A detailed overview of the information related for each WP and dataset(s) expected in each WP is presented in **section 2**.

Table 1. AUDIT-TO-MEASURE deliverables & Milestones datacategroy overview

Data Categories	Data Set	Description
Organizational and project management data	Project Deliverables (# + Title)	D1.1 Project quality management plan D1.2 Protocol on data management processes in the AUDIT-TO-MEASURE project D1.3 Technical Progress report D1.4 Extract of the AUDIT-TO-MEASURE data from the LIFE KPI webtool - 1st edition D1.5 Extract of the AUDIT-TO-MEASURE data from the LIFE KPI webtool - 2nd edition D2.1 Report of state-of-the-art auditing system and ESM implementation D2.2 Report of top management decision process D2.3 Report of barriers affecting the uptake of ESM in companies

		D6.1 A2M Knowledge Exchange Space functionalities and results D6.2 After-LIFE Conservation Plan D6.3 A2M Knowledge Exchange Space functionalities and results – Final D7.1 Plan for the Dissemination of Results (PDR) - 1st edition D7.2 Stakeholder Analysis and Engagement Plan (SAEP) - 1st edition D7.3 Summary and compilation of all dissemination activities including impact assessment - 1st edition D7.5 Final publishable report D7.6 Plan for the Dissemination of Results (PDR) - 2nd edition D7.7 Stakeholder Analysis and Engagement Plan (SAEP) - 2nd edition D7.8 Summary and compilation of all dissemination activities including impact assessment - 2nd edition D7.9 Summary and compilation of all dissemination activities including impact assessment - 3rd edition
	Milestones (# + Title)	4 Finalization of the questionnaire to the companies 7 KPIs identification 12 KES launch 13 KES for Stakeholders launched 14 KES future sustainability and exploitation of results
Technical and scientific data	Project Deliverables (# + Title)	D3.1 The Audit2Action strategy: a new approach to upgrade energy audit outcomes D3.2 Assessment of energy savings measures to support the strategy of decision makers and of companies' energy management maturity D3.3 Marketing the strategic energy-saving measures from energy audit outcomes and ISO 50001 to support management level strategy D4.1 Report on capacity building in companies - 1st edition D4.2 Training Course D4.3 Report on training workshops for energy experts and industry associations – 1st edition D4.4 Report on capacity building in companies -2nd edition D4.5 Report on training workshops for energy experts and industry associations - 2nd edition D5.1 Report on the internal training workshop and methodology for application of energy efficiency measures D5.2 Case-studies tables - 1st edition D5.3 Report with results of the energy efficiency measures and including also digital tools to the business and how to improve the corporate level culture. D5.4 Case-studies tables - 2nd edition D7.4 Policy recommendations report
	Milestones (# + Title)	5 Finalization of the company interviews 6 Draft Audit2Action Strategy 8 Capacity building in companies 9 Capacity building of other target groups 10 Methodology 11 Monitoring of ESM implementation in 10 businesses

Data formats

The project deliverables and milestones (both in the "organizational and project management" and "technical and scientific" data categories) will be shared and stored in Microsoft Word (.docx) and PDF (.pdf) formats and uploaded to the EC portal.

Supporting materials commonly used such as tabular data will be in Microsoft Excel (.xlsx) or Comma Separated Values (.csv). Graphic and Video files, mainly used for the dissemination

materials, will be respectively in TIFF (.tif), JPEG(.jpg) or PNG(.png) and MPEG-4 (.mp4). To this list, Microsoft PowerPoint (.pptx) for presentation and Free Lossless Audio Codec (FLAC) (.flac), WAV (.wav) or MP3 (.mp3) for audio files are expected, though the list is non-exhaustive.

3. PROJECT DATASETS

This chapter provides an overview of the data and datasets handled and produced over the course of the project per WP. **Table 2** presents the template used by WP leaders to identify the expected datasets within their WPs and underlying task activities.

The structure of the table again follows that of the *Horizon Europe data management template* and provides a summary of the type(s) of data expected, used and produced in each WP activity.

