DEESME

National schemes for energy efficiency in SMEs

Deliverable 3.9 - Public

Intermediary monitoring report - Identifying and customizing suitable policies for energy efficiency

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DEESME
National schemes for energy efficiency in SMEs

Abbreviations and keywords

Abbreviations

D	Deliverable
EE	Energy Efficiency
EnMS	Energy Management System
FBQ	Feedback Questionnaire
KPI	Key Performance Indicator
M	Measurement
MB	Multiple Benefits
WP	Work package
EnPI	Energy Performance Indicators

Keywords

energy audit, energy management system, EnMS, Multiple Benefits, Monitoring, Key Performance Indicator.

About

Improving energy efficiency is the most cost-effective way to reduce energy-related emissions, improve economic competitiveness and increase energy security. In the European Union, several pieces of legislation aimed at guiding states and companies, regardless of their size, on ways to improve their energy efficiency: one of them is the Energy Efficiency Directive, establishing a common framework of measures and requirements with the goal to remove market barriers and promote a more efficient use of energy in supply and demand. Article 8 of the Directive offers ways to achieve this, requiring Member States to promote and facilitate the implementation of energy audits and energy management systems. The audits are compulsory for large companies and recommended for small and medium enterprises (SMEs). National authorities should encourage both to implement the resulting recommendations.

Member States have all chosen different approaches to transpose the requirements into national laws and to support companies (trainings, websites, helplines and funding support schemes). SMEs have less workforce, technical and financial capacity to perform energy audits, and therefore rarely do so: making them aware of the multiple benefits that can derive from improving their energy efficiency and accompany them in the energy transition, with knowledge and funding from both the public and private sectors, is key. That is what DEESME, a Horizon 2020-funded project (September 2020 – September 2023), aims at.

DEESME enables companies, especially SMEs to manage the energy transition by taking profit of multiple benefits from energy management and audit approaches and provides national authorities with guidelines and recommendations to empower their schemes under article 8, using the multiple benefits' approach.

The project identifies and shares good practices from national schemes, EU projects, and other initiatives with national authorities and support them in developing more effective schemes dealing with energy audits and energy management systems. It assists SMEs to develop and test the technical DEESME solutions by organizing information and training initiatives, realising energy audits, and implementing energy management systems starting from international standard and adding the multiple benefits energy efficiency approach.

The project is built on a consortium of academics, research organisations, consultancies and government offices from Belgium, Bulgaria, Germany, Italy, the Netherlands and Poland, namely: IEECP (NL, coordinator), FIRE (IT), SOGESCA (IT), Fraunhofer ISI (DE), CLEOPA (DE), SEDA (BG), ECQ (BG), KAPE (PL), EEIP (BE).

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Executive Summary

Conducting energy audits and implementing energy management systems can be a source of many benefits for companies. Besides reducing energy costs, wider benefits include, for example, lower operating costs, increased productivity or improved working environment. As compared to large companies, small and medium-sized companies (SMEs) typically have less workforce, technical and financial capacity to perform energy audits, and therefore rarely conduct them.

Against this background, DEESME, a Horizon 2020-funded project (September 2020 – September 2023), aims at making especially SMEs more aware of the benefits from improving their energy efficiency and accompanying them in the energy transition. In its work package 3, the project assists SMEs to develop and test the technical DEESME solutions by organizing information and training initiatives, realising energy audits, and implementing energy management systems starting from international standards and under special consideration of the multiple benefits of energy efficiency. In particular, the specific objectives of the work package in Tasks 3.1 to 3.4 are:

- To raise awareness among companies of direct relations between energy efficiency and its multiple benefits
- To show to companies how to take profit of energy efficiency by assessing and managing the integrated aspects according to multiple benefits approach
- To develop several tools/reports such as case histories, template, methods, energy management procedures (see the WP deliverables) to allow the involvement of many companies in national schemes after the project.
- To obtain at least 50 audits and 25 energy management systems based on ISO 50001 and multiple benefits approach during the project

Task 3.5 of this work package is about "Monitoring of WP3 quantitative and qualitative results". Thus, it aims to monitor the results and impact of this work package. In particular, the number of energy efficiency measures triggered by the project in the companies, the corresponding investments and environmental impact (primary energy saved and GHG emissions avoided) will be monitored. A monitoring concept has been already developed (see D3.8).

According to the Grant Agreement, two monitoring rounds will be carried out during the project. This deliverable (D3.9) is an intermediary monitoring, which will mainly report on the use and success of the training material and energy audit by the means and it will make suggestions for improvements that could feed into further enhancements of the DEESME approach. This monitoring report covers progress until end of May 2022. Based to the activities carried out and the data gathered during this first monitoring period, the Basic Training and the feedback of the participants after this training are the main focus of D3.9.

This report covers a brief summary of the monitoring concept relevant for the first round. Then, the data gathered are presented. Later on, the recommendations regarding the trainings as well as for the data collection are formulated.

1. Monitoring concept

1.1. Overview of the concept

Work package 3 (WP3) of the project aims at enabling companies to take profit of multiple benefits and energy management approach. For this purpose, energy audits and management systems will be integrated with the multiple benefits approach through the implementation and testing of models that will be developed within the project. In addition, companies will be mobilized through information and training activities. In particular, the specific objectives of the work package are:

- To raise awareness among companies of direct relations between energy efficiency and its multiple benefits
- To show to companies how to take profit of energy efficiency by assessing and managing the integrated aspects according to multiple benefits approach
- To develop several tools/reports such as case histories, template, methods, energy management procedures (see the WP deliverables) to allow the involvement of many companies in national schemes after the project.
- To obtain at least 50 audits, 25 energy management system based on ISO 50001 and multiple benefits approach in each country during the project, energy efficiency low costs and management solutions.

The monitoring activities in WP3 are to find out to what degree these specific objects have been reached and to identify opportunities for improvement the further implementation of the project. In other words, task 3.5 (T3.5) is to monitor the results and impact of the work package (Figure 1).

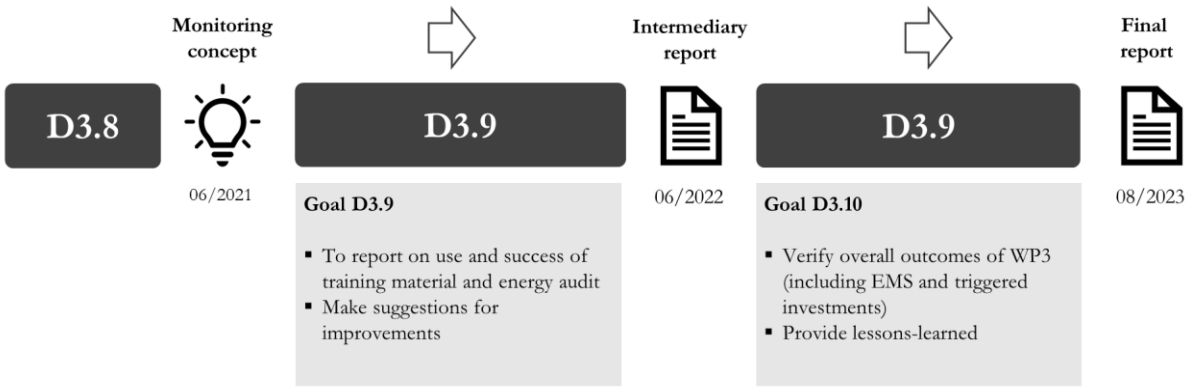

Figure 1: Overview of the deliverables in T3.5

The monitoring concept has been elaborated in T3.5 and presented in the public report D3.8:[1] This monitoring concept specified how the successful use and application of the tools created under the DEESME approach will be monitored (D3.8). Based on this concept, two monitoring rounds will be carried out. An intermediary monitoring (D3.9) - this report - will mainly report on the use and success of the training material and energy audit and it will make suggestions for improvements that could feed into further enhancements of the DEESME approach, particularly with regard to the campaign to be implemented in WP4 and to institutionalization in WP5.
A second monitoring (D3.10) towards the end of the project will verify the overall outcomes of WP3 (energy management and triggered investments included). In that way, it will verify whether the key performance indicators relevant for WP3 have been accomplished and it will seek to provide lessons-learned for the exploitation of DEESME approach after the formal conclusion of the project.

1.2. Overview of data collection

Regarding the quantitative impacts of the project, data regarding the implementation of EE measures before the project interventions (baseline) and shortly before the end of the project will be gathered. The assessment of the perception of the trainings and tools will require two data collections, one after the Basic Training and one after the advanced training. It is assumed that only the companies attending the advanced training are interested in energy efficiency and implementing EE measures. Therefore, only those companies will be monitored on the implementation of EE measures. Figure 2 provides an overview of the monitoring activities in terms of process.

[1] see https://www.deesme.eu/wp-content/uploads/2021/07/D3.8_Monitoring_Concept_20210714_final.pdf

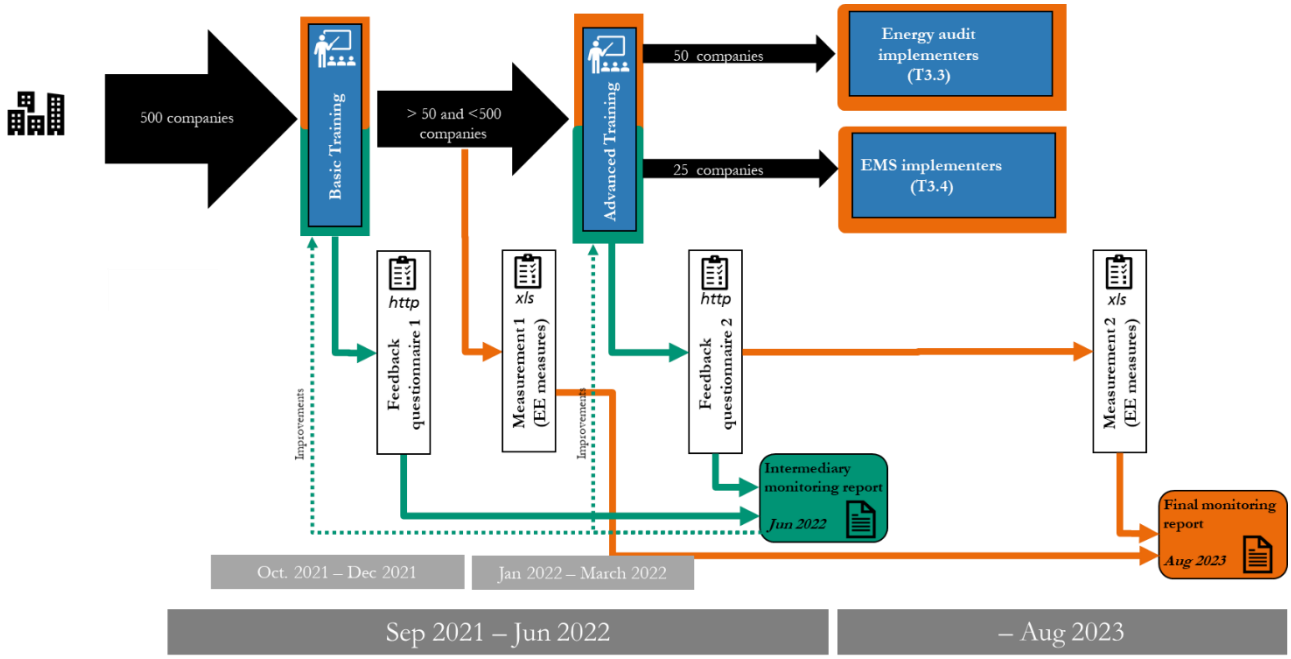

Figure 2: Key elements and process of the monitoring activities

In total, the data collection activities encompass four assessment activities:

- **First data collection (after the basic training)**: This first data collection (feedback questionnaire 1 - FBQ1) focuses on the perception of the trainings and tools and will be carried out after the basic training. The success of the materials developed for the 500 enterprises trained will be measured by questions in a survey conducted with the training participants.
- **Second data collection (before the advanced training)**: This second data collection focuses (measurement 1 - M1) on the status of implementation of energy efficiency measures in the companies before the advanced training and will cover only the companies, which are going to participate in the advanced trainings.[2] This kind of initial assessment is based on the rationale to first analyse the status quo before the targeted companies come in further contact with the DEESME project. In particular, it focuses on the current perception of energy efficiency measures. Only after this initial status has been evaluated, the results and impacts of the DEESME project can be evaluated by the follow-up interventions.
- **Third data collection (after the advanced training)**: This third data collection (feedback questionnaire 2 - FBQ2) focuses on the perception of the trainings and tools and will be carried out after the advanced training. The success of the materials developed for the enterprises will in particular be measured by questions in a survey (feedback questionnaire) conducted with the training participants.

