

Ja ludujem, Tonka danas igra seniorsko finale, sad je full time u seniorskom sastavu, onda ide na maturalac i onda do kraja nastave kadetsko, pripreme pa Europsko



DEESME

National schemes for energy efficiency in SMEs

Deliverable 4.5

Key Actors recommendations to improve national schemes

Authors:

Giovanni Franco, Laura Bano



DEESME has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 892235.



Project information

Project Title	Developing national schemes for energy efficiency in SMEs
Project Acronym	DEESME
Project Number	892235
Project coordinator	IEECP, Ivana Rogulj, ivana@ieecp.org
Project dates	September 2020 – August 2023



Deliverable information

Nature: Public
Version: 1.0
Delivery date: 15.05.2023

Rev.	Written by	Date	Checked by	Date
1.0	SOGESCA	15.05.2022.		



Legal Notice

The sole responsibility for the content of this publication lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EASME nor the European Commission is responsible for any use that may be made of the information contained therein.

All rights reserved; no part of this publication may be translated, reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the written permission of the publisher.



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 aim at guiding states and companies, regardless of their size, on ways to improve their energy efficiency: one of them is the Energy Efficiency Directive (EED), 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 (NA) 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: it is Key to make them aware of the multiple benefits that can derive from improving their energy efficiency and to accompany them in the energy transition, with knowledge and funding from both the public and private sectors. This is the aim of DEESME, a Horizon 2020-funded project (September 2020 – September 2023).

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 supports 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).

The project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 892235.



Table of Contents

PROJECT INFORMATION	2
DELIVERABLE INFORMATION	3
LEGAL NOTICE	4
ABOUT	5
ABBREVIATIONS	7
LIST OF FIGURES	8
1. INTRODUCTION TO THE KEY ACTORS INVOLVEMENT	9
2. THE DEESME APPROACH TO DEVELOP KEY ACTORS RECOMMENDATIONS	11
3. MAIN OUTCOMES OF MEETINGS AMONG PARTNERS AND KEY ACTORS	13
4. KEY ACTORS RECOMMENDATIONS	14
4.1. RECOMMENDATION 1	14
4.2. RECOMMENDATION 2	14
4.3. RECOMMENDATION 3	16
4.4. RECOMMENDATION 4	17
4.5. RECOMMENDATION 5	17
5. MATCHING KEY ACTORS RECOMMENDATIONS WITH NA CHALLENGES	18
6. CONCLUSIONS	20
ANNEX 1: QUESTIONNAIRE	21
ANNEX 2: RESPONSES TO QUESTIONNAIRE	22



Abbreviations

ESCO - Energy Service Company

EU EED - EU Energy Efficiency Directive 2012/27/EU

MS – Member States

EMS – Energy Management System

KA = Key Actors (selected among energy efficiency networks, sector trade/district associations/ESCOs)

NA - National Authorities

SME – Small and Medium-sized Enterprises

MB – Multiple Benefits (to be intended with the same meaning as NEB)

NEB - Non-Energy-Benefits (to be intended with the same meaning as MB)

WP – Work Package



List of Figures

Fig. 1 The DEESME approach to develop the final proposals for the national authorities	12
Fig. 2: List of Multiple Benefits	15
Fig. 3: Matching recommendations coming from business reaction to the campaign to na generalized challenges (D2.3)	18
Fig. 4: Questionnaire distributed to participants during T4.3 working sessions.....	21



1. Introduction to the Key Actors involvement

WP4 “Implementing the DEESME campaign for energy efficiency” includes tasks aimed to:

- ***test the attractiveness of the solutions adopted by DEESME to encourage companies towards energy efficiency***
- ***involve at least 500 hundred companies in each country by the end of the project***
- ***involve at least 10 national trade associations and other Key Actors (KA) in each country***
- ***provide the Institutionalization process (WP5) with working documents based on real scale and Key Actors points of view.***

The present document presents the Key Actors recommendations to improve national campaign, deriving from the activities carried out within WP3 “Enabling companies to take profit of multiple benefits and energy management approach” and WP4. The Key Actors recommendations have been elaborated following a “bottom up approach” to collect information from the companies and their representative associations (Key Actors), whilst liaising with NA on the topics of interest was part of the WP2 activities. Ultimately, the Institutionalization process with working documents based on real scale and Key Actors points of view will be elaborated in WP5 and reported in D5.1 “Final proposals for the National Authorities”.

In WP2 “Enabling NA to enhance the impact of energy audits and energy management”, D2.1 “Inventory of needs and requirements of NA” was developed. The information to complete the inventory of needs and requirements of NAs was collected by means of a questionnaire filled in by the DEESME project partners with the support of representatives of the NA. Following on from this, the following documents were drafted: D2.3 “Requirement based report on best practice for policies on energy audits, energy management and multiple benefits”; D2.4 “Generic guideline on best-practice”; and D2.5 “set of 10 adapted national guidance documents for the implementation with the targeted national authorities”.

In WP3 “Enabling companies to take profit of multiple benefits and energy management”, companies were involved in DEESME activities with training, energy audits and EMS based on ISO 50001 and MB approach. During the activities carried out in the framework of WP3 semi – structured interviews were carried out with some of the companies whilst doing audits asking them how NA would best help them to prompt actions towards energy efficiency.

Finally, WP4 “Implementing the DEESME campaign for energy efficiency”, was core for the collection of “bottom up” information for developing “Key Actors recommendations to improve national schemes”, by means of interaction with Key Actors and companies during WP4 tasks implementation, particularly T4.3 activities that were complemented by the submission of a questionnaire to the Key Actors and companies met during the T4.3 knowledge exchange meetings amongst partners and Key Actors. The following steps were followed:

- SOGESCA, as WP4 leader, produced a very simple survey and circulated it to PPs to support the WP4 activities. In particular, following online/in presence meetings with Key Actors and companies, a very simple questionnaire was sent to Key Actors/companies to test the attractiveness of the solutions



adopted by DEESME to encourage companies towards energy efficiency. The questionnaire is reported in Appendix 1. Responses to the questionnaires are reported in Appendix 2;

- Meetings were organized with Key Actors, national and local trade associations and companies in pilot countries to illustrate the DEESME approach and gather their feedback.

