



AUDIT2MEASURE

D1.3 Technical progress report

Overview of the AUDIT2MEASURE technical progress from M1 to M9



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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 AUDIT2MEASURE (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**. AUDIT2MEASURE will develop and implement a new engagement strategy (called “Audit2Action”) to put into action the opportunities emerging from energy audits.

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PROJECT PARTNERS



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ABBREVIATIONS

A2M	AUDIT2MEASURE
A2A	Audit2Action
GA	Grant Agreement
AB	Advisory Board
CA	Consortium Agreement
NEB	Non-Energy Benefit(s)
KES	Knowledge Exchange Space
ESM	Energy Saving Measure(s)
EnMS	Energy Management System
M12	Month 12
MS	Milestone

EXECUTIVE SUMMARY

This report contains a short description of the progress achieved by the project in the first 9 months (from November, 1st 2022 to July, 31st 2023); it describes the activities carried out within each work package by the beneficiaries and the achieved results, including submitted deliverables and reached milestones.

All planned activities have been completed and we have laid the basis for the engagement of industrial companies, which will be the core of the AUDIT2MEASURE project; in particular, we have completed the activities related to the project initiation, such as the set-up of the project website and the issuing of the documents related to management and dissemination. Moreover, we have established the Advisory Board, which will guide us throughout the whole project duration.

Thanks to the developed Audit2Action (A2A) strategy, each partner has tried to establish a national framework for the project, to begin the interaction with relevant stakeholders and engage them for the capacity building, whose program has started to be developed. Finally, we have made a contextualization of the current picture about energy audits in Europe.

1. INTRODUCTION

This report has the goal to present the activities carried out by the project in its first 9 months, together with a description of the preliminary results achieved. The description follows a Work Package (WP) approach, presenting what has been done in each task within a single WP by the partners involved; submitted deliverables and reached milestones are also presented.

A specific chapter is dedicated to the deviations from the original workplan, in order to point out any criticalities which have arisen during the course of the project and present how the consortium managed and solved them.

2. EXPLANATION OF THE WORK CARRIED OUT BY BENEFICIARIES AND OVERVIEW OF THE PROGRESS

This report summarizes the main activities developed by the consortium in the first 9 months of the project. In a nutshell, the project is carried out within the initially planned time and resources, following the activities and the schedule of the Grant Agreement (GA), due to the strong cooperation among the participating organizations and their contribution to the project. WPs are progressing according to the defined objectives and quality levels, all planned deliverables have been issued and the milestones have been attained. This was possible also thanks to the active participation and steering guidance offered by the external Advisory Board (AB) and the monitoring and feedback from the Project Officer.

As a first step, the project made a contextualization of the current picture about energy audits in Europe, both through a literature research and a series of questionnaires submitted to companies and auditors, which allowed partners to grasp the mindset and the decision-making processes on energy efficiency investments of manufacturing companies. A first list of the most relevant ESM and of the systemic barriers to overcome in order to increase the uptake of ESM in the industry were also produced. Such results laid down the foundation for the following project activities, in particular for the second step, whose main goal was to develop the Audit2Action Strategy to assist companies in implementing energy audit recommendations. Together with the strategy, partners developed also a series of engineering and assessment tools to support the industrial companies to overcome the barriers hindering the adoption of cost-effective ESM, through enabling the comparison of such measures and their respective KPIs.

In parallel to the second step described above, partners started to develop an integrated capacity building program for engaged stakeholders in order to increase their knowledge and capacity and, consequently, accelerate the uptake of energy audits outcomes; in particular, they designed the structure of the training courses and the format of the “laboratory of ideas”. This included also the organization of an internal training workshop for project partners, which will take place during the 2nd consortium meeting in September in Madrid and the preparatory work for the Knowledge Exchange Space (KES), which will host the e-learning part of the training courses.

Finally, several dissemination activities have been carried out in the last months, starting from the creation of project website (<https://ieecp.org/projects/audit-to-measure/>) and logo,

coming along the production of project promotional material and consequent launch to the community (through newsletters, press releases, social networks,...) to the presentations of the project objectives and preliminary outcomes in some events at EU and national level by the partners.

Work package 1

The main goals of WP1 consist in an adequately co-ordination of the project activities throughout the whole duration by means of meetings organization and mediation, to provide decision-making guidance to partners by strategic adaptation to external circumstances and priority establishment, to monitor the workflow in order to ensure the objectives on time delivery, as well as to set and ensure strategic communication among the Commission, the consortium partners and stakeholders.

WP1 is also in charge of the general financial administration of the project and the management of the interactions of AUDIT2MEASURE with external supporters, as well as the quality standard of the outputs.

The activities have been essentially carried out by RSE, as project coordinator, and IEECP, as quality manager and data protection officer, and specific support by the partners was received when necessary.

Task 1.1 Strategic Decision Making (Leader: RSE)

Goal of this task is to provide, on a day-to-day basis, guidance for all activities planned in the A2M workplan, setting the priorities and adapt decision strategies to internal and external circumstances for which changes might occur during the project.