[2] between 50 and 500 companies

- **Fourth data collection (February 2023)**[3]: This last data collection (measurement 2 - M2) focuses on the final view of the targeted companies on energy efficiency measures and will be carried out towards the end of the project. For the energy efficiency measures, the number of planned or already implemented measures due to the DEESME approach will be accounted for. As well as those which were not considered before the training and are now intended to be implemented.

1.3. Status by end of May 2022

The project partners have been active in providing training and gathering data for the monitoring. Table 1 gives an overview of the status of the trainings and data gathering activities carried out until 31/05/2022. The overview reports figures for single non-intermediary enterprises. Intermediary institutions are institutions which are not the target enterprises, where the EE measures will be implemented, but they play a role in the process, e.g.: energy agencies, banks, consulting companies...

Country	Partner	Enterprises trained - Basic	Enterprises trained - Advanced	FBQ1	FBQ2	M1	M2
Bulgaria	ECQ	101[4]	0	27	0	0	0
Germany	CLEOPA	346[5]	0	11[6]	0	0	0
Italy	SOGECA	47[7]	16[8]	40	0[9]	0	0
Italy	FIRE	63[10]	0	61	0	0	0
Poland	KAPE	8	0	0	0	0	0
Total		565	45	139	0	0	0

Table 1: Overview of the status of the trainings and data gathering activities for the period until 31/05/2022

Due to the progress of the project by end of May 2022, only the monitoring of the basic training activity and the analysis of the Feedback Questionnaire 1 will be possible in this report. Update regarding the basic training and the FBQ1 as well as the advanced training, FB2, M1 and M2 will be part of the final monitoring report (D3.10).

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[3] and therefore relevant for the second monitoring round (see D3.10 report)

[4] carried out on 31/03/22 in presence

[5] carried out between January and May 2022, all online. After the training of the first 312 companies, some adjustments were done and applied to 34 companies trained.

[6] from the 34 companies. For the first 312 companies trained, data of the feedbacks could not be retrieved, but the feedback rate was very low. See more explanation in 3.1

[7] carried out on 3/12/21 (8), on 11/3/22 (6) and on 31/5/22 (33), all online

[8] carried out on 25/3/22 (5) and on 22/4/22 (14), all online

[9] no FBQ available for the Advanced Trainings carried out before end of May 2022

[10] carried out on 30/11/21), all online

1.3.1. Data collection forms

The feedback questionnaires have to be filled in at the end of each training carried out in Task 3.2. Collection of data regarding the energy efficiency measures (measurement 1 and 2) will be done with a spreadsheet.
A set of the data collection forms are provided in the Annex of this document. This section provides an overview of these documents. Details on the use of the templates is also to be found with the templates and accompanying instruction which illustrate the collection process and explains colour codes used in the document. The DEESME partners involved in the data collection will get a detailed guideline describing all steps of the process (see Annex 5.1).

1.3.2. Feedback questionnaires

The questionnaires have been developed by Fraunhofer in collaboration with ECQ, which is responsible for the Task 3.2 ("Mobilising companies").
The feedback questions seek to understand the perception of the DEESME trainings in general and of elements that have been developed for the trainings. The evaluation survey questionnaires themselves consist of open and closed ended questions:

- Feedback questionnaire 1 (FBQ1): see Annex 5.2
- Feedback questionnaire 2 (FBQ2) see Annex 5.3. It has been developed after D3.8 was completed. FBQ2 is partly based on the FBQ1 and includes a section with a semi-structured questionnaire. In particular, the part 1 (personal information) is the same in both feedback questionnaires, in order to be able to identify the companies. Part 2 (awareness on the topic of the training) is also common, so that even if a participant has not provided any feedback after the first training, we have an additional chance to get his/her feedback on few aspects after the second training.

Both questionnaires have been translated in the language of each target country and been made available as online questionnaire. When participants haven't provided the feedback directly online (e.g. on paper), the answers have been transferred by the project partners in the online questionnaire, so that all the feedback was available as a database.

1.3.1. Measurement template

The Excel file is structured in several sheets, which are described in the following subchapters (see Annex 5.4). The project partners received a guideline for using the Excel file (see Annex 5.4.2).

2. Data gathered

2.1. Quantitative targets

2.1.1. KPIs

According to the project proposal, the DEESME project shall attain a set of different key performance indicators within and beyond its duration. The overall set of indicators addresses different parts of the project. Several of them relate to the activities in WP3 (Table 2: Project Performance Indicators for WP3). Many of them measure both expected impacts during project duration and 5 years after the project ends (i.e. until August 2028).

Project Performance Indicator		**Quantification**		**Measurement unit**
Indicators related to companies (savings, investments, number of companies involved)		within project duration	5 years after project ends	
#1	Companies informed and trained with enhanced energy culture with reference to multiple benefits and energy management	500 (at least 400 SMEs)	1,800,000	number
#2	Energy Audits with DEESME approach (WP3)	50	800,000	number
#3	Energy management Systems also without certification (WP3)	25	225,000	number
#4	Solutions adopted by the companies during the project	50	-	number
#5	Primary energy savings triggered by the project	10.87	64,200	GWh/year
#6	Investments in sustainable energy triggered by the project	1.5	8,000	million EUR
#7	Companies that will invest after the project thank to the DEESME approach	-	160,000	number
#8	GHG emissions avoided	3,228	19,067,400	tCO_2eq

Table 2: Project Performance Indicators for WP3

Next to verifying whether these quantitative indicators have been reached, one aim of the monitoring work package is also to report on the perception of the materials developed in the project including the aim of making suggestions for improvements. This aim cannot be achieved by merely analysing these quantitative indicators alone. An additional analysis of qualitative indicators relating to the developed materials is therefore required.

As the advanced trainings have just started (see 1.3) and the companies have not yet received support from the project team, no energy efficiency measures have been implemented yet. Accordingly, only the monitoring of KPI #1 is covered by this monitoring report.

2.1.2. Indicator #1: Companies informed and trained with enhanced energy culture with reference to multiple benefits and energy management

The target number of companies involved in informative and training sessions related to energy efficiency according to the DEESME vision has been set to 500 (at least 400 SMEs).
Currently, KPI #1 can be only assessed based on the figures gathered for the basic training.[11] As shown in Table 3, end of May 2022, the general target was overreached (113%) as well as the SME specific target (129%).

	Non-intermediary enterprises trained	of which SMEs[12]	Share of SMEs
Bulgaria	101	86	85%
Germany	346	346	100%
Italy	110	78	71%
Poland	8	7	88%
Total	565	517	76%
Target	500	400	80%
Achievement (%)	113%	129%	

Table 3: Companies trained during the basic training

2.2. Qualitative targets

2.2.1. Operationalization on the qualitative targets

Next to the previously mentioned quantitative indicators, a set of qualitative indicators shall serve in the evaluation of the developed materials in WP3. This evaluation shall in particular cover the perception of the developed approaches and materials.

Differently from the previous quantitative indicators, no specific indicators have been suggested in the proposal. Therefore, a new set and methodology is introduced here. This methodology for the qualitative evaluation covers two parts: A general evaluation part on the overall approach and an in-depth part dedicated to particular areas of the DEESME methodology.

The aim of the **broader general part** is to obtain a generalized overview of the performance of the entire set of material suggested in the project. It covers the following areas:

- **Ease-of-understanding**: How well does the target group understand the developed materials?

[11] advanced trainings have been carried out in Italy (see Table 1) but detailed figures are missing to included them in the monitoring.
[12] estimated, see Table 18

- **Ease-of-application**: How difficult is it for the target group to apply the developed materials?
- **Contribution**: To what degree does the developed material contribute to enhancing energy efficiency?
- **Cost-benefit-ratio**: What does the trade-off between the benefit from using the material and the effort to use them look like?
- **Perspectives**: Is the developed material likely to be re-used in the future by the company?
- **Recommendations**: What part was especially beneficial/not beneficial? What need for change to the developed materials is there?

The aim of the **specific in-depth part** will deal with particular building blocks of the DEESME approach. At the point of finalizing this concept, the specific approaches to be developed under WP3 were still in the design. A draft version of D3.1 made available on 18th June 2021, for example, included building blocks such as a "business analysis", "environmental analysis", "multiple benefits analysis" and "business sustainability development". Additional work is forthcoming in other Tasks under WP3. Therefore, it is only possible to provide a general overview of the expected coverage of the questions which might have to be adapted as needed. To limit the burden for the participating companies, the specific evaluation covers a selection of the previous areas, but it is kept concise and includes the following areas:

- Ease-of-understanding
- Ease-of-application
- Cost-benefit-ratio
- Recommendations

To ensure a harmonized setup, all questions covering these areas are based on a qualitative -5-point Likert scale, ranging from "totally disagree" to "total agree". Recommendations, on the contrary, are in free text format.

2.2.1. Feedbacks provided

In total, 167 participants provided feedbacks after the basic trainings. Among them, 11 participants were from the same company.
In Italy, 7 feedbacks were provided by energy managers, who are more closely linked to the enterprise compared to energy consultants, as an energy manager is responsible for the company's energy management as required by law, to which he/she is linked by a long-term employment relationship. Therefore, feedbacks from energy managers in Italy were accounted as feedbacks from the represented enterprise.
21 participants are from intermediaries such asenergy agencies, banks, or energy consultancy companies and are therefore not the core target group of DEESME in this work package: the companies, which are going to implement energy efficiency measures in their facilities.
In total, 139 participants from non-intermediary companies provided feedback on the FBQ1 online questionnaire.

2.2.1. Institutions having provided feedbacks

In total 156 participants from different institutions have provided feedbacks, 17 (11%) of them are intermediaries, 19 (12%) are micro enterprises, 46 (29%) are small enterprises, 41 (26%) are medium-sized enterprises and 33 (21%) are large one (see Figure 3).

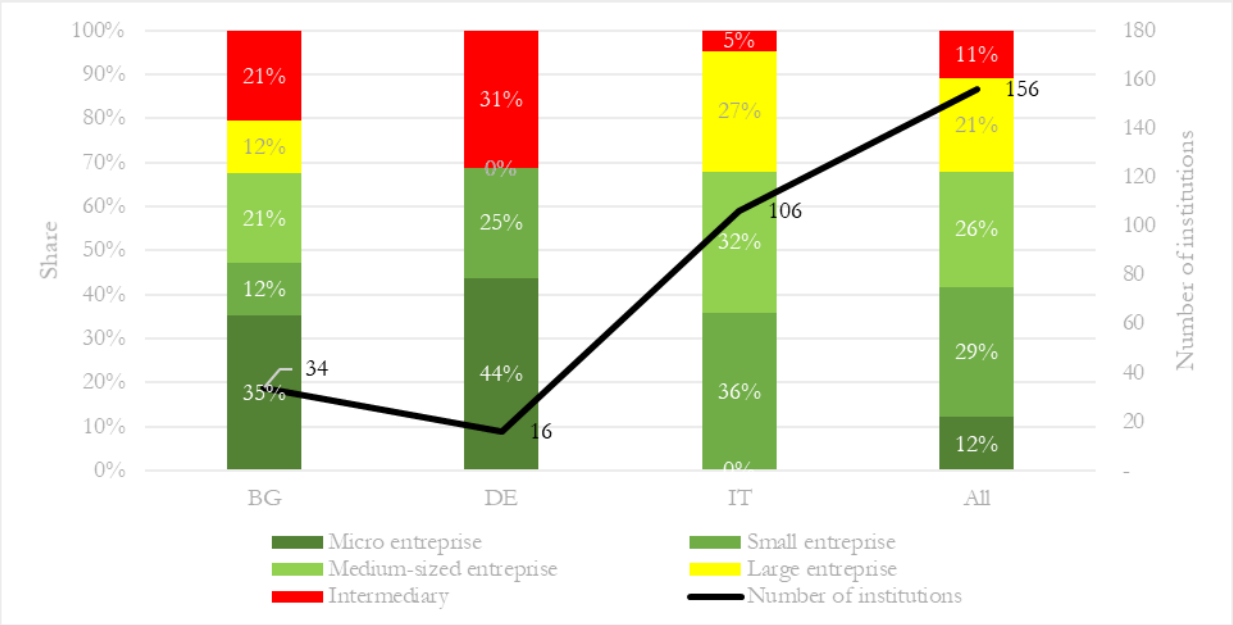

Figure 3: Share and number of institutions according to the type of institutions and country (n=156)

In Italy, the number of respondents to the feedback questionnaires is high (106) and from rather large companies compared to the one in Bulgaria and Germany.