In the framework of T4.3, in Italy, Poland and Germany, a set of three workshops with Key Actors and companies was organized to test the attractiveness of the DEESME solutions and gather their feedback to provide the DEESME Institutionalization process (WP5) with working documents based on real scale and Key Actors points of view. In Bulgaria the feedback from the Key Actors and companies was gathered through the submission of a questionnaire following a large national event with over 100 participants from state institutions, Ministry of Energy, Ministry of the Environment and Water, Ministry of Labour and Social Policy, industry organizations, energy agencies and centres, academic circles, municipalities, experts and companies from all sectors of the economy. More details on the T4.3 activities is provided in D4.4.

The overall aim of the present document “Key Actors recommendations to improve national schemes” is therefore to provide the Institutionalization process (WP5) with a set of recommendations based on the T4.3 workshops and questionnaires outcomes in the four pilot countries.

This documents contains the recommendations to improve national schemes as collected through the steps above and elaborated by SOGESCA.



2. The DEESME approach to develop Key Actors recommendations

The overall goal of the DEESME activities with Key Actors and companies is to encourage companies to invest in energy efficiency using the DEESME approach in order to take advantage of low-carbon technologies, improve materials/resources efficiency and develop renewable energy schemes.

With this in mind, the following specific objectives were pursued:

- *Exchanging knowledge and lessons-learned between Key Actors, companies and partners to strengthen the exploitation of the DEESME approach after the formal conclusion of the project (WP3 and WP4).*
- *Collecting feedback on the campaign from the involved Key Actors and companies in order to improve further communication towards companies and gain a higher impact of replicated campaign activities (WP4).*
- *Receiving guidelines and recommendations for improving national schemes for energy efficiency by the involved Key Actors (WP4).*

The overall goal of the DEESME activities with Key Actors and companies (see orange box in Fig. 1 below) is to encourage companies to invest in energy efficiency using the DEESME approach to take advantage of low-carbon technologies such as materials/resources efficiency and renewable energy.

Ultimately, the results from WP3 and WP4 will be taken into account to complete T5.1 and complete D5.1 “Final proposals for National Authorities”. T5.1 will also act as feedback loop to T2.2 as the feedback from the Key Actors and enterprises involved in the energy audits and in the implementation of the DEESME campaign will be fundamental to confirm whether the implementation countries’ best practices identified in T2.2 can actually be implemented in other MS with success. In addition, the first draft of the policy proposals will be consulted with the NA (T5.2) to monitor whether there is progress towards the already implemented schemes and if the approach proposed in T2.2 has been incorporated in national policies. Final consolidated policy proposals will be the main output of task, which will subsequently be shared with NA (and translated upon request for the NA involved in T5.2 and T5.3). D5.2 “Outcome report of meetings organized with National Authorities” and D5.3 “Tailored direct support strategies to the National Authorities and country reports on the outcome of direct support” will be the final result.

Fig. 1 below is a graphic representation of the process to develop the final proposal for the National Authorities which includes gathering Key Actors recommendations to improve national schemes.

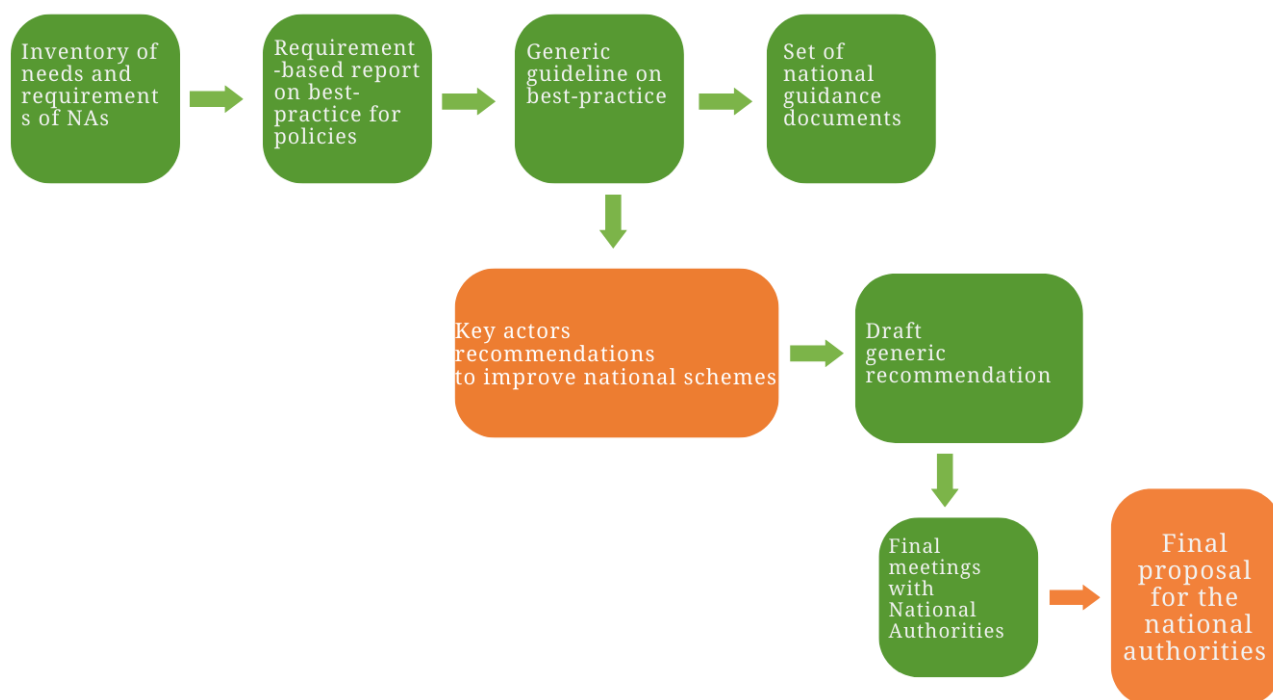


Fig. 1 The DEESME approach to develop the final proposals for the National Authorities



3. Main outcomes of meetings among Partners and Key Actors

While the format initially foreseen (three workshops foreseen in T4.3, as explained in paragraph 1 above) was adapted to fit the structure and interest of Key Actors in each country, the consultations were carried out as planned in each of the four implementation countries and yielded some interesting insights for the improvement of the national schemes supporting the implementation of the Energy Efficiency Directive.