This was carried out by the project coordinator and WP leaders, thanks to a constant monitoring of all partners' roles and activities and a verification of the proper alignment of resources and actions towards the achievement of the project's objectives, as well as the constant research and related detection of emerging opportunities/tasks which might be included into the project course. This allowed the anticipation of potential issues for the future and thus propose corrective solutions to avoid delays and low quality outputs.

In this regard, webmeetings were used to establish consensus within the consortium over proposed activities within the workplan, together with a feasibility analysis, in order to reach the intended outcomes and results, thus transforming the static work plan into a dynamic system that provides strategic performance feedback to all partners involved.

Task 1.2 Operational Management (Leader: RSE)

A Consortium Agreement (CA), defining roles, duties and main operative rules, was signed at the beginning of the project by all partners. As regards the administrative assistance to the project partners, RSE cared for the management of the funding flows (pre-financing) according to the rules set forth in the CA and the distribution of the pre-financing funds. RSE supervised and informed all participants about the project progress (sending interim reports, minutes of meetings and webmeetings when chairing them, etc.).

The day-by-day assistance to the Partners and to the overall Project Management (including both technical and administrative issues) was also managed by RSE.

Regarding the coordination and working meetings, 30 webmeetings were organized in total (more than 3 webmeetings per month on average), allowing for continuous monitoring of the status of the various activities performed and enabling corrective actions to be undertaken timely.

1 Consortium meeting (the Kick-off meeting - Milestone MS1) was organized in person and took place in Milan on November, 23rd and 24th 2022, hosted by RSE. Advisory Board members actively participated during this meeting.

In the table below you can see the details of the AUDIT2MEASURE meetings and webmeetings, including the organizer and the participating partners.

Table 1: list of AUDIT2MEASURE meetings and webmeeting (July 2023)

Date	Main Topic	RSE	IEECP	ADELPHI	ESCAN	POVAS	NTUA	HERA	ENVIROS	AEDHE	CCIK	Minutes
27/10/2022	WP2-WP3-WP5	X		X	X		X					
23-24/11/2022	KOM-Milano	X	X	X	X	X	X	X	X	X	X	X
03/11/2022	WP2	X	X	X	X		X	X	X	X		
04/11/2022	WP3	X	X	X	X		X	X	X	X		X
10/11/2022	WP7	X	X	X	X		X	X	X	X		
15/11/2022	WP4	X	X	X	X		X	X	X	X		
06/12/2022	WP1+WP7	X	X	X	X	X	X	X	X	X	X	X
20/12/2022	WP1+WP3-WP6-WP7	X	X	X	X	X	X	X	X	X	X	X
10/01/2023	WP1+WP4-WP6-WP7	X	X	X	X	X	X	X	X	X	X	X
19/01/2023	WP3	X			X		X					
24/01/2023	WP1-WP2-WP3-WP7	X		X	X	X	X	X	X		X	X
07/02/2023	WP1+WP4-WP6-WP7	X	X	X	X	X	X	X	X		X	X
21/02/2023	WP1+WP7	X	X	X	X			X	X		X	X
22/02/2023	WP3	X	X				X					X
07/03/2023	WP1+WP4-WP6-WP7	X	X	X	X	X	X	X			X	X
21/03/2023	WP3	X	X				X					X
21/03/2023	WP2+WP3-WP6-WP7	X	X	X	X		X	X			X	X
28/03/2023	WP3	X					X					X
30/03/2023	WP7	X	X							X		X
04/04/2023	WP2+WP4-WP7	X	X	X	X		X	X		X		X
19/04/2023	WP2+WP4-WP7	X	X	X	X		X	X	X	X	X	X
03/05/2023	WP1+WP4-WP7	X	X	X	X	X	X	X	X	X	X	X
03/05/2023	WP7	X	X							X		X
17/05/2023	WP1+WP3-WP7	X	X	X	X		X	X		X		X
31/05/2023	WP1+WP4-WP7	X	X	X	X		X	X	X	X	X	X
08/06/2023	WP3	X					X					X
14/06/2023	WP1+WP4-WP6-WP7	X	X	X	X		X	X	X	X		X
16/06/2023	WP4	X							X			X
28/06/2023	WP1+WP7	X	X		X		X	X		X	X	X
12/07/2023	WP1+WP7	X	X	X	X		X	X	X	X	X	X
26/07/2023	WP1+WP7	X	X	X	X		X	X	X	X		X

Organizer In person Webmeeting

Members of the AB¹ have been involved in the relevant activities of the project since the kick-off meeting and provided useful feedback on the A2M workplan and activities; moreover, they have contributed both to communicate and disseminate the project actions. An introductory, get-to-know, webmeeting was organized in January 2023 between RSE and the AB members to provide a detailed overview of project activities and deliverables and involve them more effectively in the A2M project.

Task 1.3 Quality Management (Leader: IEECP)

A Quality Management Plan (Deliverable D1.1) has been issued to ease the collaboration among the partners of the A2M consortium and to allow for an efficient and effective quality management. The document defines a set of rules and procedures that allow the partners to organize the cooperative work efficiently, as well as to produce reports and deliverables of adequate quality, controlled and verified through fixed revision procedures.

Task 1.4 Data management (Leader: IEECP)

A Data management plan (Deliverable D1.2) has been issued to ensure the audit and other essential sensitive information of key industry stakeholders remains protected and stakeholders can be confident any input provided is responsibly managed. An open data management plan will, in fact, generate wider interest towards the improvements achieved by the project, to facilitate and potentiate exploitation opportunities.