In terms of sector of activities, excluding the intermediaries, the *manufacturing* sector was by far the main one with 41% of the companies (see Table 4). Other sectors had a much lower share. However, there are large differences among the countries. In Bulgaria, the main sector was the *manufacturing* one (30%), in Germany, *distributive trades* and *professional, scientific and technical activities* accounted each for 27% of the enterprises, while in Italy, 49% of the enterprises were from the *manufacturing* sector.

	BG	DE	IT	All
Accommodation and food service activities	0%	9%	5%	4%
Construction	15%	18%	1%	5%
Distributive trades	0%	27%	7%	7%
Electricity, gas, steam and air conditioning supply	7%	0%	6%	6%
Information and communication services	0%	9%	3%	3%
Manufacturing	30%	0%	49%	41%
Mining and quarrying	0%	0%	3%	2%
Professional, scientific and technical activities	15%	27%	15%	16%
Real estate activities	0%	0%	4%	3%
Repair of computers and personal and household goods	0%	0%	1%	1%
Water supply, sewerage, waste management and remediation activities	4%	9%	7%	6%
No answer	30%	0%	0%	6%
Number of enterprises	27	11	101	139

Table 4: Distribution of the enterprises according to the sector and the country (n=139)

Participants were also asked to indicate the management system in place of their companies. Figure 4 shows the share and number of enterprises according to the type of certifications and country. Over all non-intermediary enterprises, quality management system (ISO 9001) is the most popular management system implemented (43%), followed by environmental management system (ISO 14001) with 29% of the companies, only 12% have implemented an energy management system (ISO 50001). 21% had further management systems in place.

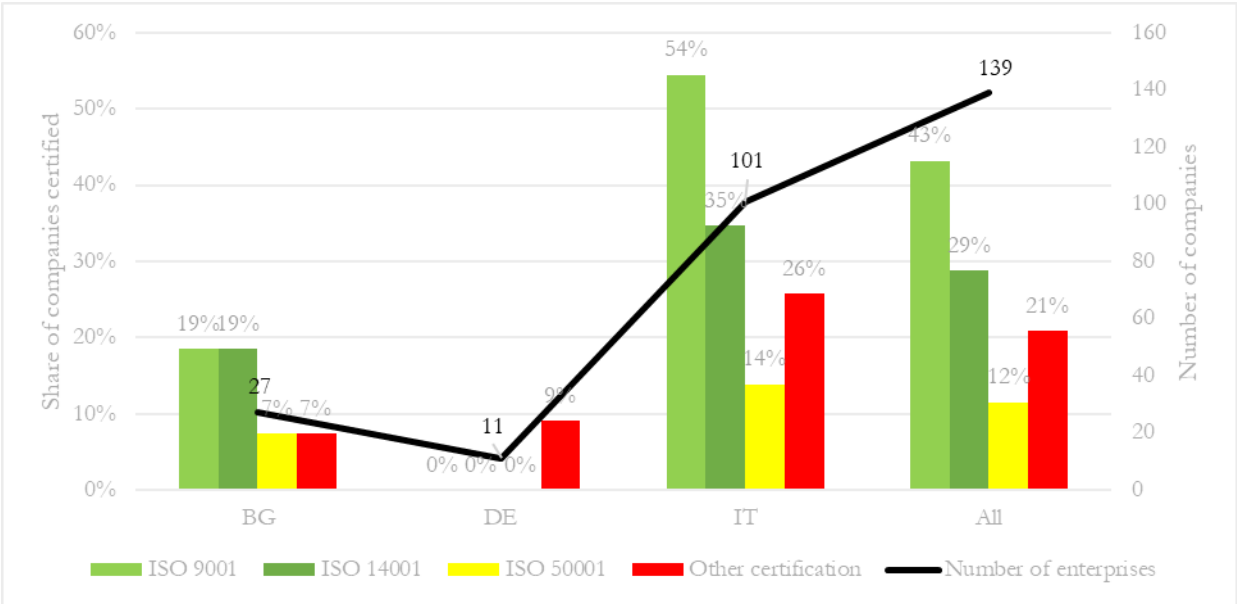

Figure 4: Share and number of enterprises according to the type of certifications and country (n=139)

Italy had the largest number of feedbacks (101 non-intermediary companies) and also the highest share of management systems implemented. Respondents from Germany had the lowest certification share. These results can be explained by examining the certification share according to the enterprise size (Figure 5), as the larger the enterprise, the higher the certification share. And, as shown in Figure 3, participants from Germany were rather from micro and small companies, while larger companies were well represented in Italy.

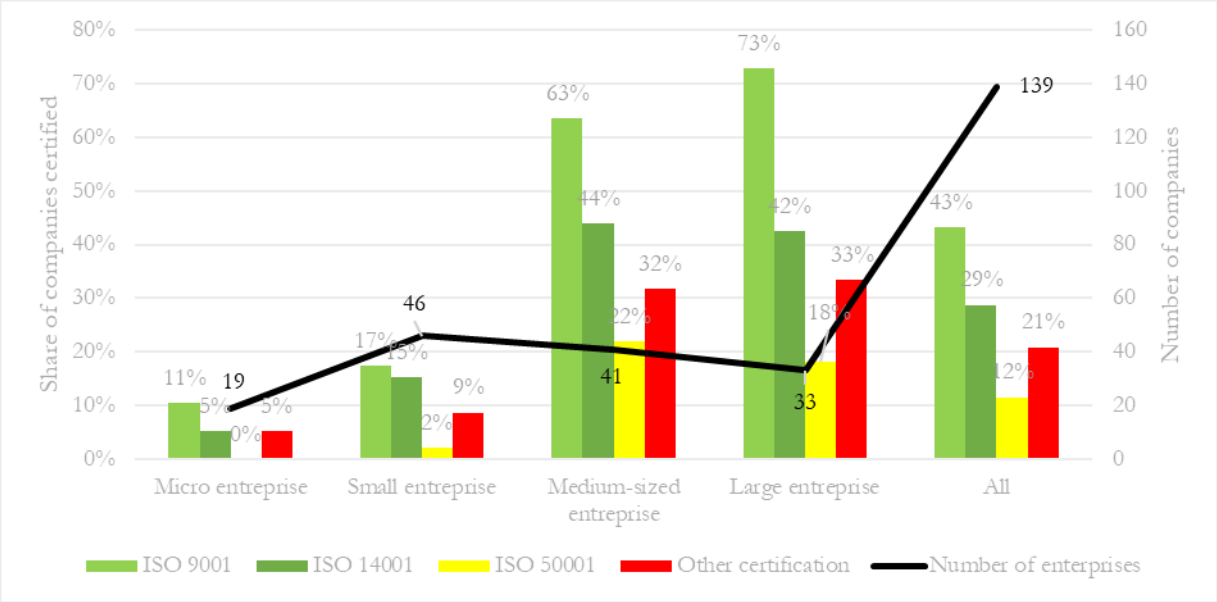

Figure 5: Share and number of enterprises according to the type of certifications and type of companies (n=139)

2.2.2. Results of the Feedback Questionnaire 1

2.2.2.1. Knowledge on Multiple Benefits

The FBQ1 questionnaire included three questions regarding the Multiple Benefits aspects. However, for the basic trainings carried out in Italy by FIRE (66 participants in total), the MB specific questions have not been covered. Accordingly, this section reflects the feedbacks of 101 participants of 90 different institutions.

Question 2.1: I knew about the Multiple Benefits approach before the training

Among the 101 participants, 71% (72) did not know about the MB approach before the basic training (Figure 6). The share was almost the same (73%) when considering only participants from non-intermediary enterprises (Table 5).
In general, the share of participants knowing about the MB approach increases with the enterprise size, even if the participants of micro enterprises (mainly German) knowing about the concept was surprisingly high (42%).

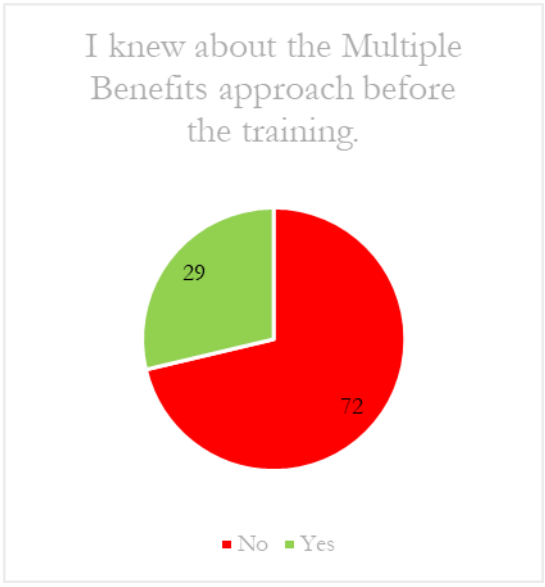

Figure 6: I knew about the Multiple Benefits approach before the training. (n=101)

	Yes	No	All	Yes (%)	No (%)
Micro enterprise	8	11	19	42%	58%
Small enterprise	1	22	23	4%	96%
Medium-sized enterprise	9	18	27	33%	67%
Large enterprise	5	11	16	45%	69%
All non-intermediary enterprises	23	62	85	37%	73%
Intermediary	6	10	16	38%	63%
All	29	72	101	29%	71%

Table 5: I knew about the Multiple Benefits approach before the training. (n=101)

Question 2.2: I have already applied the concept of Multiple Benefits of energy efficiency in my company

In terms of practice, only 17 (17%) of the 101 participants having answered the questionnaire declared to have already applied the MB concept (Figure 7). When excluding intermediary institutions, the share was 18% (Table 6). The highest rate was observed among large enterprises (25%) followed by medium-sized enterprises (22%).

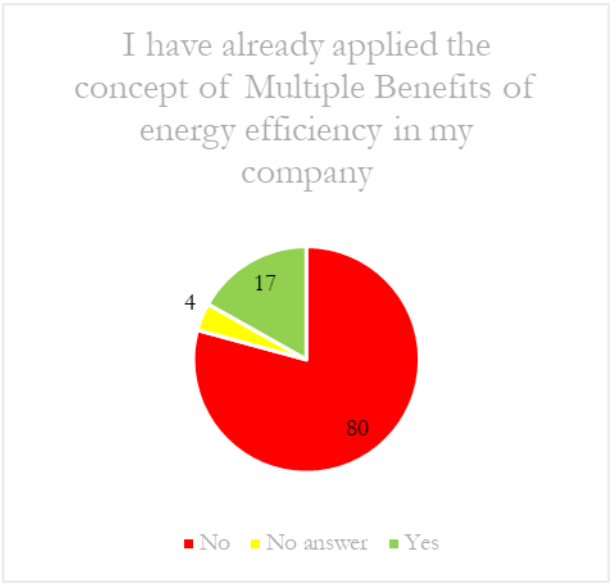

Figure 7: I have already applied the concept of Multiple Benefits of energy efficiency in my company (n=101)

	No answer	Yes	No	All	No answer (%)	Yes (%)	No (%)
Micro enterprise	1	3	15	19	5%	16%	79%
Small enterprise	0	2	21	23	0%	9%	91%
Medium-sized enterprise	1	6	20	27	4%	22%	74%
Large enterprise	1	4	11	16	6%	25%	69%
All non-intermediary enterprises	3	15	67	85	4%	18%	79%
Intermediary	1	2	13	16	6%	13%	81%
All	4	17	80	101	4%	17%	79%

Table 6: I have already applied the concept of Multiple Benefits of energy efficiency in my company (n=101)

Question 2.3: If yes, please explain the way it was applied and the results reached.

Finally, participants who had already applied the MB concept were asked to explain the way it was applied and the results reached. Following answers were provided:

- Activation, relevant organizing and interest in further development.
- Data logger installation to monitor the most energy consuming plants
- Detailed consumption analysis
- Improving the company's infrastructure
- Improving the company's machinery and infrastructure
- Insulation of buildings and facilities, energy saving lighting
- Investments analysis, monitoring and benefits assessment. Consumptions reduction > 50%
- Monitoring of the most energy consuming plants, management and programming of plants

- Non-systemic application, but maximizing the benefits of efficiency interventions
- Not directly in the preliminary assessment. Only in the final balance.
- Positive experience and a feeling that the future will be a little better. We all must work towards this direction.
- Purchased a new boiler
- Replacement of windows, external thermal insulation, gas heating, new LED lighting
- Implementation of EE measures
- No answer (reported 7 times)

2.2.2.2. Feedback about the Training

A set of six questions captured the feedback of the participants regarding the training. The analysis is carried out considering all participants.