Main outcomes of the activities carried out in the framework of WP3 and WP4, and T4.3 in particular can be divided in five main topics:

- *Access to information on energy audit obligation and energy efficiency incentives.*
- *Information on NEBs (examples of non-energy benefits are: improved productivity, lower operation and maintenance costs, a better work environment, decreased waste and fewer external effects, such as lower emissions), suggestions for the DEESME NEBs approach adoption and support actions and training on NEBs to the companies' technical divisions and employees.*
- *Need for a set of structured guidelines to clarify the relationships between energy obligations and sustainability, integrating the companies environment and energy functions.*
- *Carbon Footprint calculation associated to audit.*
- *Sector Benchmark approach to stimulate competition and energy audits and energy efficiency measures uptake.*



4. Key Actors recommendations

4.1. Recommendation 1

Overcome the information barrier by the creation of a central information hub at national or regional level depending on the EU MS specific characteristics.

It is a priority to work on solutions to improve information, access to economic and financial support tools and control systems to ensure compliance with the obligation. Access to information and grants are particularly important for SMEs.

It is necessary to **set up a central information hub at national or regional level depending on the EU MS specific characteristics**, particularly for companies with more than one site located in different country areas.

An information hub can serve as a point of contact for companies and can thus be of high importance to engage SMEs. Awareness on opportunities for SMEs can be increased by providing a concise, unambiguous, and central information platform. SMEs should find easily identifiable and clearly arranged information. Legislative documents or funding schemes can be included and/or shortly summarized. Visual elements or explanatory videos can furthermore help to engage companies.

The information platform can be tested for user friendliness by the relevant target groups and feedbacks should be utilized to optimize user experience. While implementing such an information platform may be resource intensive for NAs, the benefits may exceed the costs in the long run. Nevertheless, if a similar infrastructure already exists, it can be feasible to extend it and thus save implementation costs. An example could be the integration with existing other companies' or institutional energy efficiency infrastructures.

Trade associations should be involved in the implementation of the above to increase familiarity and visibility and to facilitate access by companies. Sectoral industry organisations can provide valuable information on specific areas.

4.2. Recommendation 2

Inform on Non-Energy Benefits (multiple benefits) related to energy efficiency

A large share of energy efficiency measures are not considered cost-effective if the analysis only accounts for energy savings as benefits. However many co-benefits, ancillary benefits, or NEBs accrue as a consequence of energy-efficiency projects. Their impacts can be more relevant to decision-makers than the mere energy savings. Such benefits include for example reduced local air pollution, increased workplace safety or fewer risk of machine breakdowns.

A basic set of multiple benefits covering all the domains of the Business Model Canvas was presented in D3.1 "Multiple benefits approach to energy audits". The list of identified multiple benefits and the indicators used for their estimation are reported in Fig. 2 below.

DOMAIN	BENEFIT TYPE	INDICATOR
Value Proposition	1. Improved product/ service efficiency	Energy cost per unit of product/ service
	2. Introduction of new products/ services	N° of new 'green' products/ services
	3. Development or innovations	Total R&D expenses for 'energy efficiency' initiatives
Activities	4. Increased productivity	Value of output items/ Value of input items
	5. Increased utilization	Capacity utilization
	6. Improved maintenance	Maintenance Unit Cost
	7. Reduced carbon footprint	Total GHG emissions per year
	8. Improved quality	Right First Time
	9. Improved Safety	Incidence Rate
Resources	10. reduced energy consumption	Total energy consumption per year
	11. Improved raw materials consumption	Quantity of raw materials purchased
	12. Increased recycling	Percentage of total waste that is recycled
	13. Reduced waste	Waste reduction rate
	14. Increased employee satisfaction	Employee Satisfaction Index
Customers	15. Acquisition of 'green' customers	'Green' customers share
	16. Acquisition of new customers	New customers share
	17. Increased customer satisfaction	Satisfied customers share
	18. Increased customer loyalty	Loyal customers rate
Partners	19. Improved supply chain relationships	Total n° of suppliers with ISO certification for energy or environmental management
	20. Improved stakeholder relationships	Total n° of stakeholders involved in decision making
	21. Reduced litigation risks	Total amount of expenses and fines related to environmental law violations
	22. Increased regulatory compliance	N° of EU and national energy policies adopted

Fig. 2: List of Multiple Benefits

To increase the consideration of NEBs, **knowledge about the subject within companies and especially of individuals who provide energy advice is essential.**

The consideration of NEBs can be enforced by integrating it as a mandatory aspect of energy audits in the national legislation, or by integrating the topic into the auditors' curricula.

Training materials and DEESME guidelines on energy audit and EMS following the multiple benefits approach should be made available in NA websites.