Table 2. Dataset template

D **A** **T** **A** **S** **U** **M** **M** **A** **R** **Y**	**Dataset reference**	Dataset number/name
	Reference Work Package	WPx
	Data Manager	Referring person/s who takes responsibility and his/her organization
	Specific Metadata	Keyword(s) that categorize data to make it linked/searchable
	Description and purpose	Data description and purpose of the data collection/generation and its relation to the objectives of the project.
	Data origin	Internal research/Existing Knowledge/Literature/Interviews/Monitoring
	Data Size	Preliminary estimation of the expected size of the dataset
F	**Standards**	Reference to existing standards in topic area governing data collection, aggregation, storage and sharing. Adaptation of dataset to community standards to maximize interoperability with other researchers. Potential license restrictions. Discoverability. Need for aggregation and anonymization.
	Naming convention	What naming conventions do you follow? E.g., Convention internal to the organization; Project convention, etc.
A	**Availability**	Public or Sensitive (restricted under conditions set out in the Grant Agreement)
	Accessibility	How is the data be made accessible (e.g., Authentication with username and password, by deposition in a repository)? How will

I		the identity of the person accessing the data be ascertained? Indicate the existence of embargo period if any.
	Data format	E.g., Microsoft Word (.docx), PDF (.pdf), etc.
	Software tool	What methods or software tools are needed to access the data?
R	**Utility & Re-use**	Clarify to whom the data might be useful: DigiBUILD partners in other tasks/WPs; third parties in the future (e.g., researchers, institutions, organizations, etc.).
	Archiving and preservation (storage/backup)	Procedure for long-term preservation, length of preservation, an estimation of costs and how this will be covered.
	Ethical aspects	Are there any ethical or legal issues that can have an impact on data sharing? Is informed consent for data sharing and long-term preservation included in questionnaires dealing with personal data?

WP1 – PROJECT COORDINATION AND MANAGEMENT

D A T A S U M M A R Y	**Dataset reference**	**Data attributed to A2M repository**
	Reference Work Package	WP1
	Data Manager	Simone Maggiore (RSE)
	Specific Metadata	Energy efficiency, Industry, Company data, Case-study data
	Description and purpose	The repository aims to gather all the data of the project. It will serve as main workspace accessible to all partners within the entire project duration and will keep the data stored for the afterlife implementation of this latter one.
	Data origin	Interviews/Literature/Workshops/Technical and scientific fundamental knowledge.
	Data Size	<1GB (small)
F	**Standards**	General adherence to GDPR ruling and the project consortium signed non-disclosure agreement (NDA).
	Naming convention	Audit-to-Measure standard naming convention. yyyymmdd_Title_version (or similar)

A	Availability	Non-public
	Accessibility	Data will be accessible throughout the authorization via shared folder from the project coordinator.
I	Data format	Microsoft Word (.docx), PDF (.pdf), PowerPoint (pptx), Excel (.csv and .xlsx).
	Software tool	Microsoft office and pdf viewer.
R	Utility & Re-use	The repository will serve as fundamental working playground for sharing files and documents with all Consortium partners. Finally, it will serve also as documents, files and data storage for the afterlife plan.
	Archiving and preservation (storage/backup)	MS OneDrive environment (SharePoint).
	Ethical aspects	Common ethical principles will be honoured, especially in relation to the information and communication surrounding the participation of specific industry companies and contact list of Advisory Board members.

WP2 – ANALYSIS OF THE "STATE OF THE ART" OF THE AUDITING SYSTEM

D	Dataset reference	**Data collected from WP2 questionnaires and Word template**
A	Reference Work Package	WP2
T	Data Manager	Milan Matušek (ADELPHI)
A	Specific Metadata	Energy consumption, company information, information about executed energy audits and implementation of energy efficiency measures in companies, decision making processes that do or do not lead to the implementation of the measures in these companies, barriers to their implementation.
S		
U		
M	Description and purpose	Data will be used to analyse the status of the current auditing system and ESM implementation in the A2M countries, analyse companies' strategy and top management decision processes and assess the informational, behavioural, organizational and economic barriers affecting the uptake of ESM.
M		
A		
R		
Y	Data origin	Internal research/Existing Knowledge/Literature/ Interviews.

	Data Size	< 0.5GB; Small
F	Standards	General adherence to GDPR ruling and the project consortium signed non-disclosure agreement (NDA).
	Naming convention	Audit-to-Measure standard naming convention. yyyymmdd_Title_version (or similar)
A	Availability	Sensitive (restricted under conditions set out in the Grant Agreement).
	Accessibility	The data will only be accessible for the project partners via the internal SharePoint.
I	Data format	Microsoft Word (.docx), Microsoft Excel (.xlsx)
	Software tool	For the Survey we will use Lime Survey, the collected data will be provided on the project SharePoint.
R	Utility & Re-use	The data will be useful for WP3, WP4, WP5, WP6 and WP7
	Archiving and preservation (storage/backup)	Dataset will be stored on the IEECP website with relevant information and deliverables stored in the projects MS OneDrive environment (SharePoint).
	Ethical aspects	Common ethical principles will be honoured, especially in relation to the information and communication surrounding the participation of specific industry companies.