¹ The list of members of the Advisory Board is available in Deliverable D1.1. "Project Quality Management Plan".

Given the data sensitivity in the industrial sectors, the data management plan has set a protocol for data management processes, as well as an agreement on intellectual property rights (IPR agreement), which will be agreed with the project partners and communicated in advance to the industries that participate in the project. This deliverable has also assessed the available methodologies and open repositories for data management and dissemination, in order to offer through open access as much information generated by the AzM project as possible, according to the current data protection regulation. This has allowed the compliance of all communication and data exchange with the GDPR rules.

The plan for Data management will certainly evolve during the lifetime of the project, to present the status of the project's reflections on data management and, therefore, Deliverable D1.2 will be constantly updated to take such an evolution into account.

Work package 2

The main objective of this WP is to analyse the “State of the Art” of national auditing systems and the status of ESM implementation in the manufacturing industries in the six project countries. The deliverables examine national regulations and guidelines, analyse the mindset and the decision-making processes on energy efficiency investments of manufacturing companies, identify a first list of most relevant ESM and highlight the systemic barriers to be overcome to accelerate the uptake of ESM in the industry. The results from this WP constitute a common ground for the following project activities by clarifying the regulatory situation in each country, engaging with the first relevant stakeholders (both companies and auditors) for the rest of the project and confirming which main factors and barriers to focus on in the project’s strategy (WP3).

The activities are essentially being coordinated by ADELPHI, providing the methodology, templates, aggregating the feedback, assessing the results and preparing the deliverables. The five other country partners prepared and sent their contributions with information on national auditing systems and from companies, auditors and additional country experts. Partners also supported in sending clarifications and additional feedback when needed.

Task 2.1 Analysis of the current auditing system and ESM implementation (Leader: ADELPHI)

The goal of this task is to provide an overview of the gaps and limitations of the current energy auditing systems in the six countries. The report draws mainly on the country expertise and additional desk research from the six lead country partners. For this purpose, a template was created by ADELPHI, based on experience from previous projects on national audit systems. They included questions on the evolution of national auditing policies and auditor requirements, audit reporting standards and guidelines as well as national evaluation systems and their results. ADELPHI used the partner’s inputs to carry out a comparative analysis of the national systems, identifying similarities and highlighting key differences. Prior to the formal reviews by NTUA and ESCAN, the report was fact-checked by all lead country partners to avoid any ambiguities in the transcription of national policies. The deliverable was submitted in time by the end of month 6 (April 2023).

This task included an examination of the companies’ readiness to implement proposed measures and identify implementation based on questionnaires. However, this subtask was merged with Task 2.2 because not enough survey results had been collected by the lead country partners in time for the submission of Task 2.1 in month 6. Overall coherence and comprehensiveness of the deliverables was thereby improved, as D2.1 now focuses exclusively on the policy and regulatory framework and D2.2 jointly examines the implementation gap with the company mindsets and decision-making processes.

A basic list of recommended ESM in the manufacturing industries was collected using the partners’ experience, national evaluations from Germany and Italy, as well as mandatory audit results provided by the German authority in charge of the auditing system (over 11,000 audit results were compiled). This list was further refined and analysed in D2.2 using survey results from companies and auditors. The over 7,000 relevant ESM from mandatory German audit reports will also be of particular relevance for WP3 (notably T3.2).

This task focuses on the national implementations of Article 8 of the EED and is very important as the European Commission is in the process of revising the Directive. To expand the scope of the report, ADELPHI elaborated factsheets summarising key features of national auditing systems of additional EU Member States. Ultimately, the aim is to offer a complete overview of the implementation of Article 8 of the EED across all 27 EU countries. These factsheets will be progressively added in annex to D2.1 until 2024. This complementary task, not originally foreseen in the Grant Agreement, also allowed partners to initiate engagement activities with country experts and energy agencies beyond the six project countries.

Task 2.2 Analysis of companies' strategy and top management decision process (Leader: ADELPHI)

The goal of this task is to analyse top management's decision process and mindset to invest on energy efficiency and to examine who takes the decision and based on what factors. For this purpose, ADELPHI used previous project results and literature on auditing systems to develop two in-depth questionnaires (Milestone MS4), addressing companies and auditors, which were shared with the five lead country partners to gather responses. The extensive questionnaires included a self-assessment of the companies, information on recommended and implemented ESM, the decisive reasons influencing implementation, whether companies prefer internal or external energy management staff, how decisions are made and what barriers affect ESM implementation.

The target number of surveyed entities per country was exceeded with 31 industrial manufacturing companies and 35 auditors (at least 10 per country, in total 66 valid survey results (Milestone MS5)). It is, however, worth noting that, especially among companies, a majority declined the interview invitations. Therefore, it was particularly difficult for all lead country partners to reach the minimum expected number of surveyed companies (5 per country) and auditors (5 per country), which took about two months longer than initially planned by ADELPHI. Therefore, the initial submission deadline for D2.2 (Month 6, April) could not be achieved. The final deliverable focuses on the mindset and the decision-making process of companies, but it also includes a preliminary section analysing the gap between recommended and implemented ESM and identifying key reasons explaining this gap. The report was formally reviewed by RSE and POVAS and submitted at the end of month 8 (June 2023).

