



DEESME 2050

Developing Energy Efficiency Projects in
SMEs for European 2050 targets

Project plan & value of ESMs

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INDEX


- 01_ About the project
- 02_ DEESME methodology of MB approach for energy audits and EMS
& results
- 03_ Non-energy benefits monetisation
- 04_ Further workplan

1_About DEESME 2050



Use developed DEESME multiple benefits approach to capacitate, assist and motivate companies to overcome the obstacles in energy efficiency measures uptake

Involve, support and accompany companies in the implementation of energy efficiency measures based on their level of readiness



Build capacities of the companies' staff on all working levels



Endorse sustainability through preparation of financing, standardisation and replication in cooperation with associations and policymakers

Recast Energy Efficiency Directive (Art.11):

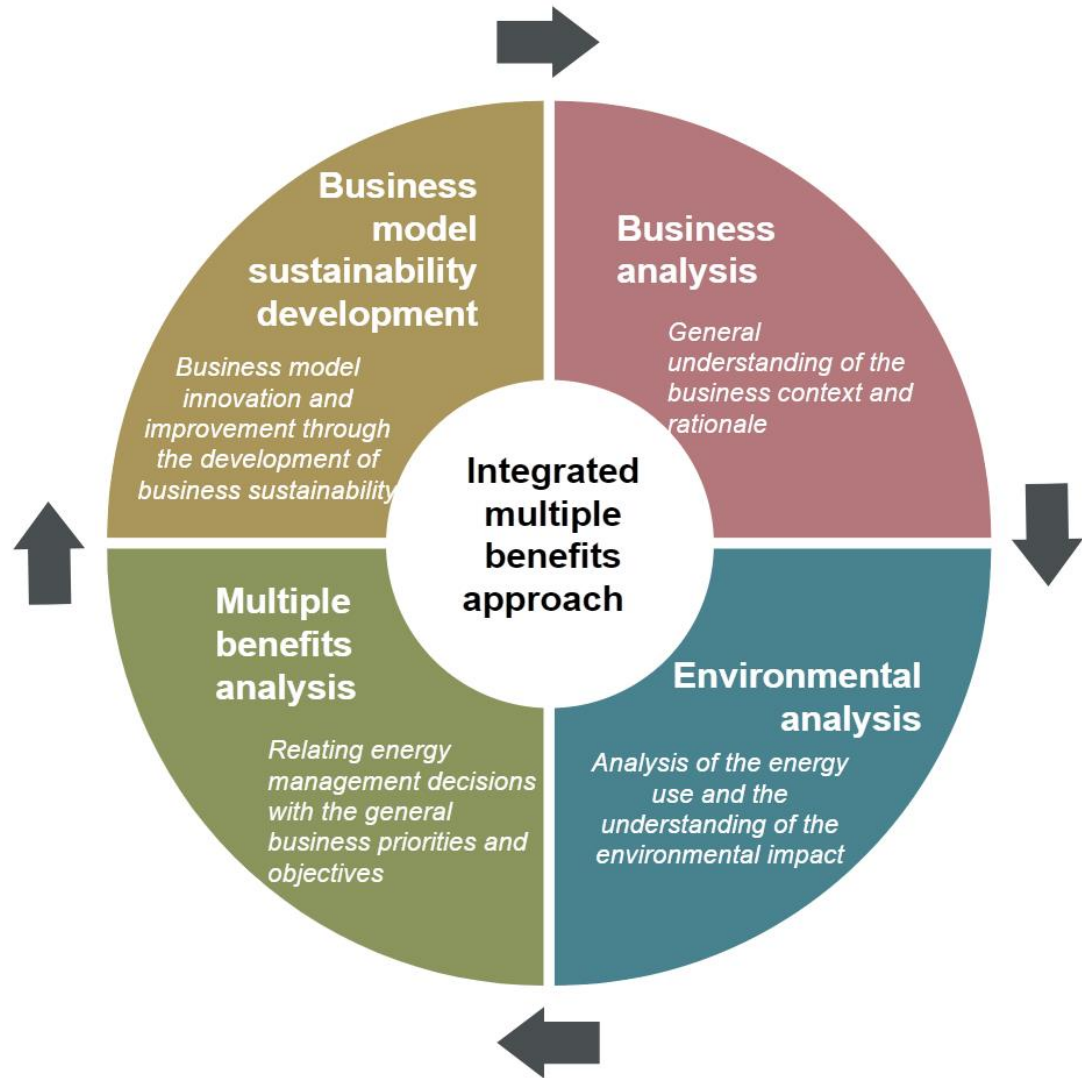
“Member States shall develop programmes with the aim of encouraging and providing technical support to SMEs [...] to undergo energy audits and to subsequently implement the recommendations arising from those audits.”