WP3 – DEVELOPMENT OF THE AUDIT2ACTION STRATEGY TO INCREASE THE UPTAKE OF ESM DERIVING FROM AUDITS

D A T A S U M M A R Y	Dataset reference	**Data attributed to the KPIs identification, the A2M ESM Database and the Maturity Models**
	Reference Work Package	WP3
	Data Manager	Christos Ntanos (EPU NTUA DPO) Nikos Vourgidis (A2M Contact Person)
	Specific Metadata	Energy audits, Energy efficiency, Energy savings, Non–Energy Benefits.
	Description and purpose	Aggregated case and/or company data derived from energy audits, desk research and questionnaires and processed to assist in the identification of the KPIs, the development of the A2M ESM database and the adoption of maturity models by the companies involved in WP3-related activities.

F	Data origin	Internal research, Desk research, Existing Knowledge, Questionnaires and general monitoring and reporting of the project's activities.
	Data Size	The Data expected to be collected, processed, and/or generated within Audit2Measure WP3 activities are less than 5GB. It must be noted that this figure is a rough estimate and a more accurate number will be available during the progress of the project.
	Standards	GDPR compliance, CA and NDAs with the associated companies, if needed.
	Naming convention	TBD – will typically follow the project's predetermined industry clusters/sectors.
A	Availability	Public but anonymised
	Accessibility	Data will be freely accessible to external stakeholders.
I	Data format	Microsoft Word (.docx), PDF (.pdf), Powerpoint (.pptx), Microsoft Excel (.xlsx), CSV (.csv), TEXT (.txt).
	Software tool	Microsoft Office Suite, PDF viewer (Additional tools to be defined as needed, in the project due course).
R	Utility & Re-use	Data will be primarily used in WP3 to identify the most suitable KPIs and to facilitate the design and implementation of the database of ESMs, implemented in the industrial sector as a result of energy audits. They will also serve as the foundation for the maturity models. The data will be helpful to WP4 and WP5 capacity-building and dissemination activities. Other potential data users include industry representatives, energy managers, and academics.
	Archiving and preservation (storage/backup)	The A2M ESM Database tool will be hosted on EPU NTUA VM. Relevant data can be stored in the project's Microsoft OneDrive environment (SharePoint).
	Ethical aspects	All data in the database will be anonymised and anonymously processed.

WP4 – CAPACITY BUILDING PROGRAMME TO SPEED-UP THE UPTAKE OF ESM

D	Dataset reference	**Personal participants' data attributed to the trainings and e-learning**
A		
T	Reference Work Package	WP4
A	Data Manager	Pavel Růžička, Zuzana Lhotáková (ENVIROS)

S U M M A R Y	**Specific Metadata**	Company manager, company staff, energy expert, energy auditor, energy manager, energy association, professional association, policy maker, academia and press.
	Description and purpose	- Personal data derived from the trainings attendance list; - Photos from the stakeholders trainings; - E-learning modules; - Company and technical data derived from the energy audits and laboratory of ideas used in the trainings materials.
	Data origin	Internal research/Existing Knowledge/Literature/Interviews/ Monitoring.
	Data Size	< 0.5GB; Small – data from trainings + e-learning modules
F	**Standards**	GDPR compliance
	Naming convention	Audit-to-Measure standard naming convention Yyyymmdd_Title_version (or similar)
A	**Availability**	Personal data – Sensitive e-learning content – restricted access
	Accessibility	E-learning modules, company and technical data - Authentication with username and password for project stakeholders assigned by a consortium partner. Participants personal data, photos from the stakeholders trainings - Authentication with username and password for project consortium partners (partners SharePoint).
I	**Data format**	Power point (.ppt), PDF (.pdf), web links, jpeg.
	Software tool	Website tool and Pdf viewer, Image viewer.
R	**Utility & Re-use**	Project reporting, stakeholders capacity knowledge increase for WP5 and WP6.
	Archiving and preservation (storage/backup)	Dataset will be stored on the project website and IEECP platform/website.
	Ethical aspects	The involved stakeholders will be aware of where their technical data will be shared (mostly data from existing energy audits used in the e-learning) and the level of such sharing will be supported by NDA (if necessary). Personal data will stay at the project SharePoint and non-personalized will be shared in the monitoring report.