Case Studies and Best Practices should be shared to incentivize adoption by a larger percentage of companies. Well-organized awareness campaigns with good visuals, especially short videos, would be very effective. It would probably be good to make a YouTube channel specifically for this purpose and upload videos adapted into National language, as well as videos produced in each country. The tools of digital marketing should be actively used to promote this channel, as well as the website of the centralised information centre, if such one is to be created. TED Talk-style lectures by famous scientists would also attract many supporters. **Training for both the technical division and employees and the availability of good practices** are Key elements to support the process of improving energy performance. The **alignment between energy investments and investments in IoT** is also highlighted. **The evaluation of multiple benefits is well suited to the alignment between energy investments and investments in IoT.**

The **inclusion of NEBs in incentives/grants assignment should be implemented** by assigning a higher score when NEBs are included in requests for incentives/grants assignment, therefore increasing the chances to incentives/grants attainment for the companies that can demonstrate to adopt the DEESME MB approach for energy audit and EMS. The rationale behind this is the fact that companies considering NEBs related to energy efficiency audit and investments are demonstrating their commitment to environmental sustainability and should be rewarded. The DEESME training material and guidelines on MB approach for energy audit and EMS should be included in the information hubs on energy efficiency audits and incentive systems.

4.3. Recommendation 3

Create a set of structured guidelines to clarify the relationships between energy obligations – or NON obligations – and sustainability

The European regulations on sustainability can be difficult for non-specialized readers to read and understand and check compliance with each National law. On the other hand, the lack of clarity in this respect is the reason for the lack of civil control and pressure on the state institutions that are responsible for implementing these regulations and for the changes that need to be made to legislation and regulations.

The regulatory framework in the field of emissions and energy efficiency is in fact highly fragmented, spread in a large number of documents, and the sustainability aspects are still not entirely clear to most enterprises. In order to facilitate understanding and implementation, a simplified and clearly structured document is needed that is geared towards easy interpretation and application of the different requirements and rules by business, such as guidelines or a practical handbook. A **unified and clear information framework like a set of structured guidelines could be useful to help clarify the relationships between energy obligations – or NON obligations – and sustainability** (e.g., Carbon Footprint, Corporate Sustainability Reporting Directive, Taxonomy). This approach was suggested by



the Italian Key Actor Assofond, the foundries association, that is already working to disseminate the results of studies carried out on the subject.

4.4. Recommendation 4

Carbon Footprint calculation associated to audit should be encouraged

Carbon footprint calculations can be linked to energy audits to encourage competition between obligated and non-obligated companies in terms of carbon reduction.

The execution of an accurate energy audit is the first necessary step for the Carbon Footprint calculation. Companies can use this as commercial lever given the increasing importance of sustainability demonstrating to be frontrunner in the sustainability challenge. NA could implement a specific incentive for companies subject to Art.8 obligation to carry out the Carbon Footprint calculation, also in view of the EU's 2050 carbon neutrality policy.

4.5. Recommendation 5

Benchmarking approach

The importance of working on the basis of **indicators** and therefore with a **reference benchmark** was underlined by Key Actors and companies (monitoring not only energy consumption but also the operational variables). In fact it emerged that companies are often convinced that they are well managing their businesses and therefore find it hard to accept that they can do better. Benchmarking can be a solution.

NA could define a budget for the elaboration of sectoral benchmarks with the involvement of research centres, consulting companies and sector associations. Key Actors interviewed on the possibility to receive a sectoral benchmark responded with a high interest. The elaboration of benchmarks could be supported by surveys implementation and the compilation of the surveys could be mandatory.

The Multiple Benefits approach is well aligned with the needs of working with indicators and benchmarks.



5. Matching Key Actors recommendations with NA challenges

The recommendations elaborated by SOGESCA as a result of the WP4 activities, in particular T4.3 matchmaking events, can be useful to address some of the challenges faced by NA as gathered during WP2 activities and reported in D2.1 “Inventory of needs and requirements of NAs” and D2.3 “Requirement-based report on best-practice for policies on energy audits, energy management and multiple-benefits”.

Fig. 3 below shows how the elaborated recommendations thanks to the WP4 bottom-up approach respond to some of the NA needs expressed during WP2 activities.

Recommendation number 2 is coming as the result of the DEESME project activities that confirmed the Key Actors and companies’ interest in the MB approach to enhance the uptake of energy audits, EMS and energy efficiency.

	Recommend. 1 <i>Overcome the information barrier by the creation of a central information hub at national or regional level depending on the EU MS specific characteristics</i>	Recommend. 2 <i>Inform on Non-Energy Benefits related to energy efficiency</i>	Recommend. 3 <i>Create a set of structured guidelines to clarify the relationships between energy obligations – or NON obligations – and sustainability</i>	Recommend. 4 <i>Carbon Footprint calculation associated to audit should be encouraged</i>	Recommend. 5 <i>Benchmarking approach</i>
#01: Limited resources for transposition					
#02: Identification of obligated companies					
#03: Ensuring compliance					
#04: Quality of audits					
#05: Compromise between reporting effort and monitoring					
#06: Enhancing the uptake of measures					
#07: Creation of support mechanisms					
#08: Limited available resources					
#09: Guiding SMEs to participation					
#10: Raising awareness on opportunities					

Fig. 3: Matching recommendations coming from business reaction to the campaign to NA generalized challenges (D2.3)

The set of generalized challenges as elaborated in D2.3 are reported below for ease of consultation

- **_#01: Limited resources for transposition:** Limitations with regard to the staff and financial resources for an effective implementation, enforcement, monitoring and verification of the energy-audit obligation, also in view of the difficult identification of non-SME, are a challenge.
- **_#02: Identification of obligated companies:** The energy-audit obligation applies to "non-SMEs" only. The distinction between SMEs and non-SMEs is clear from a theoretical perspective. However, the



challenge is that in practice, determining the actual values of criteria that determine the status of particular companies is challenging due to unavailable and/or distributed information.