Question 3.1: The training was useful and informative

A very large share of the participants strongly agreed (28%) or agreed (47%) with the statement "The training was useful and informative" (Figure 8). Only 4% disagreed or strongly disagreed. Among the participants of non-intermediary enterprises, the feedback was even better as in total 78% agreed or strongly agreed with the statement (Table 7).

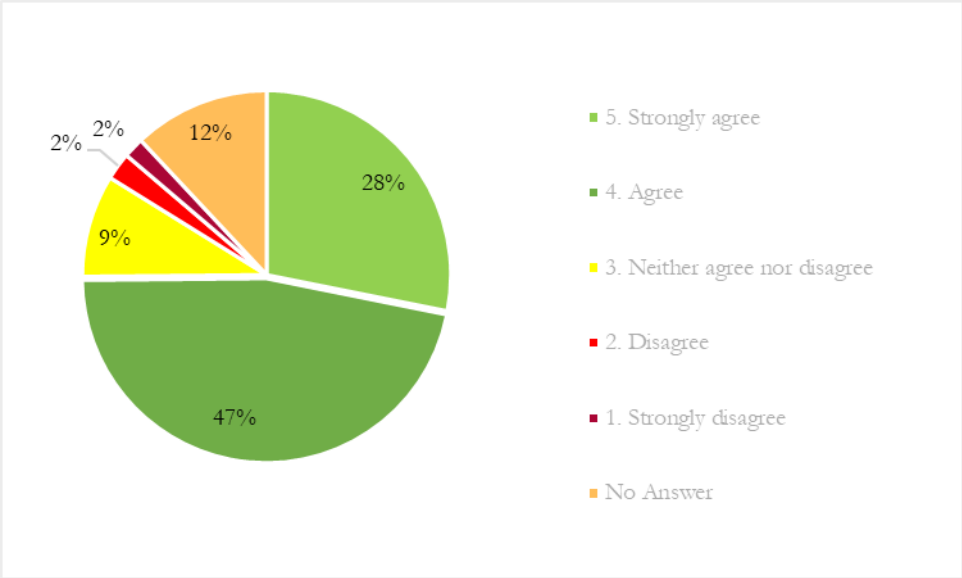

Figure 8: The training was useful and informative (n=167)

	5. Strongly agree	4. Agree	3. Neither agree nor disagree	2. Disagree	1. Strongly disagree	No Answer
Micro enterprise	74%	16%	5%	5%	0%	0%
Small enterprise	20%	53%	10%	2%	0%	14%
Medium-sized enterprise	16%	63%	9%	0%	0%	12%
Large enterprise	23%	51%	11%	6%	0%	9%
All non-intermediary enterprise	27%	51%	10%	3%	0%	10%
Intermediary	38%	19%	5%	0%	14%	24%
All	28%	47%	9%	2%	2%	12%

Table 7: The training was useful and informative (n=167)

Question 3.2: The training provided a good opportunity to learn more about the multiple benefits of energy efficiency

A very large share of the participants strongly agreed (23%) or agreed (51%) with the statement "The training provided a good opportunity to learn more about the multiple benefits of energy efficiency" (Figure 9). Only 4% disagreed or strongly disagreed. Among the participants of non-intermediary enterprises, the feedback was even better as in total 77% agreed or strongly agreed with the statement (Table 8).

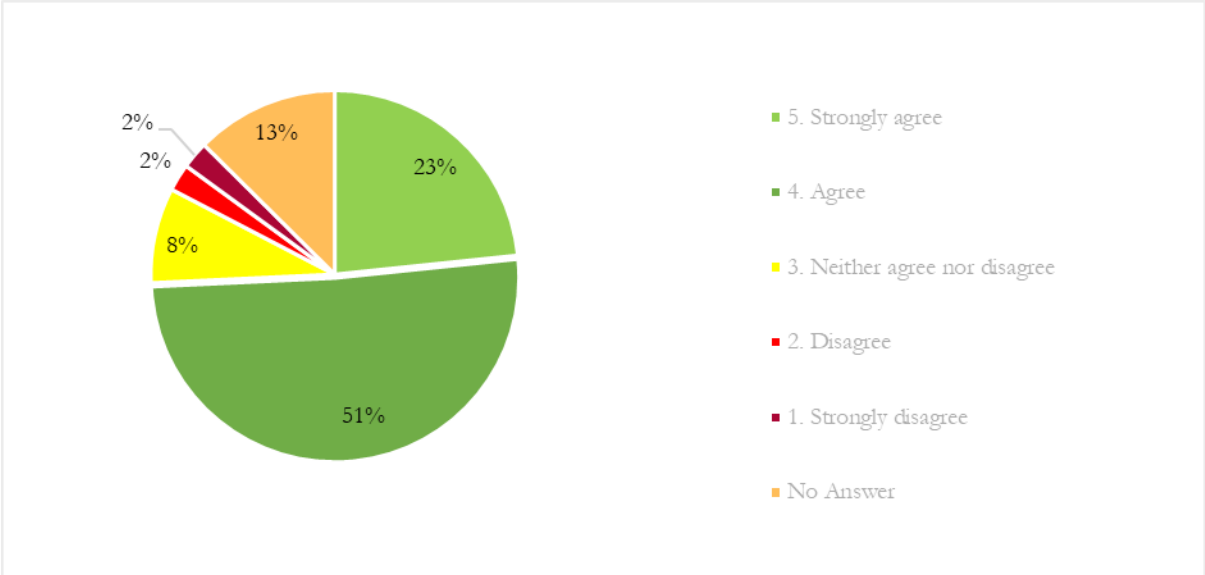

Figure 9: The training provided a good opportunity to learn more about the multiple benefits of energy efficiency (n=167)

	5. Strongly agree	4. Agree	3. Neither agree nor disagree	2. Disagree	1. Strongly disagree	No Answer
Micro enterprise	63%	26%	11%	0%	0%	0%
Small enterprise	18%	53%	10%	4%	0%	14%
Medium-sized enterprise	12%	65%	7%	0%	2%	14%
Large enterprise	17%	63%	6%	6%	0%	9%
All non-intermediary enterprise	22%	55%	8%	3%	1%	11%
Intermediary	33%	19%	10%	0%	14%	24%
All non-intermediary enterprise	23%	51%	8%	2%	2%	13%

Table 8: The training provided a good opportunity to learn more about the multiple benefits of energy efficiency (n=167)

Question 3.3: The training helped me reflect on the possibility to generate energy savings using the DEESME approach

A very large share of the participants strongly agreed (19%) or agreed (49%) with the statement "The training helped me reflect on the possibility to generate energy savings using the DEESME approach" (Figure 10). Only 4% disagreed or strongly disagreed. The feedback is similar among the participants of non-intermediary enterprises (Table 9).

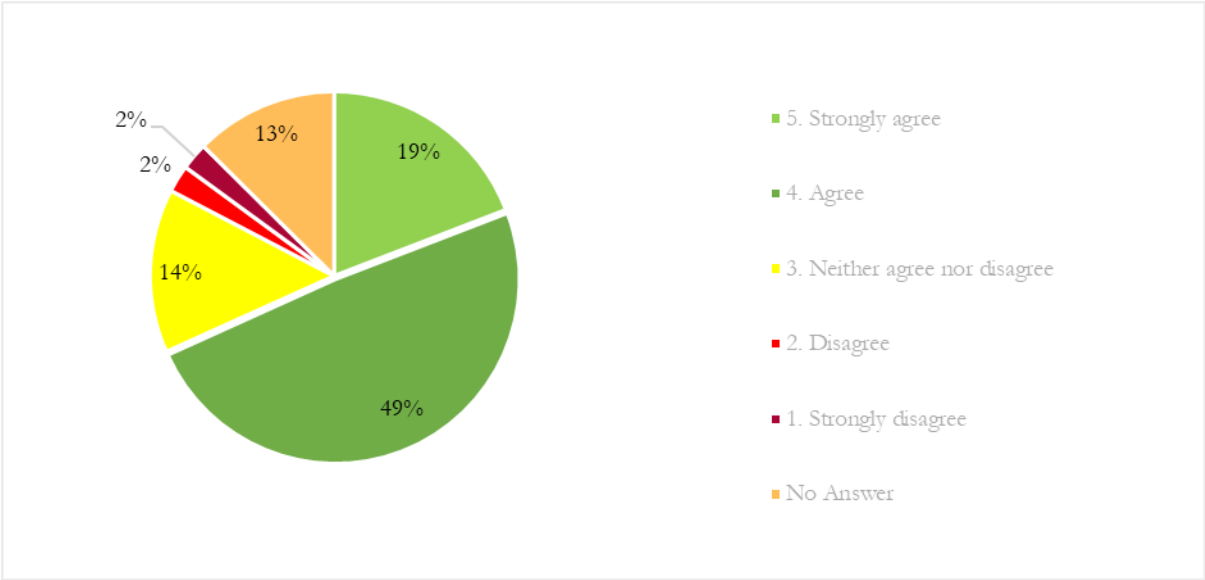

Figure 10: The training helped me reflect on the possibility to generate energy savings using the DEESME approach (n=167)

	5. Strongly agree	4. Agree	3. Neither agree nor disagree	2. Disagree	1. Strongly disagree	No Answer
Micro enterprise	42%	26%	21%	11%	0%	0%
Small enterprise	18%	51%	14%	2%	0%	14%
Medium-sized enterprise	14%	53%	16%	2%	0%	14%
Large enterprise	11%	60%	17%	0%	3%	9%
All non-intermediary enterprise	18%	51%	16%	3%	1%	11%
Intermediary	24%	38%	0%	0%	14%	24%
All non-intermediary enterprise	19%	49%	14%	2%	2%	13%

Table 9: The training helped me reflect on the possibility to generate energy savings using the DEESME approach (n=167)

Question 3.4: The use of the DEESME approach would add value to advancing the energy efficiency performance in my organization.

A large share of the participants (40%) did not answer the question 3.4. However, 16% strongly agreed and 23% agreed with the statement "The use of the DEESME approach would add value to advancing the energy efficiency performance in my organization" (Figure 11). Only 5% disagreed or strongly disagreed. In total, 66% of the participants having answered, agreed or strongly agreed with the statement. The feedback is similar among the participants of non-intermediary enterprises (Table 10).

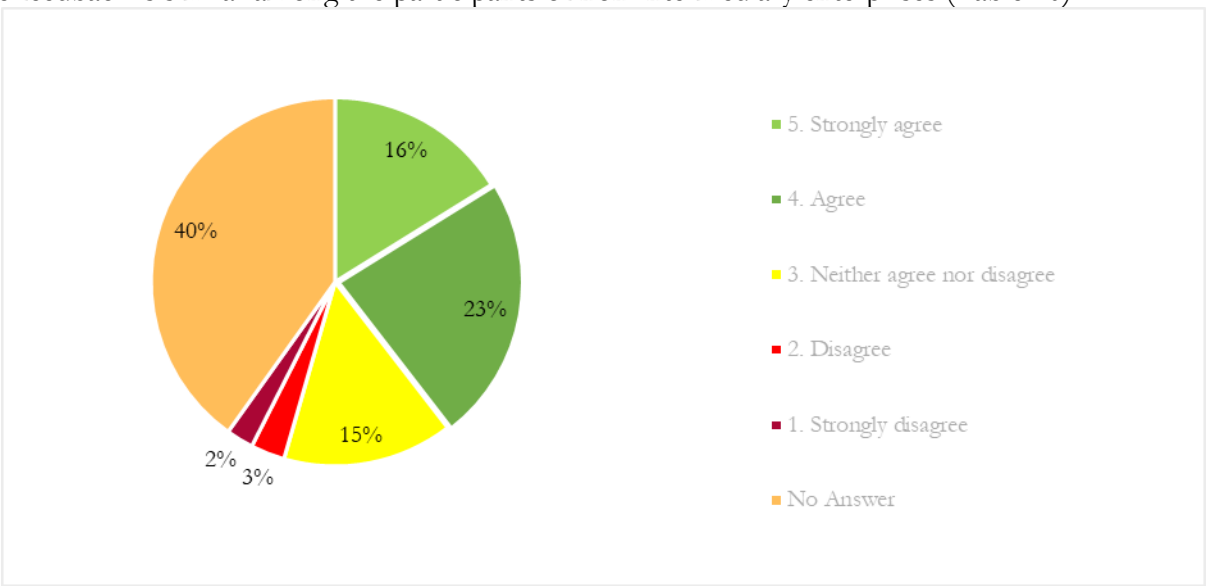

Figure 11: The use of the DEESME approach would add value to advancing the energy efficiency performance in my organization (n=167)

	5. Strongly agree	4. Agree	3. Neither agree nor disagree	2. Disagree	1. Strongly disagree	No Answer
Micro enterprise	32%	37%	26%	5%	0%	0%
Small enterprise	14%	14%	14%	2%	2%	53%
Medium-sized enterprise	14%	26%	21%	0%	0%	40%
Large enterprise	0%	37%	6%	3%	0%	54%
All non-intermediary enterprise	13%	26%	16%	2%	1%	42%
Intermediary	38%	5%	10%	10%	14%	24%
All non-intermediary enterprise	16%	23%	15%	3%	2%	40%

Table 10: The use of the DEESME approach would add value to advancing the energy efficiency performance in my organization (n=167)

Question 3.5: I would recommend other companies and interested parties to apply the DEESME approach in their energy efficiency practices?