WP5- DIRECT AND CONTINUOUS SUPPORT TO INDUSTRIES FOR ENERGY EFFICIENCY MEASURES UPTAKE

D **A** **T** **A** **S** **U** **M** **M** **A** **R** **Y**	Dataset reference	Data attributed to the supporting ESM implementation
	Reference Work Package	WP5
	Data Manager	Margherita Cumani, Claudia Vignudelli (HERA)
	Specific Metadata	Industry, energy saving measures.
	Description and purpose	Aggregated case and/or company data tweaked and derived from the activities of the project partners working directly with the industry companies implementing energy efficiency measures.
	Data origin	Internal research, Existing Knowledge, Literature, and reporting of the project's activities.
	Data Size	< 0.5GB; Small
F	Standards	General adherence to GDPR ruling and the project consortium signed non-disclosure agreement (NDA).
	Naming convention	TBD – will typically follow the projects predetermined industry clusters/sectors.
A	Availability	Both public and sensitive. The information in the monitoring report is sensitive and the case-study tables for each ESM will be public.
	Accessibility	Data in case-study tables for each ESM will be made publicly accessible in the project website.
I	Data format	PDF (.pdf)
	Software tool	Website tool and pdf viewer.
R	Utility & Re-use	The data will be useful for WP4, WP5, WP6 and WP7, particularly for training (if ready), good practices exchange, replication, sustainability, exploitation and communication and dissemination.
	Archiving and preservation (storage/backup)	Dataset will be stored on the project website at IEECP website.

	Ethical aspects	Common ethical principles will be honoured, especially in relation to the information and communication surrounding the participation of specific industry companies.

WP6 - SUSTAINABILITY, REPLICATION AND EXPLOITATION OF PROJECT RESULT

D A T A S U M M A R Y	Dataset reference	**Data attributed to the A2M Knowledge Exchange Space (KES)**
	Reference Work Package	WP6
	Data Manager	Erik Faassen (IEECP)
	Specific Metadata	Case data, industry, company report, public information, Energy Audits.
	Description and purpose	Aggregated case and/or company data tweaked and derived from the activities of the project partners working directly with the industry companies implementing the A2M related activities that is worth presenting and/or discussing on the projects KES.
	Data origin	Internal research, Existing Knowledge, Literature, Interviews and general monitoring and reporting of the project's activities.
	Data Size	< 0.5GB; Small
F	Standards	General adherence to GDPR ruling and the project consortium signed non-disclosure agreement (NDA).
	Naming convention	TBD – will typically follow the projects predetermined industry clusters/sectors.
A	Availability	Both public and Sensitive depending on the intended use within the KES activity (Public vs. non-public).
	Accessibility	Data will be made accessible through means of authentication with username and password. This applies both to the public as the non-public side of the KES, with the public side requiring users to sign-in on the A2M KES webpage. With the same applying to the non-public side of the KES, specifically which "platform" tool is going to be used is still to be determined (MS Teams, Slack, Trello, etc.).
I	Data format	Weblink HTML (.html), Microsoft Word (.docx), PDF (.pdf), PowerPoint (.pptx), Microsoft Excel (.xlsx), CSV (.csv), video files MPEG (.mp4).

	Software tool	Microsoft office, pdf viewer, media player.
R	Utility & Re-use	The data will be useful for all work packages supporting the interaction and general knowledge exchange between stakeholders and the project partners throughout the project. Typical results coming out of the monitoring and reporting activity of this WP will channel into both WP7 Dissemination activities and WP6 sustainability, replication and exploitation of project results.
	Archiving and preservation (storage/backup)	Dataset will be stored on the IEECP website with relevant information and deliverables stored in the projects MS OneDrive environment (SharePoint).
	Ethical aspects	Common ethical principles will be honoured, especially in relation to the information and communication surrounding the participation of specific industry companies.

WP7 – DISSEMINATION, STAKEHOLDER ENGAGEMENT AND POLICY RECOMMENDATIONS

D A T A	Dataset reference	**Data related to the dissemination and communication of the activities and results of the A2M project.**
	Reference Work Package	WP7
	Data Manager	Ignacio Vilela (AEDHE)
S U M M A R Y	Specific Metadata	Case data, industry, company report, public information, Energy Audits, training actions (partial contents of them), methodologies (partial contents of them), public workshops (with images), Partners meetings (with images).
	Description and purpose	Dissemination of the success stories of the industrial companies involved by the partners of the A2M project (training activities, informative meetings, per centage of energy savings, etc.). Communication of the internal work meetings of the partners and of the public acts in which they participate on behalf of the project.
	Data origin	Internal research, internal meetings, public events, existing Knowledge, Literature, Interviews and general monitoring and reporting of the project's activities.
	Data Size	< 5GB; Medium.
F	Standards	General adherence to EU's GDPR ruling and to the non-disclosure agreement (NDA) signed by the consortium.