This task was of particular relevance for the next activities of the project, as it initiated several first contacts with relevant stakeholders to be involved in the training and technical support activities under development in WP4 and WP5. Moreover, understanding the point of view of the key stakeholders involved in the implementation of Article 8 of the EED is crucial to elaborate adequate policy recommendations as planned in WP7.

Task 2.3 Assessment of the informational, behavioral, organizational and economic barriers affecting the uptake of ESM (Leader: ADELPHI)

The main goal of this task is the assessment of the informational, behavioral, organizational and economic barriers affecting the uptake of ESM. It is based on the information gathered in T2.1 and T2.2 (especially the questionnaire results) as well as a review of literature carried out by ADELPHI on barriers affecting ESM implementation in the industry. In addition,

ADELPHI has drawn on extensive survey results from relevant companies provided by the German authority in charge of the national auditing system.

This task has also analysed which barriers most affect implementation between different ESM categories, company typologies and countries in order to identify patterns. The report has established a catalogue of ESM focusing on their potential and likeliness of being implemented, as well as a differentiated list of the most relevant barriers. The deliverable has been submitted in due time by end of month 9 (July 2023).

Work package 3

The main goal of WP3 is to introduce the Audit2Action strategy, to develop the supporting engineering and assessment tools, to promote the adoption of energy audit recommendations, link the energy audit results with the ISO 50001 to provide an overview of the benefits obtained as a result the adoption of and support the decision-making process through the enhancement of the corporate strategy.

The activities have been primarily guided by NTUA, as work package leader, and ESCAN, as task leader, under the coordination of RSE with the contribution from all partners in terms of consultation input on the methodological approach, data collection and engagement with relevant stakeholders at a local level as needed.

Task 3.1 The Audit2Action strategy: A new approach to upgrade energy audit outcomes (Leader: ESCAN)

The objective of the T3.1 task is to develop the Audit2Action Strategy aiming to assist companies in implementing energy audit recommendations. This strategy primarily targets middle and upper-level management (department heads to directors). However, it could also be used by energy leaders at lower levels (such as operational employees with extensive experience in a particular energy service) to develop innovative solutions.

We decided to anticipate the activities of this task because they were fundamental for WP4 and WP5 activities, allowing partners to start to engage companies in such activities as soon as possible. The Audit2Action Strategy, in fact, provides a practical framework to support industrial companies in the uptake of ESM identified through energy audits, which primarily aim at reducing their energy consumption and thus supporting their energy transition. Moreover, the strategy includes support activities for the identification of non-energy benefits (NEBs) associated with the implementation of the ESM. This latter aspect related to NEBs deserves particular attention, since it can provide an additional driver for the incentivizing process of ESM uptake. The Audit2Action Strategy is centered on the set-up and launch of a capacity building program for high, intermediate and low-level managers within the companies, in order to accelerate the uptake of the energy audit outcomes. The aforementioned coordinated involvement of companies' management and of engaged energy professionals (energy staff, energy auditors, energy consultants, etc.) at the various levels of the energy management process represents a key element for the Audit2Action Strategy.

Deliverable D3.1 – “The Audit2Action strategy: a new approach to upgrade energy audit outcomes” centered about the Audit2Action Strategy has been concluded (Milestone MS6) under the leadership of ESCAN and NTUA, with significant support from RSE and receiving inputs from ENVIROS, HERA, ADELPHI and IEECP: this deliverable has been submitted by the end of M9 (July 2023), 2 months before the original deadline of M11 (September 2023).

Task 3.2 Assessment of KPIs and ESM to support the strategy of decision makers (Leader: NTUA)

The goal of this task is to provide reliable and comprehensive information to support the industrial companies to overcome the barriers hindering the adoption of cost-effective ESM, through enabling the comparison of such measures and their respective KPIs. In this regard, T3.2 is developed in two levels:

- First the identification of a set of KPIs for benchmarking and ranking different ESM, considering different areas of improvement: energy savings with respect to a reliable baseline, environmental impacts, economic feasibility and nonenergy benefits (also considering social responsibility);
- Second, the assessment of ESM and the development of supporting tools according to methodological approach identified.

A set of more than 20 KPIs and the respective benchmarking methodology were initially proposed by the task leader and discussed with the partners, regarding data availability, coverage of ESM evaluation aspects, validity of benchmarking approach, etc. By the end of M9, the identification of the KPIs (16 including 9 mandatory and 7 non-mandatory) has been completed (Milestone MS7), supported by the benchmarking and evaluation methodology. The set of KPIs included: 4 energy KPIs, 4 environmental KPIs, 4 financial KPIs and 4 KPIs on non energy benefits (NEBs). A data template in the form of a spreadsheet with guidelines accordingly on the data to be collected was developed and provided to all partners by the task leader (NTUA). This included also detailed guidelines of the NEBs in order to facilitate a standardised evaluation of the perceived NEBs associated with the ESM. The data template, included qualitative quantitative data required to calculate the mandatory and non mandatory KPIs.

Each partner was asked to provide input/data on as many ESM as possible addressing the targeted industry sectors.