Like for the previous question, a large share of the participants (40%) did not answer the question. However, 20% strongly agreed and 27% agreed with the statement "I would recommend other companies and interested parties to apply the DEESME approach in their energy efficiency practices" (Figure 12). Only 3% disagreed or strongly disagreed. In total, 79% of the participants having answered, agreed or strongly agreed with the statement.
The feedback is similar among the participants of non-intermediary enterprises (Table 11).

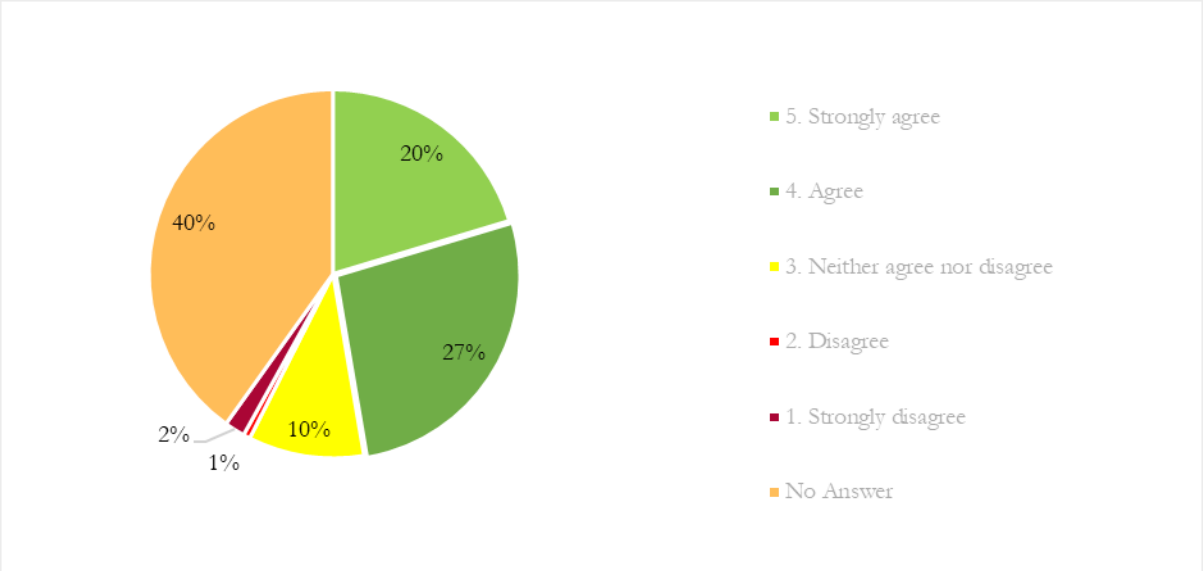

Figure 12: I would recommend other companies and interested parties to apply the DEESME approach in their energy efficiency practices? (n=167)

	5. Strongly agree	4. Agree	3. Neither agree nor disagree	2. Disagree	1. Strongly disagree	No Answer
Micro enterprise	58%	26%	16%	0%	0%	0%
Small enterprise	12%	22%	10%	2%	0%	53%
Medium-sized enterprise	19%	30%	12%	0%	0%	40%
Large enterprise	6%	31%	9%	0%	0%	54%
All non-intermediary enterprise	18%	27%	11%	1%	0%	42%
Intermediary	33%	24%	5%	0%	14%	24%
All non-intermediary enterprise	20%	27%	10%	1%	2%	40%

Table 11: I would recommend other companies and interested parties to apply the DEESME approach in their energy efficiency practices? (n=167)

Question 3.6: Please, share any additional observations or impressions regarding the training

Only 12 additional comments regarding the training have been provided by the participants:

- Evaluation of MB is not always easy and feasible, especially in companies that are not aware of energy topics
- Good approach, possibilities for improvement.
- I'm interested in good practices
- Little results for us
- Please specify the contact for the energy advisor.
- The application of the MB is very interesting
- The training could be shorter.
- Unfortunately, not suitable.
- Very exciting with a high practical relevance
- Very good that this is online. Can you also ask the nice narrator for details?
- Very informative and compactly taught. It shows the high practical relevance. Thank you!
- Very well prepared with a high practical relevance. Very useful.

2.2.2.3. Feedback about the Quality of the Training

A set of four questions captured the feedback of the participants regarding the quality of the training. The analysis of the data considers all participants.

Question 4.1: Relevance of the training session to your needs and scope of work.

A majority of the participants considered the "relevance of the training session to your needs and scope of work." excellent (18%) or good (34%) (Figure 13). Only 9% rated the relevance fair or poor. The feedback is similar among the participants of non-intermediary enterprises (Table 12).

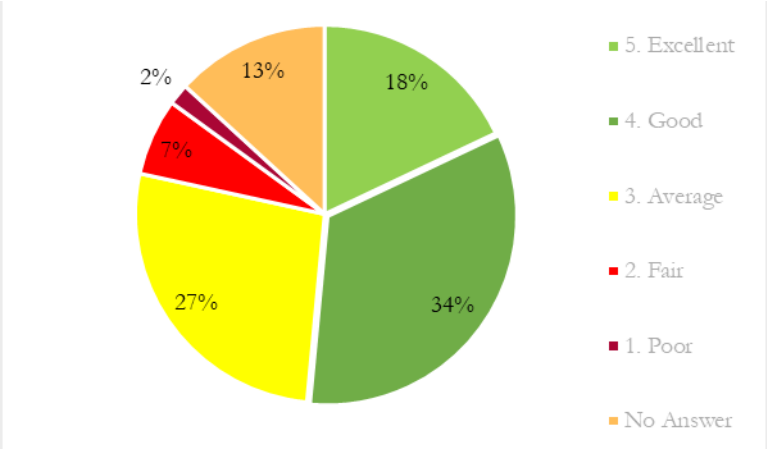

Figure 13: Relevance of the training session to your needs and scope of work (n=167)

	5. Excellent	4. Good	3. Average	2. Fair	1. Poor	No Answer
Micro enterprise	37%	16%	42%	5%	0%	0%
Small enterprise	14%	37%	22%	10%	0%	16%
Medium-sized enterprise	14%	40%	26%	7%	0%	14%
Large enterprise	9%	46%	34%	3%	0%	9%
All non-intermediary enterprise	16%	37%	29%	7%	0%	12%
Intermediary	33%	10%	14%	5%	14%	24%
All non-intermediary enterprise	18%	34%	27%	7%	2%	13%

Table 12: Relevance of the training session to your needs and scope of work (n=167)

Question 4.2: Overall quality of the training material (presentations) and discussions.

A majority of the participants considered the "overall quality of the training material (presentations) and discussions" excellent (25%) or good (39%) (Figure 14). Only 6% rated the relevance fair or poor. The feedback is similar among the participants of non-intermediary enterprises (Table 13).

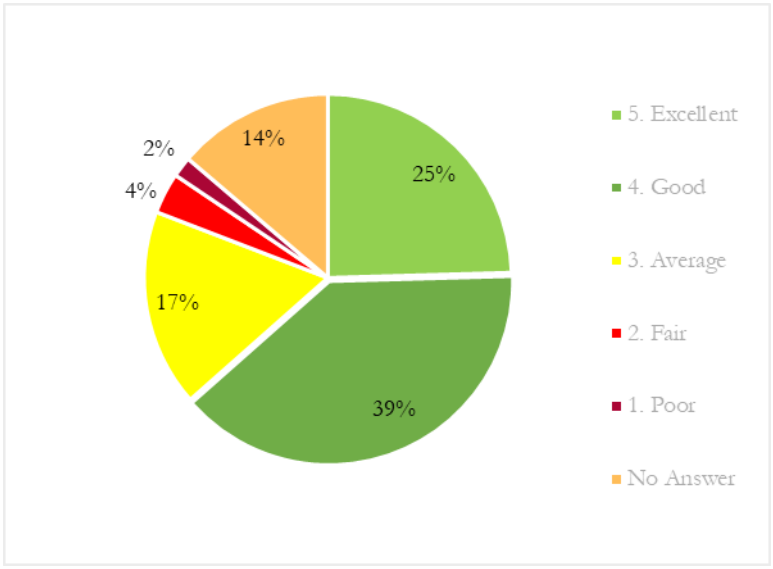

Figure 14: Overall quality of the training material (presentations) and discussions (n=167)

	5. Excellent	4. Good	3. Average	2. Fair	1. Poor	No Answer
Micro enterprise	53%	26%	21%	0%	0%	0%
Small enterprise	20%	45%	10%	8%	0%	16%
Medium-sized enterprise	16%	49%	16%	2%	0%	16%
Large enterprise	20%	40%	31%	0%	0%	9%
All non-intermediary enterprise	23%	42%	18%	3%	0%	12%
Intermediary	33%	14%	10%	5%	14%	24%
All non-intermediary enterprise	25%	39%	17%	4%	2%	14%

Table 13: Overall quality of the training material (presentations) and discussions (n=167)

Question 4.3: Overall quality of the trainers' work.

A large majority of the participants considered the "overall quality of the trainers' work" excellent (31%) or good (43%) (Figure 15). Only 4% rated the relevance fair or poor. The feedback is slightly better when considering only the participants of non-intermediary enterprises (Table 14).

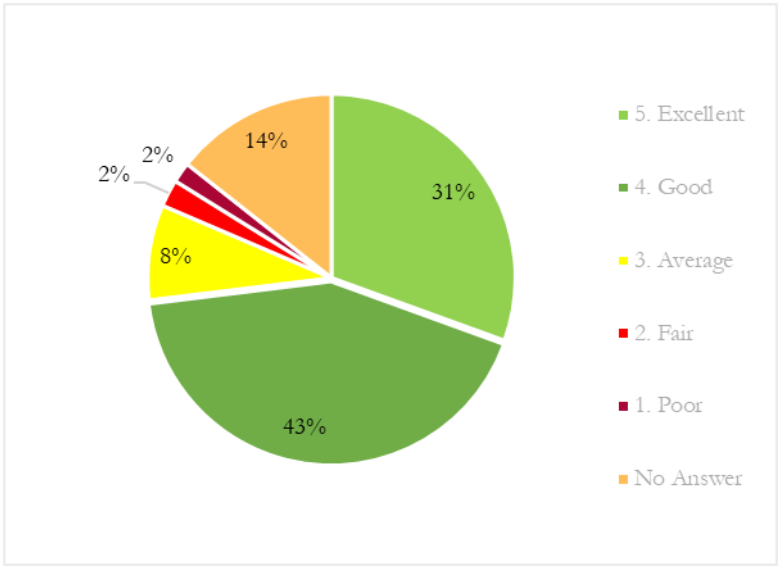

Figure 15: Overall quality of the trainers' work (n=167)

	5. Excellent	4. Good	3. Average	2. Fair	1. Poor	No Answer
Micro enterprise	58%	32%	5%	5%	0%	0%
Small enterprise	27%	49%	6%	2%	0%	16%
Medium-sized enterprise	23%	47%	9%	5%	0%	16%
Large enterprise	23%	51%	14%	0%	0%	11%
All non-intermediary enterprise	29%	47%	9%	3%	0%	13%
Intermediary	43%	14%	5%	0%	14%	24%
All non-intermediary enterprise	31%	43%	8%	2%	2%	14%

Table 14: Overall quality of the trainers' work (n=167)

Question 4.4: Overall effectiveness of this training.

A large majority of the participants considered the "overall effectiveness of this training" excellent (20%) or good (43%) (Figure 16). Only 6% rated the relevance fair or poor. The feedback is slightly better when considering only the participants of non-intermediary enterprises (Table 15).