- **_#03: Ensuring compliance:** All non-SMEs are required to carry out energy audits or to implement energy management systems. However, also due to lacking information on company status, a challenge concerning the implementation of Article 8 is that there are companies that do not comply with the audit requirement or that only fulfil the requirement late.
- **_#04: Quality of audits:** While the EED requires high quality energy-auditors and energy audits, a practical challenge is that there remain many audit reports with low quality and that auditors tend to focus on areas they know well.
- **_#05: Compromise between reporting effort and monitoring:** Finding a good balance between ensuring compliance and a follow up on the implementation of measure while limiting the additional burden for companies is a practical challenge in the monitoring process concerning non-SMEs.
- **_#06: Enhancing the uptake of measures:** Energy audits and energy management systems help companies to understand potential energy efficiency measures. However, a practical challenge is that the implementation of the recommended measures could be enhanced.
- **_#07: Creation of support mechanisms:** Creating support mechanisms to carry out energy audits and to implement their recommendations is required from the MS. However, a practical challenge is to find out how best overcome burdens that hinder SMEs to implement audits and energy efficiency measures.
- **_#08: Limited available resources:** Staying in touch with SMEs is considered as helpful to encourage them towards energy audits and efficiency measures. Yet creating and maintaining communication with SMEs, and participating in all events and talks with experts is a challenge.
- **_#09: Guiding SMEs to participation:** Even if SMEs are aware of the potential benefits from more strongly engaging in energy efficiency, a challenge is their reluctance to participate in activities, e.g. due to a fear of administrative burdens, a lack of experience in participation and the difficulty to analyse the associated costs and benefits.
- **_#10: Raising awareness on opportunities:** A major challenge to encourage SMEs for energy audits is their missing awareness on opportunities from energy efficiency and their limited capacity to implement it.



6. Conclusions

The present document presents the Key Actors recommendations to improve national campaign, deriving from the activities carried out within WP3 “Enabling companies to take profit of multiple benefits and energy management approach” and WP4 “Implementing the DEESME campaign for energy efficiency”. The Key Actors recommendations have been elaborated following a “bottom up approach” to collect information from the companies and their representative associations (Key Actors).

In the framework of T4.3, in Italy, Poland and Germany, a set of three workshops with Key Actors and companies was organized to test the attractiveness of the DEESME solutions and gather their feedback to provide the DEESME Institutionalization process (WP5) with working documents based on real scale and Key Actors points of view. In Bulgaria the feedback from the Key Actors and companies was gathered through the submission of a questionnaire following a large national event with over 100 participants from state institutions, Ministry of Energy, Ministry of the Environment and Water, Ministry of Labour and Social Policy, industry organizations, energy agencies and centres, academic circles, municipalities, experts and companies from all sectors of the economy. More details on the T4.3 activities is provided in D4.4.

The consultations were carried out as planned in each of the four implementation countries and yielded some interesting insights for the improvement of the national schemes supporting the implementation of the Energy Efficiency Directive.

Main outcomes of the activities carried out in the framework of WP3 and WP4, and T4.3 in particular can be divided in five main topics:

- ***Access to information on energy audit obligation and energy efficiency incentives.***
- ***Information on NEBs (examples of non-energy benefits are: improved productivity, lower operation and maintenance costs, a better work environment, decreased waste and fewer external effects, such as lower emissions), suggestions for the DEESME NEBs approach adoption and support actions and training on NEBs to the companies’ technical divisions and employees.***
- ***Need for a set of structured guidelines to clarify the relationships between energy obligations and sustainability, integrating the companies environment and energy functions.***
- ***Carbon Footprint calculation associated to audit.***
- ***Sector Benchmark approach to stimulate competition and energy audits and energy efficiency measures uptake.***



Annex 1: Questionnaire

Fig. 4 below reports the questions presented to “guide” the discussion during the T4.3 workshops and to stimulate answers/feedback on form participants.

- Do businesses have a clear understanding of which official websites to consult to obtain information on obligations, benefits and other aspects related to energy efficiency (e.g. those of the competent authorities / agencies, others...)?
- Do you think it is clear what incentives are available to companies for energy audits, the energy management system and energy efficiency investments?
- With reference to the existing incentive systems, do you think that a centralized information hub would be appropriate for information rather than a division of information availability between several subjects (e.g. State, Regions, Agencies, etc.)?
- With reference to the existing incentive systems, do you think that the involvement of the sector trade associations would be appropriate in providing information? Do you have any suggestions on this?
- Are companies aware on the added value linked to energy efficiency?
- To increase the uptake of energy efficiency measures, do you think it would be useful to have more information on Non-Energy Benefits (e.g., “Multiple Benefits) related to energy efficiency? (Examples of investments analysis, presentations of best practices, guidelines for evaluating multiple benefits)
- What tools do you think could be useful for increasing the sensitivity and awareness of companies CEO, managers, etc. about non energy benefits?
- What tools do you think could be useful for increasing the sensitivity and awareness of companies’ employees about non energy benefits?
- Do you think that a unified and clear information framework (a set of structured guidelines) could be useful to help clarify the relationships between energy obligations – or NON-obligations - and sustainability? (e.g. Carbon Footprint, Corporate Sustainability Reporting Directive, Taxonomy). If yes, how do you think that this could be realized?
- Do you think that the Carbon footprint calculation could be associated to the energy audit to promote a “Organisation Carbon reduction” competition among obliged and non-obliged companies?
- Would it better to promote a “Organisation Carbon footprint” competition on the basis of sectoral benchmarks?
- Should the Carbon footprint be mandatory for companies obliged to carry out the energy audit?
- According to a strategic political perspective, do you think that the Energy audit should be overcome by the concept of “Audit of the use of resources”?
- Do you think that the risks associated with energy efficiency interventions should be deeply evaluated?

Fig. 4: Questionnaire distributed to participants during T4.3 working sessions



Annex 2: Responses to questionnaire

Annex 2 contains the answers of the participants to the T4.3 working sessions that were at the basis of the elaboration of the policy recommendations set out above. For Poland and Germany a word document was provided summarizing the results of the “guided” discussions, while for Italy and Bulgaria the answers are reported in xls forms.