By the end of M9, partners have provided input and technical information for 4,000 ESM. During this activity, we note the challenges encountered by the partners on various levels, such as: companies'/energy experts' reluctance to provide ESM/audit information, differences in data type availability and limited and not balanced number of ESM across countries, industries and technology groups. These challenges were addressed through frequent consultation with the partners, guidance and finetuning of the data to be collected and the respective KPIs selection. The results were also presented and sent for further review to the AB and the industry representatives/experts.

Moreover, NTUA has developed and presented the first version of the A2M Database, which hosts the data on ESM along with the relevant KPIs calculations and benchmarking analysis. The database will be fully utilized by the project's consortium by M11. This database will also be hosted in the project website, as part of the KES, to serve as a useful tool for decision makers, with which the results stemming from the audits can be scooted and compared, and thus their effectiveness can be assessed. Furthermore, the ESM database will support activities within WP4 and WP5 and the implementation of the KES in WP6.

The ESM data collected, their KPIs analysis serve as input for preparing at least 35 executive sheets, which are anticipated to be completed by the end of M11 and presented to decision-makers during T3.4 activities. The template for the executive sheets and the proposed selection for the ESM to be analysed have already been developed and provided by NTUA to the partners for following up with the ESM analysis.

Task 3.3 Assessing the companies' energy management maturity (Leader: NTUA)

For the self-assessment of the energy management maturity of industrial companies, a questionnaire in the form of a spreadsheet has been developed and is ready to be distributed at

least to the companies engaged in WP2's T2.1 activities. The A2M Energy Management Maturity Model, proposed by NTUA and discussed for further finetuning with the partners, is based on the Plan-Do-Check-Act (PDCA) framework and incorporates the seven main requirements outlined in the ISO 50001 EnMS.

For each of the seven requirement categories of ISO 50001 standard, tasks and subtasks are identified. The questionnaire presents five statements for each identified subtask. The user-respondent (company) selects the statement that most accurately reflects the current status of the respective company's energy management processes. The maturity model is intended to assist companies in identifying gaps in their current energy management practices and provide guidance on how to enhance them, aiming at eventually obtaining ISO50001 certification. By the end of M9, the proposed maturity model has been developed by NTUA presented and discussed among the partners. Accordingly, the respective self-assessment questionnaire has been developed by NTUA and sent to the partners in order to circulate it among the target companies in their countries. The deadline for returning the filled-in self-assessment questionnaires is M11. The task leader will thereafter process and evaluate the results and present them in the Deliverable 3.2 (part 2).

Task 3.4 Marketing the strategic energy – saving measures from energy audit outcomes and ISO50001 to support management level strategy (Leader: ESCAN)

The activities of this task will begin later in the project (M10), since they require inputs from other Tasks (T2.1, T2.2, T2.3, T3.1, T3.2 and T3.3), which will be provided later in M10. This task's results will serve as the foundation for WP4 and WP5 capacity-building efforts and the KES launched in M12 as part of WP6 activities.

Work package 4

The main goal of this task is to develop an integrated capacity building for engaged stakeholders to increase their knowledge and capacity and, consequently, accelerate the uptake of energy audits outcomes. The overall capacity building programme includes implementation of a “laboratory of ideas” for companies’ top management and decision makers, training courses for companies’ operational staff, training workshops for energy experts and training workshops for industry associations and other multipliers.

T.4.1 Engaging top management and decision makers by means of the “laboratory of ideas” (Leader: ENVIROS)

The draft laboratory of ideas programme as the crucial part of the task has been developed and is currently in the process of being reviewed and commented on by the partners.

The laboratory of ideas approach includes two parts:

- An initial questionnaire (to complete, if necessary, before the bilateral meeting with the company) with the goal to identify the energy reduction strategy of a specific company together with an investment strategy;
- The actual bilateral workshop (partner and company representative(s)/management) where the partners will reflect on the specific situation of the cooperating company resulting from the initial questionnaire. In order to provide a guideline for the bilateral meetings and for the sake of homogeneity among the data extracted from the different meetings, a template has been provided by ENVIROS to the various partners prior to the bilateral meeting start. This template will then be the basis for the completion of the national report required for the final deliverable (D4.1).

T.4.2 Training courses for operational staff to implement energy audit measures

(Leader: ENVIROS)

The structure of the e-learning (6 training blocks involving 23 modules) as a part of the blended training courses has been developed, commented and agreed by all partners, who will start to prepare the content of each module in the next months. These modules are meant to encompass the contents for three target audiences, such as: operational staff, energy experts and managers and industry association, constituting the materials for fulfilling T4.2, T4.3 and T4.4, respectively.

The format of the certification as the evidence of completion of the e-learning course was set and agreed.

T4.3 Training workshops for energy auditors, energy experts and energy managers

(Leader: ENVIROS)

This task has not started yet, as its activities are planned to begin at M19.

T.4.4 Training workshops for industry associations and multipliers (Leader: ENVIROS)

This task has not started yet, as its activities are planned to begin at M19.

Work package 5

The main objective of this WP is to prepare specific elements for direct and continuous support to 5 companies per country from detection to implementation in the field of 25 ESM in each one of those countries.