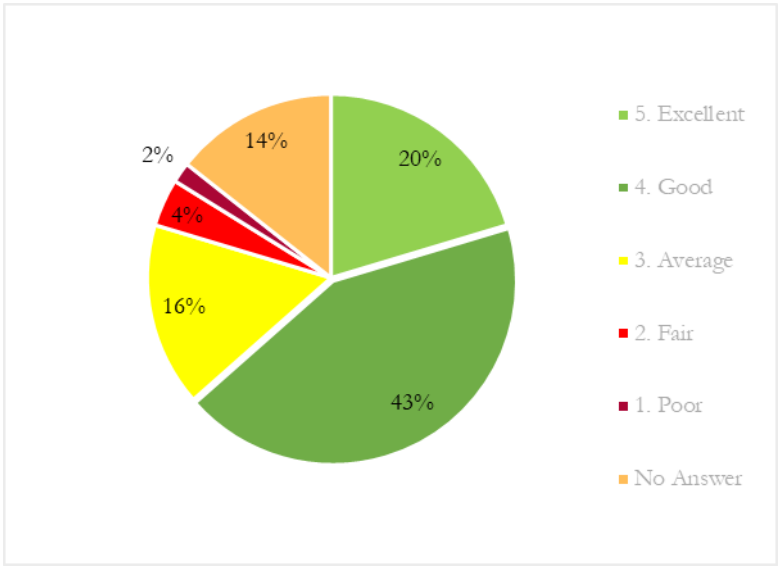

Figure 16: Overall effectiveness of this training. (n=167)

	5. Excellent	4. Good	3. Average	2. Fair	1. Poor	No Answer
Micro enterprise	58%	26%	11%	5%	0%	0%
Small enterprise	16%	41%	22%	4%	0%	16%
Medium-sized enterprise	9%	56%	14%	5%	0%	16%
Large enterprise	14%	51%	20%	3%	0%	11%
All non-intermediary enterprise	19%	46%	18%	4%	0%	13%
Intermediary	29%	24%	5%	5%	14%	24%
All non-intermediary enterprise	20%	43%	16%	4%	2%	14%

Table 15: Overall effectiveness of this training. (n=167)

2.2.2.4. Additional Information

Question 5.1.a: Would you like to take part in the other training session "DEESME Approach Advanced (aimed at introducing the procedures and the application of the DEESME approach)"

Among the 158 participants who answered this question, 81% (128) would like to take part in the training session "DEESME Approach Advanced" (Figure 17). The share was almost the same (82%) when considering only participants from non-intermediary enterprises (Table 16).
In general, micro enterprises had the lowest willingness to participate (68%) while the willingness of larger companies was above 80%.

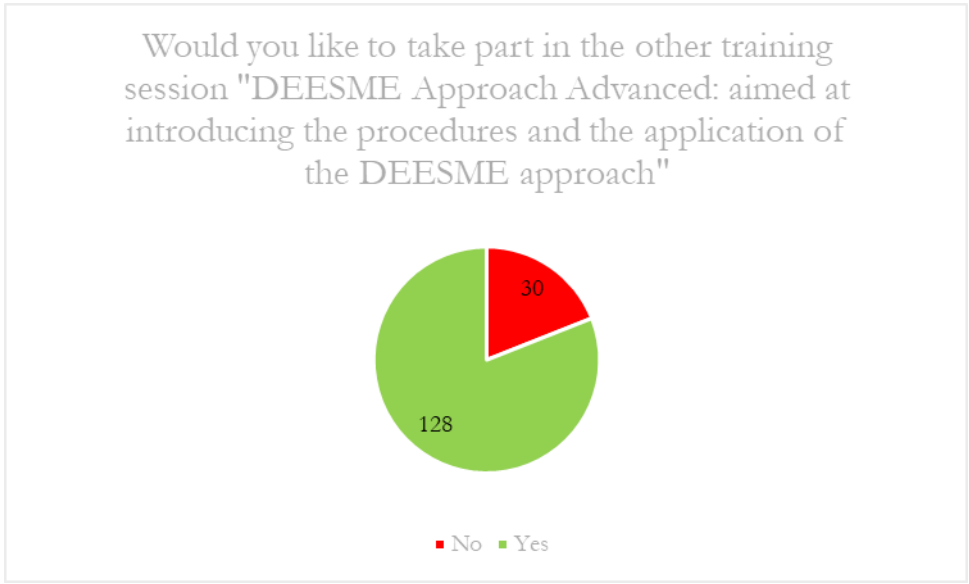

Figure 17: Would you like to take part in the other training session "DEESME Approach Advanced (aimed at introducing the procedures and the application of the DEESME approach)" (n=158)

	Yes	No	All	Yes (%)	No (%)
Micro enterprise	13	6	19	68%	32%
Small enterprise	38	7	45	84%	16%
Medium-sized enterprise	35	6	41	85%	15%
Large enterprise	26	6	32	81%	19%
All non-intermediary enterprise	112	25	137	82%	18%
Intermediary	16	5	21	76%	24%
All	128	30	158	81%	19%

Table 16: Would you like to take part in the other training session "DEESME Approach Advanced (aimed at introducing the procedures and the application of the DEESME approach)" (n=158)

Question 5.1.b: Would you like to take part in the other training session "DEESME Approach in Practice (aimed at presenting the process of energy auditing and EnMS development and implementation into practice following the DEESME approach)"

Among the 96 participants who answered this question, 65% (62) would like to take part in the training session "DEESME Approach in Practice" (Figure 18). The share was similar (64%) when considering only participants from non-intermediary enterprises (Table 17).
In general, micro and small enterprises had the highest willingness to participate (72% and 73%) while the willingness of larger companies was below 60%.

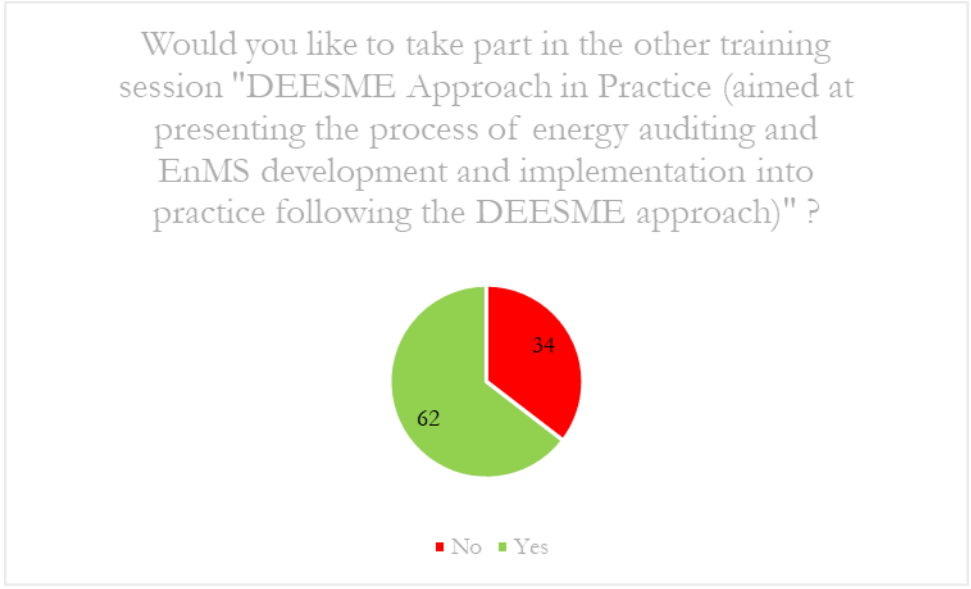

Figure 18: Would you like to take part in the other training session "DEESME Approach in Practice (aimed at presenting the process of energy auditing and EnMS development and implementation into practice following the DEESME approach)" ? (n=96)

	Yes	No	All	Yes (%)	No (%)
Micro enterprise	13	5	18	72%	28%
Small enterprise	16	6	22	73%	27%
Medium-sized enterprise	15	10	25	60%	40%
Large enterprise	7	8	15	47%	53%
All non-intermediary enterprise	51	29	80	64%	36%
Intermediary	11	5	16	69%	31%
All	62	34	96	65%	35%

Table 17: Would you like to take part in the other training session "DEESME Approach in Practice (aimed at presenting the process of energy auditing and EnMS development and implementation into practice following the DEESME approach)" ? (n=96)

2.2.3. Results of the Feedback Questionnaire 2

Not applicable, see 1.3.

2.2.4. Results of the Measurement 1

Not applicable, see 1.3.

3. Recommendations

3.1. Basic training

Point of view of the participants

In general, the feedback from the participants on the content as well as on the quality of the training was very positive. Only 12 feedbacks were provided (see open question 3.6 in 2.2.2.2), of which only one can be considered a suggestion for improving training. Here, the participant suggested that "the training could be shorter", however his feedback was on average 4 (good). Altogether, it can be considered that the participants had no major recommendation for improving the basic training and they were very satisfied.

Point of view of the partners

The project partners have been also consulted. They provided following recommendations:

- Conduct on-site trainings instead of online and emphasize how they can benefit from carrying out the training (DE/CLEOPA)
- Examples were appreciated in the advanced training. So, they should be valorised also in the basic training (IT/SOGECA)
- We have found the approach to involve (mostly) companies in the basic training and (mostly) operators in the advanced fruitful. The basic had the aim to create awareness about tools for energy efficiency and gave the chance to just introduce the Multiple Benefits DEESME approach that will be deepened in the advanced with energy experts that are the actors who conduct energy audits and EMs within the companies (IT/FIRE)
- Offline meeting, more company/problem specific, shorter with focus on advanced training, benefits for companies' participation (PL/KAPE)

It has to be noted, that the COVID 19 pandemic had an impact on this phase of the project, as there were still several restrictions on the organisation of in-person workshops.

3.2. Advanced training

Not applicable, see 1.3.

3.3. Measurement 1

Not applicable, see 1.3.

3.4. Data collection and feedback rate

The data collection has been more challenging than expected. The share of participants providing feedback via the online link to the questionnaire was very low after the basic training sessions. Partners developed different strategies to address this issue.

Some organisers had to re-call the companies to collect questionnaires. However, the experience showed that delivering a participation certificate was a good incentive for the participants to provide feedback.
In Germany, the feedback rate of the company was very low for the 312 companies trained at the beginning. CLEOPA changed then the approach and participated to "plant-for-the-planet" as incentive program: A tree was planted when a participant completed the training and filled in the questionnaire. This measure increased the feedback rate significantly: from nearly 0% to 32%.

Thanks to all these improvements, the feedback rate reached in average 25%. It ranged from 0% to 92% depending on the countries (Table 18).

	Non-intermediary enterprise trained - basic training	Non-intermediary enterprise in the FBQ1	Feedback rate [%]	among them, share of SME
Bulgaria	101	27	27%	85%
Germany	346	11	3%[13]	100%
Italy	110	101	92%	71%
Poland	8	0	0%	88%
Total	565	139	25%	76%

Table 18: Feedback rate (n=565)

[13] but 32% when considering the last 34 companies trained

4. Conclusion

Based on the data collected during this activity, it can be concluded that the participants were very satisfied with the basic trainings, even though the context was still affected by the COVID 19 pandemic. Furthermore, no relevant improvement was suggested by participants.

The fact that 71% of the participants did not know about the Multi Benefits approach and only 17% had already applied the MB concept contributed probably to the high interest of the participants in the content of the basic training.[14]

As Table 19 shows, 565 (target: 500) enterprises have attended the basic training, of which 517 (target 400) are SMEs. Based on the monitoring data, KPI #1 was overachieved and the final result could even be higher depending on future training activities.

	Non-intermediary enterprise			... of which SME		
	Trained	Target	Achievement	Trained	Target	Achievement
Bulgaria	101	125	81%	86	100	86%
Germany	346	125	277%	346	100	346%
Italy	110	125	88%	78	100	78%
Poland	8	125	6%	7	100	7%
Total	565			517		
Target KPI #1	500			400		
Target achievement (%)	113%			129%		

Table 19: KPI #1, based on the basic trainings

However, the number of enterprises trained varies a lot depending on the countries.

The advanced training activities have already started in Italy but could not be accounted in this monitoring report (see 1.3) as more detailed data were required.

[14] based on responses provided by participants who completed the FBQ1

5. Annexes

5.1. Summary of activities, responsibilities and time schedule

The details of the monitoring plan, including activities, responsibilities, and time schedule are presented in Table 20. The information is differentiated according to the Feedback Questionnaire (FBQ), the Excel-based Measurements (M) and the DEESME Deliverable (D).