Main outcomes of T4.3 working session in Poland

Participants pointed out the need to emphasize the financial benefits of any activity of entrepreneurs. It was also noted that convincing entrepreneurs to carry out audits and implement their results will be difficult until they are obliged to do them. Audits are often perceived as time-consuming and require high investment costs, and also as not bringing measurable benefits to the company.

Participants who work with entrepreneurs on a daily basis stated that communication with them is difficult and the means of communication and information should be carefully selected. Participants who work with entrepreneurs on a daily basis stated that communication with them is difficult and the means of communication and information should be carefully selected. According to them, cooperation with SMEs requires long-term relationship building, as there is a great distrust of new activities and unknown people among them. Therefore, in order to increase the probability of encouraging entrepreneurs to take actions for energy efficiency, it would be necessary to present them with examples of success stories and prepare an official list of certified auditors whom they could trust.

Entrepreneurs are also often concerned about the security of their data and hidden costs and administrative activities. Therefore, all incentives (including financial ones) should contain a clear description of the required activities and be accounted for in a simple way.

Participants emphasized the importance of indicating the non-energy benefits of audits, but considered it only an addition to the audit, emphasizing that what counts for the entrepreneur is mainly the financial benefit and, possibly, the impact of the implementation of the audit results on the effectiveness of production or sales.

Main outcomes of T4.3 working sessions in Germany

1. *Do businesses have a clear understanding of which official websites (those of the competent authorities/agencies) to consult to obtain information on obligations, benefits and other aspects related to energy efficiency?*

This is very complicated for SME in Germany, likely to the federal structure. There are of course expert websites like ours (www.co2online.de) else the SME will look at their regional chambers of commerce as the first stop.

2. *Do you think it is clear what incentives are available to companies for energy audits, the energy management system, and investments?*

This is impossible for an SME to monitor with an estimated 2000+ funding options in Germany. You know this even better at Cleopa as you support SMEs to access those grants and incentives.

3. *Do you think that a centralized information hub would be appropriate for incentives rather than a division between several subjects (e.g., State, Regions, Agencies, etc.)? With the involvement of the sector trade associations?*



This is a complex question to answer. Yes, it would be helpful to have a one-stop info hub, but nobody is either willing or capable to manage this amount of info available. So, the regional chambers of commerce or their counterparts for Handwerk are the easiest entry points for such info.

4. *Do you have any suggestion on this? Are companies aware on the added value linked to energy efficiency?*

I have no real suggestion, let the market decide on this. We at CO2online are a good brand in the sector. On your second question: no, they are only very little aware of the potentials to save and/or earn more money. But as often it starts at the point: who will pay for this? Who will benefit?

5. *To increase the uptake of energy efficiency measures, do you think it would be useful to have more information on Non-Energy Benefits (multiple benefits) related to energy efficiency? (Examples of investments analysis, presentations of best practices, guidelines for evaluating multiple benefits).*

Yes, indeed this would be very helpful – I learned in these DEESME workshops a lot about multiple benefits, which could be benefit many SMEs. Still: who has capacities to do this? This cannot, in my understanding, be done as a personal consulting from the supplier side but must be done as a personal consulting / coaching from the beneficiary side.

6. *What tools do you think could be useful for increasing the sensitivity and awareness of companies, CEO, managers, etc. about non energy benefits? What about the employees?*

This is the 100 Mio Euro question, and I would love to have a solution on this. If not, even the low hanging fruits are harvested, then it is even more difficult to raise the awareness in multiple challenging periods as we have right now.

7. *Do you think that a unified and clear information framework (a set of structured guidelines) could be useful to help clarify the relationships between energy obligations – or NON obligations – and sustainability? (e.g., Carbon Footprint, Corporate Sustainability Reporting Directive, Taxonomy).*

It would be „wunderbar“ to such a scalable framework. You have my full support on this!

8. *Do you think that the Carbon Footprint calculation could be associated to the energy audit to promote a “Organisation Carbon reduction” competition among obliged and non-obliged companies? Would it be better to promote a “Organisation Carbon Footprint” competition based on sectoral benchmarks?*

The (mandatory) energy audit as of EN 16247 could easily get enriched with this. I know that you as Cleopa have started to compensate your own Carbon Footprint back in 2010, or was it even before? So, I return this question to Cleopa: Beyond your activated societal impact – did it raise your competitiveness or made it your life easier? Then consider how a company with lower competences would address this as a management topic. But to answer also towards European ideas – in Germany SMEs have no mandatory energy audit.

9. *Should the Carbon footprint be mandatory for companies obliged to carry out the energy Audit?*

Wow – again a complex question. Everybody expects a clear yes, but I would inject the considerations on additional reporting obligations and the societal and environmental impact. At CO2online we love sustainability (as you love innovation) and this requires always an impact to the better.

10. *According to a strategic political perspective, do you think that the Energy Audit should be overcome by the concept of “Audit of the use of resources”?*



I really like this idea, but I fear the dimension of discussions which would be derived of this.

11. *Any other considerations not mentioned?*

All the best for your DEESME project and let's jointly support the better world for our kid's future!