	Naming convention	TBD – will typically follow the projects predetermined industry clusters/sectors.
A	Availability	Both public and sensitive according to the consortium´s agreement and the successive versions of the PEDR.
	Accessibility	Data will be made accessible through means of authentication with username and password. This applies both to the public and the non-public side of the KES, with the Public side requiring users to sign-in on the A2M KES webpage. With the same applying to the non-public side of the KES which 'platform' tool is still TBD (MS Teams, Slack, Trello, etc.)
I	Data format	Weblink HTML (.html), Microsoft Word (.docx), PDF (.pdf), Power-Point (.pptx), Microsoft Excel (.xlsx), CSV (.csv), video files MPEG (.mp4).
	Software tool	Microsoft office, pdf viewer, media player.
R	Utility & Re-use	The data will be useful for all work packages that support interaction and general knowledge sharing between stakeholders and project partners throughout the project. Typical results arising from the monitoring and reporting activity of all WPs will be channelled towards the dissemination activities of this WP.
	Archiving and preservation (storage/backup)	Dataset will be stored on the IEECP website with relevant information and deliverables stored in the projects MS OneDrive environment (SharePoint)
	Ethical aspects	Common ethical principles will be honoured, especially in relation to the information and communication surrounding the participation of specific industry companies.

4. FAIR DATA PRINCIPLES

The data produced by organizations and people is a priceless resource. However, having a lot of data which are different, difficult to find, inaccessible, processed and presented in various uninteropeabile formats cannot provide profit in terms of scientific, social and economic impact. To combat this, the **FAIR** principles were introduced which stand for the provision of **F**indable, **A**ccessible, **I**nteroperable and **R**eusable data.

Making data findable

Making data easy to find applies to both humans and computer systems. This process is promoted through a clear and standardized naming convention, a clear versioning as presented in the Project GA and the design and maintenance of an intuitive file repository (OneDrive). The used structure of the AUDIT-TO-MEASURE file repository follows that set-out in the GA (WPs, Tasks, Milestones and Deliverables).

The file repository will store and host all project data collected and generated by the consortium partners with the creation of one (or multiple) folders dedicated to storing each significantly different or otherwise required set of data or activities, or for any other type of usefull purpose. The shared project repository is created and maintained by the project coordinator (RSE) working in close collaboration with all project partners concerning its implementation. Any applicable terms and conditions for the service provision as presented by Microsoft for the use of this online cloud storage surface are acknowledged and accepted by the project team.

Making data accessible

Making data accessible refers to both the long- and short-term storage of project data and insures non-sensitive data can be easily accessed and, if so required, stored within the boundaries of well-established and predetermined access criteria, both at the metadata and content levels.

Although the projects main deliverables and milestones are classified and treated according to the LIFE presented and acknowledged dissemination levels, all project data falls subject to this classification and will be treated as such in a similar manner.

The acknowledged LIFE dissemination level classification are: 1. Public (PU), 2. Restricted to other programme participants (including the EC) (PP), 3. Restricted to a group specified by the consortium (including the EC) (RE) and 4. Confidential/Sensitive, only for members of the consortium (including the EC) (CO/SEN).

Data falling in the first (PU) category will be published through the project website and related social media and other information distribution channels. Data falling in any of the other three dissemination level categories (PP, RE and CO/SEN) are to be kept secure and will only be accessible to the relevant parties under the conditions of the Grant Agreement either through storage and sharing via the projects OneDrive filerepository, the EC portal or any other applicable storage and/or sharing solution that complies to the general security and user authorization requirements set by the project consortium, such as username and password or equivalent protection systems (e.g. folders with controlled access).

It is acknowledged by the consortium that the European Commission (EC) strongly supports the Open Access of Data since as it improves the circulation of knowledge and their economic and social impact: the consortium adheres to this principle as its importance was also underlined in the singed GA and CA.

Making data interoperable

Making data interoperable means to prepare the data to be combined and or separated, again both by humans and computer systems; in fact, "interoperability" typically means computer systems can read data without specialising translators or algorithms. This feature mainly depends on the use of suitable and widespread standards for data and metadata together with the use of appropriate vocabularies and ontologies. In addition, suitable data models must be adopted because, within the project, data needs to be integrated with others and interoperate with applications for analysis, storage and processing.

Data interoperability is less likely to become an issue for the A2M project as all partners are used to, and comfortable with, working in the industry standard provided by Microsoft which is widespread and has become the standard file sharing and storage methods. To this end, the consortium will simply follow these existing good practises, standards and data formats to ensure the data interoperability. Moreover, if a dataset builds on another one, or if additional datasets are needed to complete the data, or if complementary data is stored in a different dataset, all these information will be indicated in the context of the project. In particular, the scientific links among the datasets have to be described and the datasets have to be properly cited, including their globally unique and persistent identifiers.

Making data reusable

Data is reusable when it is prepared for use in future and further research activities and any other related computational purposes. All public and open data produced by the project will be published on the website and/or other dissemination channels where it can be accessed and repurposed. This principle further links to the LIFE programme requirement and project specific WP Sustainability, replication and exploitation of project result and focuses on the uptake and continuity of all WPs information; this is done through active collection of project results and curation of relevant materials that are coming out of all project WPs, in order to prepare them for future usability and exploitation.