“Member States shall ensure that the programmes [...] include support to SMEs in quantifying the **multiple benefits** of energy efficiency measures”



DEESME 2050



- 02_DEESME methodology of MB approach for energy audits and EMS & results

Stage 1: Business Analysis

Step 1: Business Model Analysis

Analysis of value proposition, partner, customer segments, business procedures, partnerships according to the **Business Model Canvas**

Step 2: Cost Structure Analysis

Cost centers identification in all the production processes



Stage 2: Environmental Analysis



Step 1: Energy Auditing

Preliminary work → Data collection →
On-field inspection → Identification
of energy saving opportunities →
Audit report

Step 2: Carbon Footprint Analysis

Estimation of **Energy & Non-
Energy related GHG emissions**
from company's operation



Stage 3: Multiple Benefits Analysis



Step 1: MBs Identification

For each identified Benefit:

- **Description**
- **Main MB Indicator**
- **Alternative Indicators**
- **Calculation Method**

Step 2: MBs evaluation

Attribution of qualitative scores to each MB concerning:

- **Significance** for the company
- **Contribution** to the BM










Exploitation Plan is also outlined

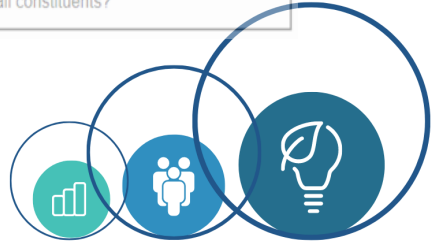


Stage 4: BM Sustainability Advancement

**Business Model
Innovation & Improvement**

The existing Business Model is renovated in its core elements or improved through the MBs having high positive impact

<p>Key Partners </p> <p>Can we choose with partners with compelling sustainability certifications and social reports?</p>	<p>Key Activities </p> <p>How can we improve the efficiency of the key activities?</p> <p>How can we develop sustainable practices (e.g. recycling) in the performance of the key activities?</p>	<p>Value Propositions </p> <p>How can we better respond to customers' lookout for sustainability?</p> <p>What are the opportunities for sustainable business in our market?</p>	<p>Customer Relationships </p> <p>How can we cultivate the values of sustainability with customers?</p>	<p>Customer Segments </p> <p>What are the social and market trends with regard to sustainability?</p> <p>What are the needs of each customer/ customer segment related to resource efficiency and sustainability?</p>
	<p>Key Resources </p> <p>How can we develop sustainability of the key resources?</p> <p>What alternative sustainable resources exist?</p>		<p>Channels </p> <p>How can we use low impact distribution and communication channels?</p>	
<p> How can we exploit sustainable in order to deduce cost?</p> <p>How can we exploit sustainable in order to reduce risks?</p>			<p>Revenue Streams </p> <p>How can we develop innovative financial models for the successful monetization of sustainability opportunities?</p> <p>How can we meet business sustainability and profitability?</p> <p>How can we promote the fair distribution of benefits and profits to all constituents?</p>	



Results from **Bulgaria**



MB Analysis

- Increased **productivity** (13/13)
- Introduction of **new 'green' products/services** (8/13)
- Improved **maintenance, quality and safety** (13/13)
- Acquisition of **new customers** (13/13)
- Increased **customer satisfaction** (11/13)

BM Sustainability Advancement

- **Value Proposition:** upcycling of leftovers, product complexity ↑
- **Key partners:** relationship with suppliers and customers ↑
- **Cost Structure:** energy and raw materials use ↓, maintenance costs