Main outcomes of T4.3 working sessions in Italy

Do you think that companies have a clear understanding of which official websites to consult to obtain information on obligations, benefits and other aspects related to energy efficiency (e.g. website of the competent authorities and/or agencies)?	Do you think it is clear to companies what incentives exist for energy audits, the energy management system and investments in energy efficiency?	With reference to existing incentives, do you think it would be appropriate to centralize information, for example in a single website, rather than making it available to multiple subjects (eg at the state, regional or various competent agency levels)?	With reference to existing incentives, do you think it would be appropriate to involve trade associations in the structuring of information?	Do you have any suggestions on this?	Do you think companies are aware of the added value linked to energy efficiency?	In order to increase the adoption of energy efficiency measures, he believes that it would be useful to have more information on the non-energy benefits related to energy efficiency or on the so-called "multiple benefits" (examples of investment analysis, presentations of best practices, guidelines for multiple benefit assessment)?	What tools do you think could be useful to increase the sensitivity and awareness of management and managers on non-energy benefits?	What tools do you think could be useful to increase employee sensitivity and awareness of non-energy benefits?	Do you think that a unified and clear information framework (a set of structured guidelines) could be useful to help clarify the relationships between energy obligations – or NOT obligations – and sustainability? (e.g. Carbon Footprint/carbon footprint calculation, Corporate Sustainability Reporting Directive, Taxonomy)	If yes, how do you think this can be done?	Do you think that the calculation of the carbon footprint can be combined with the energy audit to promote a competition in the "reduction of the carbon footprint of the organization" between obliged and non-obligated companies?	Do you think it would be useful to launch a 'Carbon Footprint of your business' competition based on sectoral benchmarks?	In your opinion, should the calculation of the carbon footprint be mandatory for companies obliged to carry out an energy audit?	From an energy policy perspective, do you think that the concept of energy diagnosis should be superseded by the concept of "diagnosis on the use of resources"?	Do you think it is appropriate to thoroughly evaluate any risks associated with energy efficiency interventions?
No	Yes	Yes	Yes	the perception of the real benefit of energy efficiency is still low but it is changing in the face of sharp increases	No	Yes	Continuous attention and evidence of the concrete benefits that are obtained	With evidence and direct experimentation. Show the results achieved on initiatives taken	Yes	Assofond da tempo si sta impegnando sulla strada di evidenziare il risultato di studi sviluppati per questo obiettivo	Yes	Yes	No	No	Si
Yes	Yes	Yes	Yes		No	Yes			Yes		Yes		Yes	Yes	Yes
No		Yes	Yes		Yes	Yes			No		Yes		Yes	Yes	No
Yes	No	Yes	Yes		Yes	Yes			Yes		Yes		Yes	No	Yes
No	No	Yes	Yes	Dissemination through social networks and newsletters	No	Yes	Events, case studies, websites, industry associations	Practical cases, showing the benefits with small examples	Yes	Involving companies, going sector by sector	Yes	Yes	Yes	Yes	Yes
No	No	Yes	Yes	An internet page dedicated to incentives could be structured at the Ministry of Economic Development (or whatever it's called now) with links to then enter the detailed information of each line of financing.	Yes	Yes	Propose training courses, also financed. Prepare exemplary guides on administrative procedures or applicable methods. Periodically provide very operational information, streamlined and perhaps with examples and organize a network of executives in the field who can share the experiences and choices made and the results achieved in periodic and short online meetings.	Training, information and operational and specific suggestions of virtuous behaviors to be implemented in the specific working context.	Yes	however, the guidelines should be very clear and operational. perhaps one could think of more publications intended for different audiences; for example between "energy-intensive" and non-"energy-intensive" companies, by product sector or by the sustainability objective to be achieved or by means of communication to the stakeholders. It is not easy, it requires a large effort to design these guidelines.	Yes	No	No	Yes	Yes



DEESME has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 892235.

Do you think that companies have a clear understanding of which official websites to consult to obtain information on obligations, benefits and other aspects related to energy efficiency (e.g. website of the competent authorities and/or agencies)?	Do you think it is clear to companies what incentives exist for energy audits, the energy management system and investments in energy efficiency?	With reference to existing incentives, do you think it would be appropriate to centralize information, for example in a single website, rather than making it available to multiple subjects (eg at the state, regional or various competent agency levels)?	With reference to existing incentives, do you think it would be appropriate to involve trade associations in the structuring of information?	Do you have any suggestions on this?	Do you think companies are aware of the added value linked to energy efficiency?	In order to increase the adoption of energy efficiency measures, he believes that it would be useful to have more information on the non-energy benefits related to energy efficiency or on the so-called "multiple benefits" (examples of investment analysis, presentations of best practices, guidelines for multiple benefit assessment)?	What tools do you think could be useful to increase the sensitivity and awareness of management and managers on non-energy benefits?	What tools do you think could be useful to increase employee sensitivity and awareness of non-energy benefits?	Do you think that a unified and clear information framework (a set of structured guidelines) could be useful to help clarify the relationships between energy obligations – or NOT obligations – and sustainability? (e.g. Carbon Footprint/carb on footprint calculation, Corporate Sustainability Reporting Directive, Taxonomy)	If yes, how do you think this can be done?	Do you think that the calculation of the carbon footprint can be combined with the energy audit to promote a competition in the "reduction of the carbon footprint of the organization" between obliged and non-obligated companies?	Do you think it would be useful to launch a 'Carbon Footprint of your business' competition based on sectoral benchmarks?	In your opinion, should the calculation of the carbon footprint be mandatory for companies obliged to carry out an energy audit?	From an energy policy perspective, do you think that the concept of energy diagnosis should be superseded by the concept of "diagnosis on the use of resources"?	Do you think it is appropriate to thoroughly evaluate any risks associated with energy efficiency interventions?
No	No	Yes	Yes		Yes	Yes	Webinars, specific reports with communication of useful data, sustainability reporting	Training opportunities offered by management, sustainability reporting	No	I don't think that a single solution that embraces so many issues is efficient, I think it is better to diversify the regulations by going into more detail.	Yes	Yes	Yes	Yes	Yes
No	No	Yes	Yes		Yes	Yes	CHECKLIST	handbook	Yes	GUIDELINES SUMMARY	Yes	Yes	Yes	Yes	Yes
No	No	Yes	Yes		No	Yes	Increased comfort and productivity	Increased comfort and green value	Yes	Create a background document for companies as a guideline	Yes	Yes	No	Yes	Yes
No	No	Yes	Yes	Organization of specific information events for the various production sectors, with application examples adapted to the type of process of the industrial sector, information on costs (including disposal of plants at the end of their life) and on payback times, information on financing possibilities for implementation of the interventions,	Yes	Yes	Meetings and trainings	Staff training and investment of part of the savings obtained for the implementation of benefits useful to staff (e.g. common recreation areas, green outdoor spaces, etc.)	Yes		Yes	Yes	No	Yes	Yes
No	No	Yes	Yes	Associations need to be involved at several stages in the process. A useful example concerns the current consultation on the CERs, where we have brought our contribution, as Confindustria Udine. Furthermore, it is necessary that the indications of the associations are implemented.	No	Yes	Meetings and trainings	Corporate training	Yes	There is definitely a need for collaboration with trade associations	Yes	Yes	No	Yes	Yes