Typical data coming out of the project are expected to be the capacity building webinars, group sessions, presentations of company audit reports, their greatest failures and lessons learned, state-of-the-art audit reports, amongst other related A2M materials, learnings and outcomes. The goal of the project consortium is to actively make use and reuse this data through dissemination to proximate industry and related stakeholders who are interested in the projects results. Part of this work will be the expansion of the functionalities and integration with other relevant scientific projects by providing access to key contacts and results if not restricted by the NDA confidentiality limitations.

In order to support the Sustainability and Exploitation effort, the consortium agreed to uphold the "A2M Sustainability and Exploitation pledge" to maintain the professional relations and continue to support the companies in the 5 industries audited and engaged with in each country throughout and long after the projects finalization. Specifically, through their future work and interactions with companies, energy experts, industry associations and other intermediaries, the project partners will promote the A2M results and approach; moreover, they will continue to highlight successful cases and encourage the uptake of the developed training courses and, thus, push (future) participants to take part in the e-learning activities which all applies to the reusability and reusing of the project data.

Through this process the potential for replication of the A2M process could potentially be unlocked and lead to, depending on the projects generated interest and overall success, exponential results in terms of impacts and long-term energy- and cost savings for industry partners created through the uptake of EE measures by companies as a result of the exemplary A2M cases.

Developed e-learning materials are to be kept up-to-date and partners will update the contents with new developments in the field (e.g., new regulations, policy developments,

innovations, tech developments, academic research, etc.) at least twice per year for a period of 4 years after the project.

5. NON-DISCLOSURE OF INFORMATION

A2M NDA Template

In preparation for working with sensitive information provided by non-consortium members, a template non-disclosure agreement (NDA) is created (**ANNEX 1**) and can be adopted for use by the project partners upon request by the disclosing party.

Article 9 of the consortium agreement

Regarding the non-disclosure of information, all project partners have agreed to uphold article 9 of the signed Consortium Agreement (CA) provided in (**ANNEX 2**) for ease of reference.

6. ALLOCATION OF RESOURCES

Allocation of resources related to making the project data FAIR in the A2M project depends on the amount of data processed during the project lifespan. This amount is associated to the cost of long-term storage solution, which can be different according to the specific data sets that are considered and their computational size. The main project outputs will be published under open-source licence (e.g., CC-BY 4.0) and will be made available via the European Open Science Cloud. Effort for publications should also be considered in the allocation of resources together with their potential value and the most suitable ways for applying the open access approach. Budget for this effort is considered in the projects GA and all partners are encouraged to make use of this opportunity.

It is clear that costs are dependant on many factors which are and will be discussed during the scheduled project coordination meetings. General responsibilities on data management in the project are already defined as they were highlighted in chapter 3 of this document. Although, in general, the protection and use of the project data is a shared responibility of the project consortium, the project has appointed IEECP as data management officer (DMO) and lead organization implementing the data management, security standards and process outlined in this document: IEECP will thus ensure the compliance of all communication and data exchanges within the GDPR ruleset and signed NDA agreements, and will be responsible for the overall implementation and proper storage and collection of NDAs with third party stakeholders; moreover, it will be the lead dealing with data protection, data breaches and all other related data management topics throughout the project unless specifically tasked otherwise. IEECP also bears the responsibility of ensuring data shared through the website are easily and freely available, but also that backups are performed and that proprietary data are secured, though this overlaps with the role of (AEDHE) who are responsible for the projects communication, dissemination and stakeholder engagement activities.

Notable exceptions is the Project Coordinator (RSE) who is responsible for maintaining the project file repository (MS OneDrive) as well as all coordination activity related datasets

(contact lists, communication with the EC, communication to project partners, communication with the Advisory Board and Executive Board,...).

By extension of responsibilities, IEECP is the quality manager of the project and responsible for the upholding of the scientific data, making sure it is correct, fair and just. Each partner is and remains, however, responsible for the recoverability and reproducability of its own generated and collected data.

7. DATA SECURITY & ETHICS

Although the use of OneDrive as a shared file repository provides some guarantees for upholding security efforts, it must be stated and acknowledged that, when collaborating with multiple parties and partners on scientific project and dealing with data management and storage, no guarantees can be given on the security of sensitive data. If it exists, it can be breached and stolen, unfortunately.

That said, the consortium will do their best to prevent any breaches in data security and will always consider this when dealing with any data throughout the project. To this effort it is worth noting that the right to control data is backed by Microsoft compliance with the broadly applicable privacy regulations such as the GDPR and ISO/IEC 27018. Moreover, OneDrive and SharePoint in Microsoft 365 do not use data for anything else than providing the customers the services they have subscribed for. As a service provider, Microsoft 365 does not scan email, documents or teams for advertising and it does not have access to uploaded content.