Data collection /Deliverable	Responsible	What	Target companies	By when
FBQ 1	ISI	Provides the questions of the 1st feedback questionnaire in English	Basic Training	Oct 2021
FBQ 1	ECQ	Prepares the online survey and paper version	Basic Training	Oct 2021
FBQ 1	Partner for Bulgaria, Germany, Italy and Poland	Distribute the feedback questionnaire (paper) to the participants	Basic Training	At the end of the basic training
FBQ 1	Partner for Bulgaria, Germany, Italy and Poland	Send the link to the feedback questionnaire to the company	Basic Training	Right after the basic training
FBQ 1	Partner for Bulgaria, Germany, Italy and Poland	Remind to participating companies to fill out / (for paper) send back the feedback questionnaire	Basic Training	2 weeks after the basic training
FBQ 1	Partner for Bulgaria, Germany, Italy and Poland	Check data validity for paper to ensure that questions were answered correctly	Basic Training	latest by January 2022
FBQ 1	Partner for Bulgaria, Germany, Italy and Poland	Translate completely filled questionnaires (paper and online) back into English	Basic Training	latest by January 2022
FBQ 1	Partner for Bulgaria, Germany, Italy and Poland	Fill in and send the filled-in questionnaires to ECQ[15]	Basic Training	latest by January 2022
FBQ 1	ECQ	Sends a file with all single FBQ1 in english (table formate or database) to ISI	Basic Training	latest by January 2022
M 1	Fraunhofer ISI	Provides the first measurement XLS template in English	Advanced Training	July 2021
M 1	Partner for Bulgaria, Germany, Italy and Poland	If necessary, provide the translation in national language of the Excel-template	Advanced Training	August 2021
M 1	Partner for Bulgaria, Germany, Italy and Poland	Sends the first measurement XLS template to the company	Advanced Training	4 weeks before the advanced training
M 1	Partner for Bulgaria, Germany, Italy and Poland	Reminds participating companies to send back the template	Advanced Training	1 week before the advanced training
M 1	Partner for Bulgaria, Germany, Italy and Poland	Check data validity to ensure that questions were answered correctly	Advanced Training	latest by April 2022
M 1	Partner for Bulgaria, Germany, Italy and Poland	Translate completely filled-in template back into English and send it to Fraunhofer ISI	Advanced Training	latest by April 2022

[15] as agreed on 12.11.2021, the questionnaires completed in paper form will be entered into the online survey by the national partners

FBQ 2	ISI	Provides the questions of the 2nd feedback questionnaire in English	Advanced Training	Dec 2021
FBQ 2	ECQ	Prepares the online survey and paper version	Advanced Training	Jan 2021
FBQ 2	Partner for Bulgaria, Germany, Italy and Poland	Distribute the feedback questionnaire (paper) to the participants	Advanced Training	At the end of the advanced training
FBQ 2	Partner for Bulgaria, Germany, Italy and Poland	Send the link to the feedback questionnaire to the company	Advanced Training	Right after the advanced training
FBQ 2	Partner for Bulgaria, Germany, Italy and Poland	Remind to participating companies to fill out / (for paper) send back the feedback questionnaire	Advanced Training	2 weeks after the advanced training
FBQ 2	Partner for Bulgaria, Germany, Italy and Poland	Check data validity for paper to ensure that questions were answered correctly	Advanced Training	latest by April 2022
FBQ 2	Partner for Bulgaria, Germany, Italy and Poland	Translate completely filled questionnaires (paper and online) back into English	Advanced Training	latest by April 2022
FBQ 2	Partner for Bulgaria, Germany, Italy and Poland	Fill in and send the filled-in questionnaires to ECQ[16]	Advanced Training	latest by Mid May 2022
FBQ 2	ECQ	Sends a file with all single FBQ2 in english (table formate or database) to ISI	Advanced Training	latest by Mid May 2022
FBQ 1-2 and M 1	Fraunhofer ISI	Analyses the data	Basic Training	May 2022
D3.9	Fraunhofer ISI	Provides an overall evaluation report including information gathered in companies during project	Basic Training	June 2022
M 2	Fraunhofer ISI	Provides the 2nd measurement XLS template in English	Advanced Training	July 2021
M 2	Partner for Bulgaria, Germany, Italy and Poland	If necessary, provide the translation in national language of the Excel-template	Advanced Training	August 2021
M 2	Partner for Bulgaria, Germany, Italy and Poland	Send the 2nd measurement XLS template to the company	Advanced Training	January 2023
M 2	Partner for Bulgaria, Germany, Italy and Poland	Reminds participating companies to send back the survey	Advanced Training	February 2023
M 2	Partner for Bulgaria, Germany, Italy and Poland	Check data validity to ensure that questions were answered correctly	Advanced Training	March 2023
M 2	Partner for Bulgaria, Germany, Italy and Poland	Translate completely filled template back into English and send it to Fraunhofer ISI	Advanced Training	March 2023
M 1-2	Fraunhofer ISI	Analyses the data	Advanced Training	April-June 2023
D3.10	Fraunhofer ISI	Provides the final report	Advanced Training	August 2023

Table 20: Detailed overview of the monitoring plan

[16] as agreed on 12.11.2021, the questionnaires completed in paper form will be entered into the online survey by the national partners

5.2. Feedback questionnaire 1

DEESME Approach Basics: Participant Evaluation Form

Thank you for your participation in the Basic training within the DEESME project. We shall be grateful if you find a few minutes to provide feedback about the event.

1. Personal Information

1.1	Name of your company:
1.2	Type of your company: ☐ Micro enterprise (staff <10; turnover < 2 Mio€) ☐ Medium-sized enterprise (staff < 250; turnover < 50 Mio€) ☐ Small enterprise (staff < 50; turnover < 10 Mio€) ☐ Large enterprise (staff >= 250; turnover >= 50 Mio€) ☐ Other, please specify: _____
1.3	Sector of operations of your company: ☐ Mining and quarrying ☐ Accommodation and food service activities ☐ Manufacturing ☐ Information and communication services ☐ Electricity, gas, steam and air conditioning supply ☐ Real estate activities ☐ Water supply; sewerage, waste management and remediation activities ☐ Professional, scientific and technical activities ☐ Construction ☐ Distributive trades ☐ Administrative and support service activities ☐ Repair of computers and personal and household goods ☐ Transportation and storage services
1.4	Management system/s in place in your company: ☐ ISO 9001 ☐ ISO 50001 ☐ ISO 14001 ☐ Other, please specify:……

2. Awareness on the Topic of the Training

No	Knowledge on Multiple Benefits
2.1	I knew about the Multiple Benefits approach before the training.

	☐ Yes ☐ No
2.2	I have already applied the concept of Multiple Benefits of energy efficiency in my company.
	☐ Yes ☐ No
2.3	If yes, please explain the way it was applied and the results reached.

3. Feedback about the Training

Please, indicate to what extent you agree with the following statements (1 – disagree, 5 – agree):

No	Statements	1	2	3	4	5
3.1	The training was useful and informative.					
3.2	The training provided a good opportunity to learn more about the multiple benefits of energy efficiency.					
3.3	The training helped me reflect on the possibility to generate energy savings using the DEESME approach.					
3.4	The use of the DEESME approach would add value to advancing the energy efficiency performance in my organization.					
3.5	I would recommend other companies and interested parties to apply the DEESME approach in their energy efficiency practices?					
3.6	Please, share any additional observations or impressions regarding the training:					

4. Feedback about the Quality of the Training

How would you assess the quality of the following elements of this training (1 – poor; 5 – excellent):

No	Training element	1	2	3	4	5
4.1	Relevance of the training session to your needs and scope of work.					
4.2	Overall quality of the training material (presentations) and discussions.					
4.3	Overall quality of the trainers' work.					
4.4	Overall effectiveness of this training.					

4. Additional Information

No	Additional participation interest
5.1	Would you like to take part in the other training sessions of DEESME project?
	DEESME Approach Advanced: aimed at introducing the procedures and the application of the DEESME approach
	☐ Yes ☐ No
	DEESME Approach in Practice: aimed at presenting the process of energy auditing and EnMS development and implementation into practice following the DEESME approach.
	☐ Yes ☐ No
5.2	If yes, please, provide your personal details:
	Name:
	E-mail:
	Phone number:
4.3	*I agree to have my personal data processed and stored by DEESME partner organizations according to General Data Protection Regulation (EU) 2016/679 and more specifically, articles 6 and 7 and recitals (42) and (43) of the GDPR. I give my agreement voluntarily and for the period essential for the processing of my personal data (at least 5 years after the project end date). I am aware of the fact that I have the right to revoke this agreement at no cost at any time, the right to access to my personal details, the right to their correction or deletion, and the right to block any incorrect personal data.*
	☐ Yes ☐ No

Thank you for your feedback!

5.3. Feedback questionnaire 2

DEESME Approach Advanced: Participant Evaluation Form

Thank you for your participation in the advanced training within the DEESME project. We shall be grateful if you find a few minutes to provide feedback about the event.

1. Personal Information

	Participant
1.1	Participant position: ☐ Business manager (functional manager) ☐ Energy manager or energy expert ☐ Business owner and strategy manager ☐ Others
	Company
1.2	Name of your company:
1.3	Type of your company: ☐ Micro enterprise (staff <10; turnover < 2 Mio€) ☐ Medium-sized enterprise (staff < 250; turnover < 50 Mio€) ☐ Small enterprise (staff < 50; turnover < 10 Mio€) ☐ Large enterprise (staff >= 250; turnover >= 50 Mio€) ☐ Other, please specify: …….

1.4	Sector of operations of your company: ☐ Mining and quarrying ☐ Manufacturing ☐ Electricity, gas, steam and air conditioning supply ☐ Water supply; sewerage, waste management and remediation activities ☐ Construction ☐ Administrative and support service activities ☐ Transportation and storage services ☐ Accommodation and food service activities ☐ Information and communication services ☐ Real estate activities ☐ Professional, scientific and technical activities ☐ Distributive trades ☐ Repair of computers and personal and household goods
1.5	Energy Audits and Management system/s in place in your company: ☐ Energy Audit ☐ ISO 50001 ☐ ISO 9001 ☐ ISO 14001 ☐ Other, please specify: …….

2. Awareness on the Topic of the Training

No	Knowledge on Multiple Benefits
2.1	Did you take part in the first DEESME training Approach Basics? ☐ Yes ☐ No
2.2	I knew about the Multiple Benefits approach before the training.
	☐ Yes ☐ No ☐ Yes, but only from the first training Approach Basics
2.3	I have already applied the concept of Multiple Benefits of energy efficiency in my company.
	☐ Yes ☐ No
2.4	If yes, please explain the way it was applied and the results reached:

3. Feedback about the single steps of the training

3.1. Step 1: Business Model Analysis

Please, indicate to what extent you agree with the following statements (1 – disagree, 5 – agree):

No	Statements	1	2	3	4	5
3.1.1	The presentation of this step was informative and easy to understand.					
3.1.2	This step would likely contribute to improve energy efficiency in my organization.					
3.1.3	I will likely apply the methodology presented in this step in my company.					
3.1.4	Please, share any additional observations or impressions regarding this step:					

3.2. Step 2: Cost Structure Analysis

Please, indicate to what extent you agree with the following statements (1 – disagree, 5 – agree):

No	Statements	1	2	3	4	5
3.2.1	The presentation of this step was informative and easy to understand.					
3.2.2	This step would likely contribute to improve energy efficiency in my organization.					
3.2.3	I will likely apply the methodology presented in this step in my company.					
3.2.4	Please, share any additional observations or impressions regarding this step:					

3.3. Step 3: Energy Auditing

Please, indicate to what extent you agree with the following statements (1 – disagree, 5 – agree):

No	Statements	1	2	3	4	5
3.3.1	The presentation of this step was informative and easy to understand.					
3.3.2	This step would likely contribute to improve energy efficiency in my organization.					
3.3.3	I will likely apply the methodology presented in this step in my company.					
3.3.4	Please, share any additional observations or impressions regarding this step:					

3.4. Step 4: Carbon Footprint Estimation

Please, indicate to what extent you agree with the following statements (1 – disagree, 5 – agree):

No	Statements	1	2	3	4	5
3.4.1	The presentation of this step was informative and easy to understand.					
3.4.2	This step would likely contribute to improve energy efficiency in my organization.					
3.4.3	I will likely apply the methodology presented in this step in my company.					
3.4.4	Please, share any additional observations or impressions regarding this step:					

3.5. Step 5: Multiple Benefits Identification

Please, indicate to what extent you agree with the following statements (1 – disagree, 5 – agree):

No	Statements	1	2	3	4	5
3.5.1	The presentation of this step was informative and easy to understand.					
3.5.2	This step would likely contribute to improve energy efficiency in my organization.					
3.5.3	I will likely apply the methodology presented in this step in my company.					
3.5.4	Please, share any additional observations or impressions regarding this step:					

3.6. Step 6: Multiple Benefits Evaluation

Please, indicate to what extent you agree with the following statements (1 – disagree, 5 – agree):

No	Statements	1	2	3	4	5
3.6.1	The presentation of this step was informative and easy to understand.					
3.6.2	This step would likely contribute to improve energy efficiency in my organization.					
3.6.3	I will likely apply the methodology presented in this step in my company.					
3.6.4	Please, share any additional observations or impressions regarding this step:					

3.6. Step 7: Business Model Advancement

Please, indicate to what extent you agree with the following statements (1 – disagree, 5 – agree):

No	Statements	1	2	3	4	5
3.7.1	The presentation of this step was informative and easy to understand.					
3.7.2	This step would likely contribute to improve energy efficiency in my organization.					
3.7.3	I will likely apply the methodology presented in this step in my company.					
3.7.4	Please, share any additional observations or impressions regarding this step:					

4. Overall feedback about the concept of the training

Please, indicate to what extent you agree with the following statements (1 – disagree, 5 – agree):

No	Statements	1	2	3	4	5
4.1	The training was useful and informative.					
4.2	The training provided a good opportunity to learn more about the multiple benefits of energy efficiency.					
4.3	The training helped me reflect on the possibility to generate energy savings using the DEESME approach.					
4.4	The use of the DEESME approach would add value to advancing the energy efficiency performance in my organization.					
4.5	I would recommend other companies and interested parties to apply the DEESME approach in their energy efficiency practices					
4.6	Please, share any additional observations or impressions regarding the training:					

5. Overall feedback about the quality of the training implementation

How would you assess the quality of the following elements of this training (1 – poor; 5 – excellent):

No	Training element	1	2	3	4	5
5.1	Relevance of the training session to your needs and scope of work.					
5.2	Overall quality of the training material (presentations) and discussions.					
5.3	Overall quality of the trainers' work.					
5.4	Overall effectiveness of this training.					