Results from **Italy**



MB Analysis

- Improved **maintenance** (7/12)
- Improved **raw materials consumption** (4/12)
- Improved **supply chain relationships** (5/12)
- Improved **quality** (1/12)
- Increased **customer satisfaction** (1/12)

BM Sustainability Advancement

- Cost reduction enhancing **competitiveness**
- Sustainable production unleashes **new market opportunities**
- **Monitoring systems** to identify and address inefficiencies



Results from **Poland**



MB Analysis

- Introduction of **new products/services** (4/7)
- Improved **quality** (5/7)
- Improved **raw material consumption** (4/7)
- Increased **employee and customer satisfaction** (2/7)
- Increased **utilization** (3/7)

BM Sustainability Advancement

- **Customer Segment, Relationships, Cost structure and Key resources** ↑



Results from **Germany**



MB Analysis

- Increased **productivity** (10/10)
- Improved **safety** (10/10)

BM Sustainability Advancement

- **Key Activities:** monitoring & control systems for heating processes
- **Cost Structure:** company's competitiveness ↑



DEESME MB Approach: Identified Best Practices



Relevance of
**complete and
accurate data**
**Quantification of
problems**



Commitment of the
Top Management



Training of
Operational and
Managerial staff



Communicate
successful energy
projects

03_ Non-energy benefits quantification & monetisation

The xls spreadsheet, created to analyze investments according to the MB approach, is made up of 6 parts (sheets):

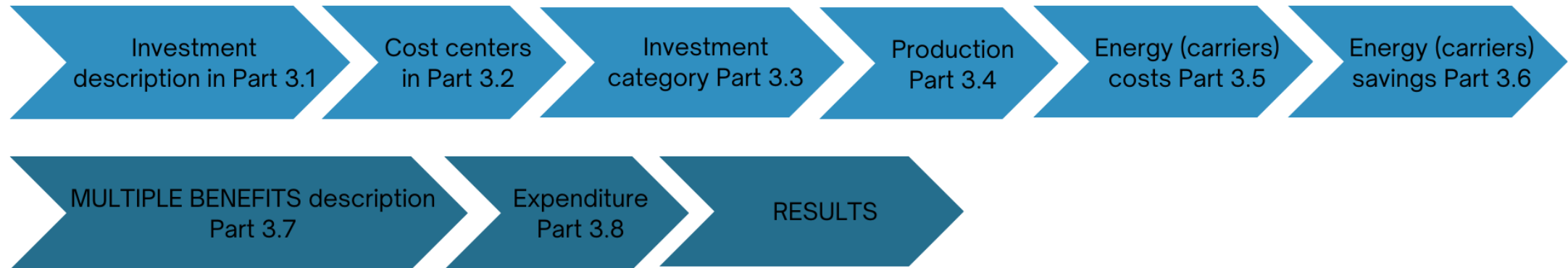
- 1. Cover (illustrating the analysis main results)
- 2. Introduction
- 3. Specifications
- 4. Economic analysis
- 5. Multiple Benefits (MB)
- 6. MBs quantification



Example of the spreadsheet input:

Energy efficiency investment - Multiple Benefits approach

This spreadsheet allows the analysis of only one investment project



Investments analysis according to the Multiple Benefit approach



Company K. Ltd.
Investment Replacement of old production machines with new more energy efficient machines

Main economic results without MBs		Main economic results with MBs	
Investment	600.000 €	Investment	600.000 €
Pay Back time	9 years	Pay Back time	3 years
IRR	0 %	IRR	0 %
NPV	-59.692 €	NPV	1.099.459 €
NPV/Investment	-0,10 -	NPV/Investment	2 -
Cost of Saved Energy	2.028 €/tep	Cost of Saved Energy	2.028 €/tep

Multiple Benefits (MB) and expected annual saving

NEB1	6. Improved maintenance	135.888 €/year
NEB2	4. Increased productivity	0 €/year
NEB3	0	0 €/year
NEB4	0	0 €/year
NEB5	0	0 €/year
NEB6	0	0 €/year