Ethics

Although the project does not necessarily deal with more sensitive personal information (gender, religion, income, disabilities, race, etc.), ethical aspects are still considered and will be monitored throughout the project based on the "respect for persons", "gender balance", "voluntary and appropriately informed participation" and "mutual duty of care" as indicated in the GA. The actions carried out in A2M project conform with the ethical standards set and applicable EU and international regulations for data protection and handling.

The consortium will take into consideration the legal and ethical issues in order to totally respect and ensure not to violate the privacy and individual rights of participants, interplay implementation regions and, in general, all the stakeholders. The consortium is aware of the EU and national legislation and policies referring to protecting personal data and privacy: therefore, they are committed to taking all necessary measures to ensure that all project activities comply with such legislation and policies, and all data protection standards are enforced.

A preliminary analysis of potential ethical considerations are identified in **section 3** in the respective WP dataset tables. In the context of the A2M project, ethical aspects mainly concern those of personal data, as well as any potential ethical data encovered through the EED Energy Audit reports.

According to Art. 5 of GDPR[1] this data will be:

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[1] https://gdpr-info.eu/art-5-gdpr/

"Collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes" and they will be "kept in a form which permits identification of data subjects for no longer than is necessary for the purposes."

which the consortium intends to uphold.

8. CONCLUSION

This document sets out the general data management protocol to be used by the consortium for the AUDIT-TO-MEASURE project and, in it, lays the foundation for information management, storage and handling of both sensitive and non-sensitive data. A template and first description of the information contained in the datasets identified in each of the projects work packages is provided and the FAIR principles approach is also introduced as a data management and processing methodology. Further, it presents the non-disclosure of information agreed upon by the project partners. The current allocation of resources and responsibilities is also given and the projects approach to the data security and ethics is described.

As the project has only just started, many of the activities are still uncertain. For this reason, this document should be treated as a living document, laying the groundwork for data protection and data management efforts made by the project partners throughout the project's lifetime presenting a first preliminary overview of the tools and processes that are expected to be used; these can, and, likely, will change, and thus their use cases and implementation method might shift.

Hence, this document is considered as a starting point for the development of the data management efforts while the WP leaders and subsequent task leaders work on carrying out the project activities.

Through the elaboration of this data management plan, the partners expect to be able to better facilitate and exploit project opportunities, while ensuring an adequate level of data protection and data security for all involved stakeholders at all times.

ANNEXES

ANNEX I: NDA TEMPLATE

NON-DISCLOSURE AGREEMENT (NDA)

This Nondisclosure Agreement or ("Agreement") has been entered into on the date of [DATE] and is by and between:

Party <u>Disclosing</u> **Information**: [Party DISCLOSING Information] and contact person: [Full Name] ("Disclosing Party").

Party <u>Receiving</u> **Information**: [A2M project Partner RECEIVING Information] and contact person: [Full Name] ("Receiving Party").

For the purpose of preventing the unauthorized disclosure of Confidential Information as defined below. The parties agree to enter into a confidential relationship concerning the disclosure of certain proprietary and confidential information ("Confidential Information").

1. Definition of Confidential Information. For purposes of this Agreement, "Confidential Information" shall include all information or material that has or could have commercial value or other utility in the business in which Disclosing Party is engaged. If Confidential Information is in written form, the Disclosing Party shall label or stamp the materials with the word "Confidential" or some similar warning. If Confidential Information is transmitted orally, the Disclosing Party shall promptly provide writing indicating that such oral communication constituted Confidential Information.

2. Exclusions from Confidential Information. Receiving Party's obligations under this Agreement do not extend to information that is: (a) publicly known at the time of disclosure or subsequently becomes publicly known through no fault of the Receiving Party; (b) discovered or created by the Receiving Party before disclosure by Disclosing Party; (c) learned by the Receiving Party through legitimate means other than from the Disclosing Party or Disclosing Party's representatives; or (d) is disclosed by Receiving Party with Disclosing Party's prior written approval.

3. Obligations of Receiving Party. Receiving Party shall hold and maintain the Confidential Information in strictest confidence for the sole and exclusive benefit of the Disclosing Party and the AUDIT-TO-MEASURE project. Receiving Party shall carefully restrict access to Confidential Information to employees, contractors and third parties as is reasonably required and shall require those persons to sign nondisclosure restrictions at least as protective as those in this Agreement. Receiving Party shall not, without the prior written approval of Disclosing Party, use for Receiving Party's benefit, publish, copy, or otherwise disclose to others, or permit the use by others for their benefit or to the detriment of Disclosing Party, any Confidential Information. Receiving Party shall return to Disclosing Party any and all records, notes, and other written, printed, or tangible materials in its possession pertaining to Confidential Information immediately if Disclosing Party requests it in writing.