Thank you for your feedback!

5.4. Measurement template

5.4.1. Guideline for the partners

DEESME
National schemes for energy efficiency in SMEs

2nd DRAFT

Explanation for the project partners

This is the 2nd draft version - a final version will follow

First measurement: Before the advanced training

(Optional) Translate the XLS measurement file into the national language → Identify the participant (company/person) who will take part to the trainings → Send the 1st measurement XLS to the participant (4 weeks before advanced training) → Remind participant to send back the survey (1 week before training) → Check data validity to ensure that questions were answered correctly

1) **Upon receiving this document:** If deemed necessary, partner to translate the Excel files into the national language.
2) **When participant register to the advanced training:** Partner to collect contact details and add available information to the "General information" sheet.
3) **Preferably 4 weeks before the advanced training:** Partners asks participant to complete the information on sheet "General information" and fill the sheet "First measurement" (**no data** to be entered on sheet "Second measurement")
4) **In case information not received 1 week before advanced training:** Partner to remind participants to fill in the document.
5) **Upon reception:** Partners check data validity of the answers in the Excel file. If mistakes are detected, participants might need to be contacted again.

Second measurement: January 2023

Send the 2nd measurement XLS to the participant → Remind participant to sent back the file (1 months later) → Check data validity to ensure that questions were answered correctly → In case of separate documents, merge them → Translate any free texts to English → Send filled file with both measurements

1) **January 2023:** Partner asks participant to fill in the information in sheet "Second measurement".
2) **In case information not received 4 weeks later**: Partner to remind participants to fill in the document.
3) **Upon reception:** Partner to check validity of the answers. If mistakes are detected, participants might need to be contacted again.
4) **Thereafter in case separate files were used:** Partner merges information of the file that contains the information from the first and second measurement.
5) **Thereafter:** Partner proceeds to translating any answers containing text to English.
6) **Latest until 03.2023:** Partner uploads a single file per company to a designated location (to be defined later), preferably named "M123_*Country_CompanyName*.xlsx"

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5.4.2. General Information

General information

Time to fill: before the trainings

Information for the participants

1) No information needed in Part I. This is filled by the DEESME project partner.
2) In Part II, fill the blue shaded cells with your company information.
3) In Part III, fill the blue shaded cells with your contact information for further communication regarding the DEESME project.
4) Move to sheet "First measurement" and continue filling the information there.

Color coding

	To be filled in by the participant/company
	Pre-filled by the DEESME project partner
	Example

Part I. DEESME partner

		Example
Institution		Muster AG
Name: Contact for questions		Sebastien Müller
Email: Contact for questions		claudia.ly@muster.de

Part II. Company information

Company name		Sample GmbH
Address		Blumenstrasse 20, 94204 Frankfurt
Country		Germany
Company size (number of employees)		50 < ... <250
Sector of activity		Construction: Production of samples
Homepage		www.sample.de

Part III. Contact person at the company

First name		Sebastian
Surname		Müller
Email address		sebastian.Mueller@sample.de
Phone number		004912345689
Role		Energy manager

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5.4.3. Template: 1st measurement

First measurement

Time to fill: before the trainings

Information for the participants

1) In Part I, fill the blue shaded cells with the date of today and the date of the forthcoming first DEESME training.
2) In Part II, fill the blue shaded cells with your previous experience with energy audits or energy management systems. If you performed an energy audit before, or if you are using an energy management system, then please indicate the (starting) time.
3) In Part III, fill the blue shaded cells with as many energy efficiency measures as you already identified (e.g. identified in previous energy audits). Please provide a short description of the measure, and the current probability of implementing it.
4) If not done yet, furthermore fill in your company and contact information on the "General information" sheet.
5) Save the file and send it back to:

Color coding

	To be filled in by the participant/ company
	Example

Part I. Date

Date (today) (DD.MM.YYYY)		01.01.2021
Date of the forthcoming first DEESME training (DD.MM.YYYY)		15.01.2021

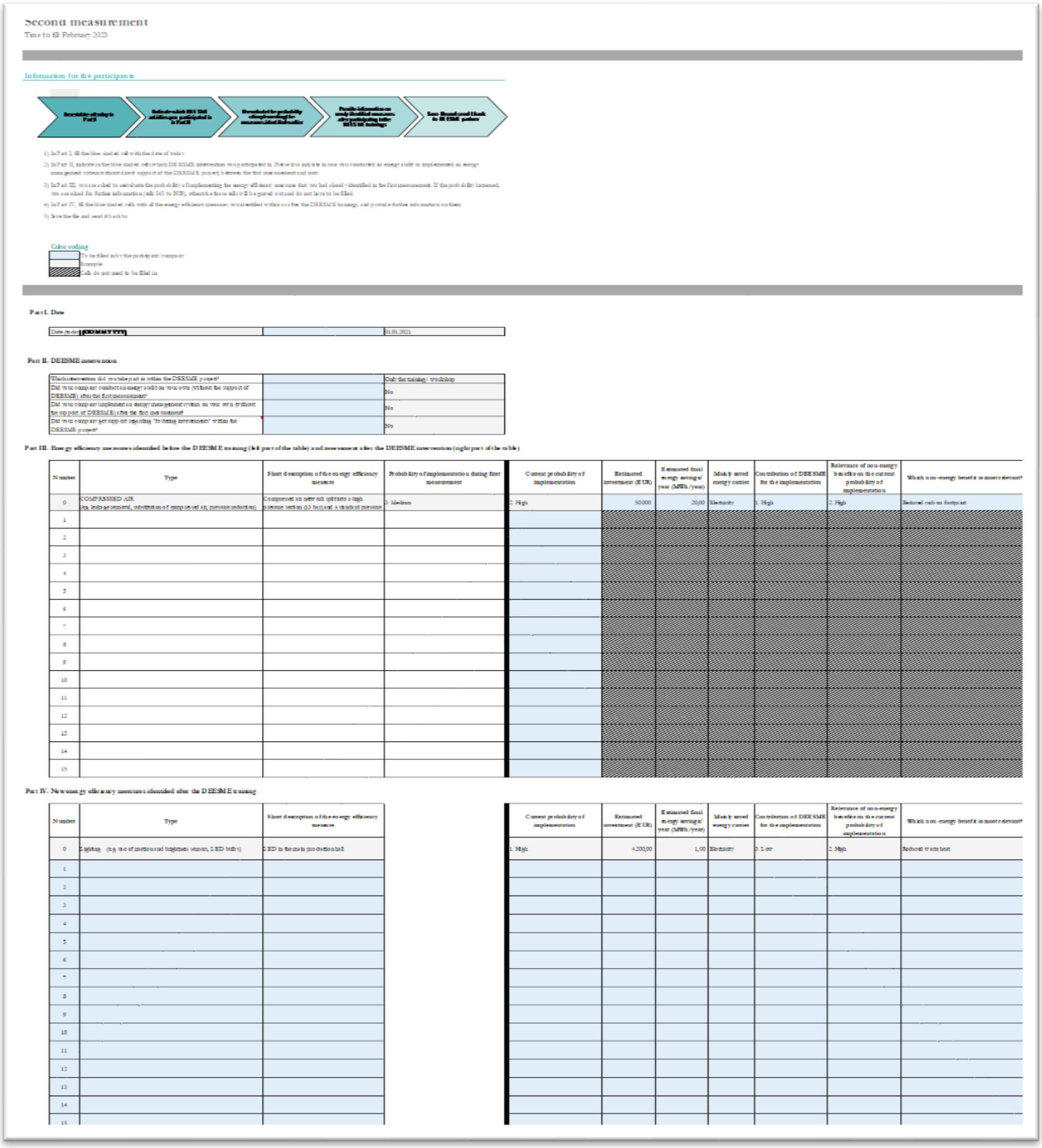
Part II. Energy audits / management

Did your company carry out an energy audit?		Yes
If yes: When did the last audit take place? (MM.YYYY)		03.2021
Does your company have an energy management system?		No
If yes: Since when (MM.YYYY)		03.2021

Part III. Energy efficiency measures already identified before the DEESME intervention

No.	Area of improvement	Short description of the energy efficiency measure	Current probability of implementation
0	COMPRESSED AIR (e.g. leakage removal, substitution of compressed air, pressure	Compressed air network split into a high pressure section (13 bar) and a standard pressure section (8 bar)	3. Medium
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

5.4.4. Template: 2nd measurement



Second measurement

Time to fill: February 2023

Information for the participants

1) In Part I, fill the blue shaded cell with the date of today
2) In Part II, indicate in the blue shaded cells which DEESME intervention you participated in. Please also indicate in case you conducted an energy audit or implemented an energy management system without direct support of the DEESME project between the first measurement and now.
3) In Part III, you are asked to reevaluate the probability of implementing the energy efficiency measures that you had already identified in the first measurement. If the probability increased, you are asked for further information (cells J45 to N58), otherwise those cells will be greyed out and do not have to be filled.
4) In Part IV, fill the blue shaded cells with all the energy efficiency measures you identified within or after the DEESME trainings, and provide further information on them.
5) Save the file and send it back to:

Color coding

(blue)	To be filled in by the participant/company
(grey)	Example
(hatched)	Cells do not need to be filled in

Part I. Date

Date (today) [DD.MM.YYYY]		01.01.2021

Part II. DEESME intervention

Which intervention did you take part in within the DEESME project?		Only the training/ workshop
Did your company conduct an energy audit on your own (without the support of DEESME) after the first measurement?		No
Did your company implement an energy management system on your own (without the support of DEESME) after the first measurement?		No
Did your company get support regarding "fostering investements" within the DEESME project?		No

Part III. Energy efficiency measures identified before the DEESME training (left part of the table) and assessment after the DEESME intervention (right part of the table)

Number	Type	Short description of the energy efficiency measure	Probability of implementation during first measurement	Current probability of implementation	Estimated investment (EUR)	Estimated final energy savings/ year (MWh/year)	Mainly saved energy carrier	Contribution of DEESME for the implementation	Relevance of non-energy benefits on the current probability of implementation	Which non-energy benefit is most relevant?
0	COMPRESSED AIR (e.g. leakage removal, substitution of compressed air, pressure reduction)	Compressed air network split into a high pressure section (13 bar) and a standard pressure	3. Medium	2. High	50.000	20,00	Electricity	1. High	2. High	Reduced carbon footprint
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

Part IV. New energy efficiency measures identified after the DEESME training

Number	Type	Short description of the energy efficiency measure	Current probability of implementation	Estimated investment (EUR)	Estimated final energy savings/ year (MWh/year)	Mainly saved energy carrier	Contribution of DEESME for the implementation	Relevance of non-energy benefits on the current probability of implementation	Which non-energy benefit is most relevant?
0	Lighting (e.g. use of motion and brightness sensors, LED bulbs)	LED in the main production hall	1. High	4.200,00	1,00	Electricity	3. Low	2. High	Reduced waste heat
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									