The key elements of the support are constituted by the Audit2Action strategy for companies advising and accompanying (with internal training within the consortium), an internal advising system supporting partners, direct support to industries to implement the ESM and monitoring of the results. Moreover, digital solutions and enhancement of corporate culture towards greener objectives is addressed.

The activities are essentially coordinated by ESCAN, as WP leader, with support from HERA as Task 5.3 leader for the elaboration of Case studies tables and NTUA as Task 5.5 leader, for the promotion of digital tools to the business, and with participation of all of partners except ADELPHI in the development of the tasks in their country.

The activities have started in May 2023 (M7), with the methodology, as planned in GA and are scheduled to be finished by the end of the project, in October 2025.

Task 5.1 Methodology design and training (Leader: ESCAN)

This task includes the design of a methodology to clearly support the business in the application of the energy efficiency measures (Task 5.1.1) and the internal training workshop (Task 5.1.2). In T5.1.1 A draft methodology has been started including the following contents:

- Introduction to the methodology;
- Preparatory activities;
- Companies engagement;
- Understanding company needs and wishes;
- Finding “the momentum” for the ESM;
- Stakeholders and partners support;
- Multiple benefits analysis;
- Digital tools and platforms for EMS;
- Corporate culture towards greener objectives;
- The Audit2Action report.

Related to T5.1.2, the internal training workshop is being organized in Madrid, as part of the activities of the 2nd consortium meeting, and it is organized by ESCAN with support of AEDHE. This two-day workshop will start with a visit to a company that produces insulation for industries and buildings which is participating also in the Advisory Board.

The second day of this project meeting will be at the Polytechnical School of Mines and Energy, where an in-class training will be provided. The internal training will include not only ESCAN professionals, but some energy experts will indicate their experiences of ESM implementation and how to activate them to be implemented in the industries.

Task 5.2 Internal advising system (Leader: ESCAN)

This task has not started yet, as its activities are planned to begin at M12.

Task 5.3 Supporting ESM implementation (Leader: HERA)

This task has not started yet, as its activities are planned to begin at M12.

Task 5.4 Monitoring of the ESM results by means of Audit2Action reports (Leader: ESCAN)

This task has not started yet, as its activities are planned to begin at M12.

Task 5.5 Promoting the use of digital solutions (Leader: NTUA)

This task has not started yet, as its activities are planned to begin at M18.

Work package 6

The goal of this WP is to foster knowledge exchange between partners and stakeholders throughout and long after finalization of the project. This is done through the creation of a secure and easily accessible space for online discussion and sharing of key project materials, such as public- and non-public auditing reports, e-learning materials, tutorials, video outputs and other informative results coming out of the various WPs.

There is a distinction between an external “public” and an internal “non-public” side and caters to both type of visitors, offering project stakeholders (the companies) a professional and secure method to access confidential results, reports and discuss findings and project recommendations.

Being a WP geared toward the later stages of the project, the work done in the three underlying tasks is limited. Most substantially the proprietary work done in T6.1 to ensure the project website (WP7) has the technical capability to facilitate the requirements needed for the hosting and technical integration of the (public) Knowledge Exchange Space (KES) and associated task activities. For T6.2 preliminary discussion with the consortium were had on the (non-public) KES solution. No noteworthy progress was made on T6.3.

Task 6.1 The Knowledge Exchange Space (Leader: IEECP)

Ties in closely with the work done in WP7 as the public knowledge exchange process facilitation has a lot in common with the planned communication and dissemination work, both relying on and building on each other. At this early stage in the project, the work carried out under this task aimed at the technical alignment between the KES and the project website. This work has been performed in preparation for the official launch of the KES (September 2023) and the kick-off of the bulk of the planned activities, which aim at mainly facilitating and supporting the collaboration with and knowledge exchange between industry and policy stakeholders from the different countries.

Task 6.2 Development and Implementation of the AUDIT2MEASURE Knowledge Exchange Space for Stakeholders (Leader: IEECP)

Early discussions with the consortium were about the (non-public) KES for stakeholders resulting in the general preference and about the likely adaptation of tried-and-trusted off-the-shelf collaboration solution(s), such as Microsoft Teams, over the development of something entirely new. Key reason behind this discussion is the understanding of the importance of lowering the barriers for participation as much as possible, both on the side of the industry companies as well as the policy makers and project consortium.

Task 6.3 Exploitation, market uptake and continuity (Leader: IEECP)

No noteworthy progress was made on T6.3 apart from the technical alignment on this tasks goals by integrating the KES and the main project website within the website of IEECP to ensure continuity after the project lifetime. This is further strengthened by the close collaboration with WP7 and the general IEECP communication team.

Work package 7

This WP addresses the communication of AUDIT2MEASURE among its target audiences. It includes online and offline dissemination, analysis and engagement of stakeholders and communication of project results in various settings to fulfill the general objectives of the project.

Despite some initial delays caused by a change of leadership in Tasks 7.1 and 7.4, activities under WP7 are taking place according to plan and meet no significant barriers.

Task 7.1 Dissemination and communication plan (Leader: IEECP)

T7.1 aims to design a communication and dissemination strategy to guide all subsequent activities within WP6 and WP7. Despite some initial delay, D7.1 – “Plan for the Dissemination of Results (PDR) – 1st edition” has been developed and submitted at the beginning of June 2023.