4. Time Periods. The nondisclosure provisions of this Agreement shall survive the termination of this Agreement and Receiving Party's duty to hold Confidential Information in confidence shall remain in effect until the Confidential Information no longer qualifies as a trade secret or until Disclosing Party sends Receiving Party written notice releasing Receiving Party from this Agreement, whichever occurs first.

5. Relationships. Nothing contained in this Agreement shall be deemed to constitute either party a partner, joint venture or employee of the other party for any purpose.

6. Severability. If a court finds any provision of this Agreement invalid or unenforceable, the remainder of this Agreement shall be interpreted so as best to affect the intent of the parties.

7. Integration. This Agreement expresses the complete understanding of the parties with respect to the subject matter and supersedes all prior proposals, agreements, representations, and understandings. This Agreement may not be amended except in writing signed by both parties.

8. Waiver. The failure to exercise any right provided in this Agreement shall not be a waiver of prior or subsequent rights.

This Agreement and each party's obligations shall be binding on the representatives, assigns and successors of such party. Each party has signed this Agreement through its authorized representative.

DISCLOSING PARTY

Signature: _____

Full Name: _____ **Date**: _____

[Party DISCLOSING Information]

RECEIVING PARTY

Signature: _____

Full Name: _____ **Date**: _____

[A2M Partner RECEIVING Information]

AUDIT-TO-MEASURE project partner

ANNEX II: CONSORTIUM AGREEMENT ARTICLE 9

9. Non-disclosure of information

9.1

All information in whatever form or mode of communication, which is disclosed by a Party (the "Disclosing Party") to any other Party (the "Recipient") in connection with the Project during its implementation and which has been explicitly marked as "confidential" at the time of disclosure, or when disclosed orally has been identified as confidential at the time of disclosure and has been confirmed and designated in writing within 15 calendar days from oral disclosure at the latest as confidential information by the Disclosing Party, is "Confidential Information".

9.2

The Recipients hereby undertake in addition and without prejudice to any commitment on non-disclosure under the Grant Agreement, for a period of 5 years after the end of the Project:

- not to use Confidential Information otherwise than for the purpose for which it was disclosed;
- not to disclose Confidential Information without the prior written consent by the Disclosing Party;
- to ensure that internal distribution of Confidential Information by a Recipient shall take place on a strict need-to-know basis; and
- to return to the Disclosing Party, or destroy, on request all Confidential Information that has been disclosed to the Recipients including all copies thereof and to delete all information stored in a machine-readable form to the extent practically possible. The Recipients may keep a copy to the extent it is required to keep, archive or store such Confidential Information because of compliance with applicable laws and regulations or for the proof of on-going obligations provided that the Recipient complies with the confidentiality obligations herein contained with respect to such copy.

9.3

The Recipients shall be responsible for the fulfilment of the above obligations on the part of their employees or third parties involved in the Project and shall ensure that they remain so obliged, as far as legally possible, during and after the end of the Project and/or after the termination of the contractual relationship with the employee or third party.

9.4

The above shall not apply for disclosure or use of Confidential Information, if and in so far as the Recipient can show that:

- the Confidential Information has become or becomes publicly available by means other than a breach of the Recipient's confidentiality obligations;
- the Disclosing Party subsequently informs the Recipient that the Confidential Information is no longer confidential;
- the Confidential Information is communicated to the Recipient without any obligation of confidentiality by a third party who is to the best knowledge of the Recipient in lawful possession thereof and under no obligation of confidentiality to the Disclosing Party;
- the disclosure or communication of the Confidential Information is foreseen by provisions of the Grant Agreement;
- the Confidential Information, at any time, was developed by the Recipient completely independently of any such disclosure by the Disclosing Party;
- the Confidential Information was already known to the Recipient prior to disclosure, or
- the Recipient is required to disclose the Confidential Information in order to comply with applicable laws or regulations or with a court or administrative order, subject to the provision Section 9.7 hereunder.

9.5

The Recipient shall apply the same degree of care with regard to the Confidential Information disclosed within the scope of the Project as with its own confidential and/or proprietary information, but in no case less than reasonable care.

9.6

Each Recipient shall promptly inform the relevant Disclosing Party by written notice of any unauthorised disclosure, misappropriation or misuse of Confidential Information after it becomes aware of such unauthorised disclosure, misappropriation or misuse.

9.7

If any Recipient becomes aware that it will be required, or is likely to be required, to disclose Confidential Information in order to comply with applicable laws or regulations or with a court or administrative order, it shall, to the extent it is lawfully able to do so, prior to any such disclosure:

- notify the Disclosing Party, and
- comply with the Disclosing Party's reasonable instructions to protect the confidentiality of the information.