Main outcomes of T4.3 working sessions in Bulgaria

I am representing	Name of the organization (optional)	Do businesses have a clear understanding of which official websites to consult to obtain information on obligations, benefits and other aspects related to energy efficiency (e.g. those of the competent authorities/ agencies, others...)?	Do you think it is clear what incentives are available to companies for energy audits, the energy management system and energy efficiency investments?	With reference to the existing incentive systems, do you think that a centralized information hub would be appropriate for information rather than a division of information availability between several subjects (e.g. State, Region, Agencies, etc.)?	With reference to the existing incentive systems, do you think that the involvement of the sector trade associations would be appropriate in providing information? Do you have any suggestions on this?	Are companies aware of the added value linked to energy efficiency?	What tools do you think could be useful for increasing the sensitivity and awareness of companies CEO, managers, etc. about non energy benefits?	What tools do you think could be useful for increasing the sensitivity and awareness of companies employees about non energy benefits?	Do you think that the Carbon footprint calculation could be associated to the energy audit to promote a "Organization Carbon reduction" competition among obligated and non-obligated companies?	Should the Carbon footprint be mandatory for companies obligated to carry out the energy audit?	According to a strategic political perspective, do you think that the Energy audit should be overcome by the concept of "Audits of the use of resources"?	Do you think that the risks associated with energy efficiency interventions should be deeply evaluated?	From 1 to 5, how much would you say that DEESME project eventible improved your knowledge of multiple benefits of energy efficiency measures in SMEs? (1=not really, 5=very much)	Please provide recommendations or other comments if any
Large company	Technoterm Engineering	Yes	Mostly for the large companies. The incentives for the large companies are less than for the SMEs.	Yes, in Bulgaria there is already centralized information hub for all financial incentives. No, all of the companies (especially SMEs) are aware of it though.	It depends on what type of involvement it is. Trade Associations are aware of the incentives and are active in consulting their members. Currently they are not beneficiaries of any incentives.	Mostly the large companies	Awareness rising campaign	It should be something that is not an additional burden for them	It is already associated in full or partially	No, it should be voluntary	This concept should be voluntary	Yes	5	
Energy research body	Black Sea Energy Research Centre	Yes	Mostly for the large companies	Yes, a centralized hub with short summary of each incentive + links would be helpful.	Yes, it would be useful.	Mostly the large companies	They need to be clearly communicated (and if possible, quantified) to the auditor.	Not sure if they need to be approached directly. A large scale public awareness media campaign targeting everybody could be better.	Yes	Yes	Maybe	Maybe	5	
Auditing company	EnEffect Consult Ltd.	To some extend	Yes	No. In the subsidies based market in Bulgaria, the companies are aware of the available financing schemes, of the	No	Mostly in the energy intensive industry	Short communication materials (brochures) and presentations on different events related to the topic.	Short communication materials (brochures) and presentations on different events related to the topic.	No, it would make the audit too complicated	Maybe	Yes, but only for large companies	Yes	4	
NGO	Municipal Energy Efficiency Network EcoEnergy	No	Mostly for the large companies	Centralized information hubs or one-stop-shops will be appropriate for dissemination of the information and incentives related to energy efficiency.	May be it would be appropriate if they are really aware of the energy efficient measures.	Mostly the large companies	Successful examples and good practices which brings real benefits	Successful examples and good practices which brings real benefits to the employees	Such a competition could encourage companies to reduce Carbon footprint only if it would be beneficial for their businesses, for instance, large communication campaign (for the purpose of advertising); some awards or prizes, etc.	Yes	Yes, for all companies	Yes	3	
NGO	Center for Energy Efficiency EnEffect	To some extend, if businesses have interest to do a consultation they can easily find SEDA site.	Mostly for the large companies	If it is online such an information hub will be very useful. If it is a city information centre it could be centralized but local branches will be also helpful. be	Sector trade associations or the national trade association could be used to provide information but it should be taken into account that probably they do not have expertise on these topics. Probably the information will reach mainly the bigger companies through these associations but many of the SMEs and micro enterprises are not their members.	Only a small share of all companies. For the majority of the companies energy efficiency is not considered as an interesting issue, although the high energy prices. They are more interested to get compensation from the State for the increased prices instead of saving energy.	First of all, a large-scale targeted communication campaign for the energy and financial benefits and for the possible project financing opportunities should be conducted. The non-energy benefits should be also explained in such a campaign. It will be best if the tool on non-energy benefits becomes official and so recognised by the financing institutions and considered when evaluating the project applications for financing.	If the tool is for the employees it is better if it can cover the non-energy benefits at home.	No, it would make the audit too complicated. It is better to be a separate service which could be provided also by the energy auditors.	No, it should be voluntary	This concept should be voluntary. If the investment in saving of resources can improve the financial parameters of an energy efficiency project then it will be wise to apply this concept.	It should be taken into account during the energy audit. If any measure is not appropriate it should not be proposed.	5	
Public authority	SEDA (Directorate for control on industry audits)	Yes	Yes	Centralized information hub is appropriate	Involvement of sector trade associations is appropriate	Mostly the large companies	National information hub	Information workshops inside companies.	No, it would make the audit too complicated	No, it should be voluntary	This concept should be voluntary	Yes	4	