The next step within this task is D7.3 – “Summary and compilation of all dissemination activities including impact assessment – 1st edition”, which will be submitted in M11.

Task 7.2 Stakeholder analysis and engagement (Leader: NTUA)

This task focuses on (a) the identification of the stakeholders that potentially can be engaged and support the project activities and (b) to provide the engagement methodology so that project partners can properly engage them. The objective of the task and the desired outcome is to encourage stakeholders to engage with AUDIT2MEASURE, both by providing inputs to the research and by taking up the project’s recommendations.

The task leader elaborated and provided a template to the partners for the identification and analysis of the national stakeholders, as well as regional and EU stakeholders. In total, 466 stakeholders have been identified and their engagement in the various project activities has been mapped. Four criteria were considered for the analysis of the stakeholders and their potential contribution: (a) the extent of the interest of the stakeholder in participating in the project’s activities, (b) the extent of influence that the stakeholders have in the market to contribute to the wide communication, dissemination and further exploitation of the project’s outcomes, (c) the necessity of involving the specific stakeholders in the project and (d) the level of expertise and knowledge in the specific subjects. Following a co-creation development process, the task leader provided an assessment report, evaluating the stakeholder identification and mapping process for each country and providing feedback and recommendation for consideration in the updated versions.

The stakeholders’ database is uploaded to the project’s shared drive, thus allowing partners to know the most relevant stakeholders in every country targeted by AUDIT2MEASURE, their characteristics and their potential contribution to each of the project activities. The process is presented in report D7.2 – “Stakeholder Analysis and Engagement Plan (SAEP) – 1st edition” that was submitted on time and its purpose is threefold, (1) to present the methodology of the stakeholders’ identification and analysis following a country-level approach, (2) to map out an informed, feasible and useful stakeholder engagement plan that is consistent with the project’s context and (3) to present the monitoring and evaluation process that will guide the engagement activities.

Next within this task, the SAEP will be revisited every six months, so that necessary updates and adjustments can be made both at stakeholders' level and their potential contribution to the project activities. The next revision is planned to take place in M10.

Task 7.3 Project web-area and online dissemination means (Leader: IEECP)

As AUDIT2MEASURE addresses geographically dispersed stakeholders, online communication aims to facilitate cross-border engagement and dissemination of results. It also considers diverse target audiences, thus ensuring that messages comply with different levels of expertise.

The brand identity (logo, colors, font) was the first task to be completed. The [main project website](#) (regularly updated with new content since launch) was next (Milestone MS 15), followed by dedicated project webpages in all partners' institutional websites.

Over 20 posts about AUDIT2MEASURE have been published on social media and the project has been featured in five newsletters, including one that is external to the consortium (INZEB). More content is currently under development to disseminate the outcomes of the first public deliverables of the project.

Content on WP2 (namely D2.1) has been released while, in the next months, content on WP3 (namely D3.1) will be released and a EU dissemination webinar (in connection with WP6) is being planned for the last quarter of the year (M11-M15).

Task 7.4 Offline dissemination means (Leader: IEECP)

T7.4 complements the previous task by communicating AUDIT2MEASURE and its results in physical/offline settings such as events and media outlets. It also provides support materials for partners, so to ensure visual and content coherence across platforms.

Since the beginning of the project, a communication kit was designed and distributed among all partners. It includes a postcard-sized flyer, a roll-up poster and a value-proposition brochure (available in all project languages). Additionally, one project presentation slide deck and a set of document templates (Word, PowerPoint) were provided to the consortium as support material.

Partners translated the press-release announcing the beginning of AUDIT2MEASURE; at least 12 reproductions could be tracked across several countries. The project was also presented at an external event with over 300 attendees.

In the next months, clustering activities with other EU-funded projects should be planned, as AUDIT2MEASURE is taking part of a cluster of 18 projects.

Task 7.5 Policy recommendations (Leader: ADELPHI)

T7.5 is closely related to WP6 and focuses on disseminating a set of recommendations based on the outcomes of AUDIT2MEASURE.

As this task is dependent on the project results, it is not expected to start before M30.

3. LIST OF SUBMITTED DELIVERABLES AND ATTAINED MILESTONES

All the deliverables planned in the first 9 months of the project (except D1.4 for which we are waiting for the KPI webtool to be ready²) have been submitted on the EU portal; moreover, the submission of one deliverable (D3.1) has been anticipated by 2 months; they are all listed in Table 2.

Table 2: list of AUDIT2MEASURE submitted deliverables (July 2023)

WP	Deliverable Related No	Deliverable No	Deliverable Name	Lead Beneficiary	Type	Dissemination Level	Due Date	Delivery Date
WP1	D1.1	D1	Project quality management plan	IEECP	DMP	PU	31 Dec 2022	30 Dec 2022
WP1	D1.2	D2	Protocol on data management processes in the AUDIT2MEASURE project	IEECP	R	PU	31 Jan 2023	30 Jan 2023
WP1	D1.3	D3	Technical progress report	RSE	R	PU	31 Jul 2023	30 Jul 2023
WP1	D1.4	D4	Extract of the AUDIT2MEASURE data from the LIFE KPI webtool - 1st edition	RSE	R	PU	31 Jul 2023	-
WP2	D2.1	D6	Report of state-of-the-art auditing system and ESM implementation	ADELPHI	R	PU	30 Apr 2023	2 May 2023
WP2	D2.2	D7	Report of top management decision process	ADELPHI	R	PU	30 Apr 2023	30 Jun 2023
WP2	D2.3	D8	Report of barriers affecting the uptake of ESM in companies	ADELPHI	R	PU	31 Jul 2023	29 Jul 2023
WP3	D3.1	D9	The Audit2Action strategy: a new approach to upgrade energy audit outcomes	ESCAN	R	PU	30 Sep 2023	27 Jul 2023
WP7	D7.1	D24	Plan for the Dissemination of Results (PDR) - 1st edition	AEDHE	R	PU	28 Feb 2023	06 Jun 2023
WP7	D7.2	D25	Stakeholder Analysis and Engagement Plan (SAEP) - 1st edition	NTUA	R	SEN	28 Feb 2023	28 Feb 2023

² The EU informed us by email on July, 5th 2023 that they are still working on the adaptation of the KPI webtool and will get back to us with more information after the summer.

All milestones planned in the first 9 months of the project have also been achieved; they are listed in Table 3.

Table 3: list of AUDIT2MEASURE attained milestones (July 2023)

Milestone No	Milestone Name	WP	Lead Beneficiary	Due Date	Delivery Date
1	Kick-off meeting	1	RSE	30 Nov 2022	24 Nov 2022
4	Finalization of the questionnaire to the companies	2	ADELPHI	28 Feb 2023	10 Jan 2023
5	Finalization of the company interviews	2	ADELPHI	31 Jul 2023	4 Apr 2023
6	Draft Audit2Action Strategy	3	ESCAN	30 Jun 2023	27 Jul 2023
7	KPIs identification	3	NTUA	30 Jun 2023	12 Jul 2023
15	Project website	7	IEECP	30 Apr 2023	7 Feb 2023

4. FOLLOW-UP OF RECOMMENDATIONS AND COMMENTS FROM PREVIOUS REVIEW(S)

Not applicable as no previous review has been done.

5. DEVIATIONS FROM ANNEX 1 AND ANNEX 2

No substantial modifications with respect to the original technical objectives were registered in the first 9 months of the project. However, in total 3 deliverables were submitted behind schedule, while one deliverable (D1.4) has not been submitted yet as we are waiting for the KPI webtool to be ready². In detail, there was a slight delay in the submission of 2 deliverables:

- D2.1: the deliverable (due on April, 30th 2023) was ready for submission on April, 29th but the submission system was under maintenance in those days and became available only on May, 2nd;
- D2.2: since the questionnaires collection constitutes a fundamental step in WP2 and its future implications in other WP activities, the WP2 leader has dedicated a couple of weeks more than planned, in order to reach the desired target of at least 10 questionnaires per country.

There was, instead, a bigger delay in the submission of one deliverable:

- D7.1: this was caused by the fact that AEDHE could not commit to such activities as planned due to external reason.

As said, the above changes did not cause any modifications with respect to the original technical objectives of the project; however, the fact AEDHE could not commit as desired at this stage led to transfer some activities and responsibilities from AEDHE to IEECP, to ensure compliance with future deadlines. This transfer occurred on friendly terms between the involved parties and was agreed upon by the consortium. The details of the transfer are shown in Table 4.

Table 4: details of MM shifting from AEDHE to IEECP

	BEFORE		AFTER	
	IEECP	AEDHE	IEECP	AEDHE
WP7	8.0	12.0	16.0	4.0
T7.1	0.8	4.8 (TL ³)	4.8 (TL ³)	0.8
T7.2	0.8	0.8	0.8	0.8
T7.3	4.8 (TL ³)	0.8	4.8 (TL ³)	0.8
T7.4	0.8	4.8 (TL ³)	4.8 (TL ³)	0.8
T7.5	0.8	0.8	0.8	0.8

As can be seen, 8 MM are shifted in total from AEDHE to IEECP which, together with the leadership of T7.1 and T7.4, has led to an increase in project costs of 17,120 euros with respect to the original budget, due to the difference in MM average costs of the two partners' organizations involved in the shifting.

We decided to anticipate some activities regarding the definition of the A2A strategy (WP3) and training (WP4), to have both Deliverable D3.1 and some training materials ready before the end of summer. This latter materials has been prepared on purpose to be shown to companies during the first approach and increase the effectiveness of the get-to-know meetings. In detail, this will provide companies/stakeholders deeper insights into the trainings nature, allowing them to see the actual material upon which the training is built and how training is being planned to be delivered, thus further promoting their engagement into the project activities.

6. CONCLUSIONS AND NEXT STEPS

This report has summarized the activities carried out in the first 9 months of the project and the achieved results, included submitted deliverables and attained milestones.

There are no major deviations or concerns so far from the content of the DoA and all activities are proceeding smoothly, thanks to the fruitful and proactive collaborations among different partners.

The activities will continue in the next months and will see a more and more intense involvement of companies and stakeholders in the industrial sector, which will allow us to enter into the heart of the project, putting into action the Audit2Action strategy.

³ Task Leader.