Impact of Multiple Benefits on Costs, Value Proposition and Risks



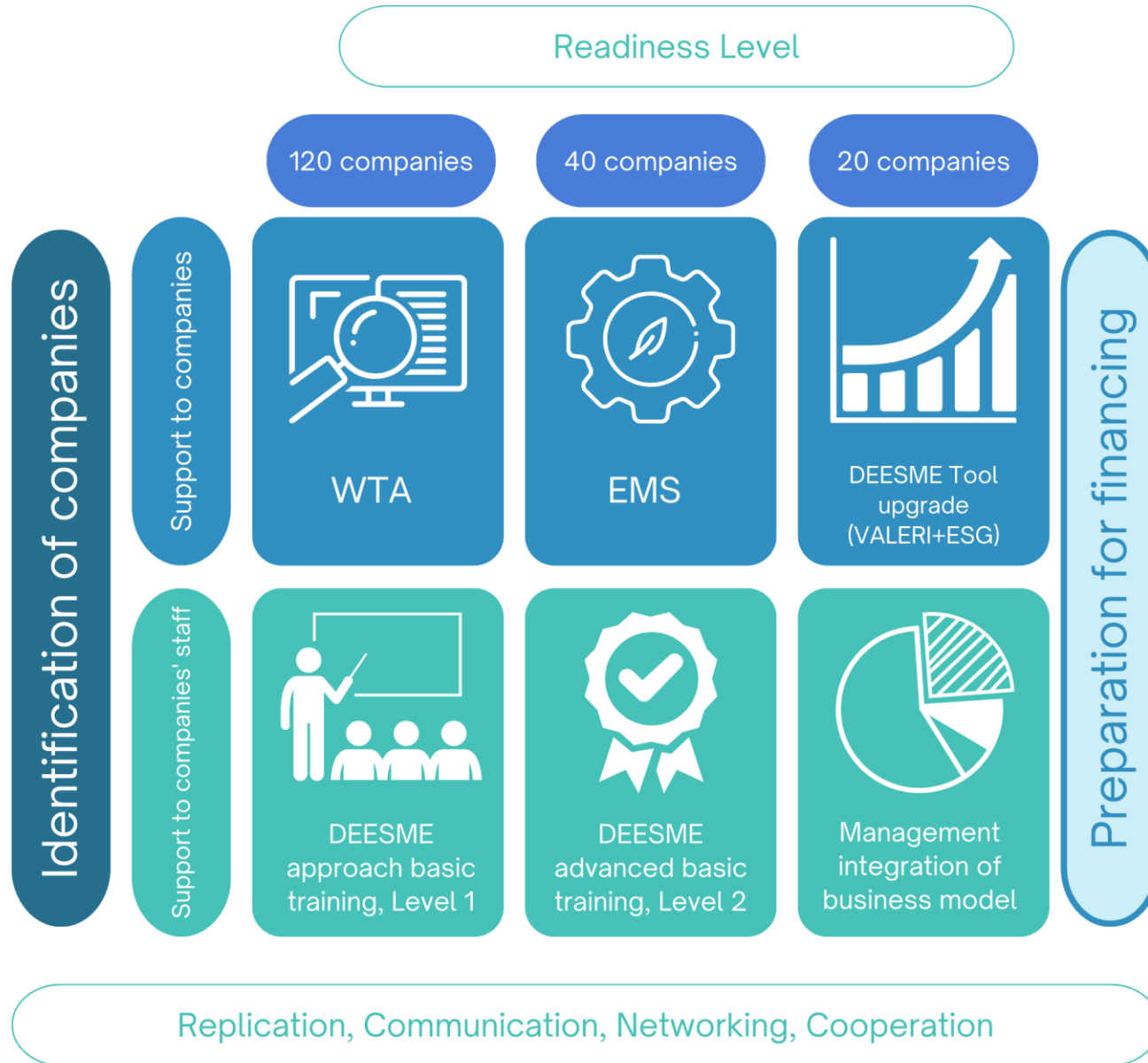
Impacts on costs	Check	Impacts on value proposition	Check	Impacts on risks	Check
1. Improved product/ service efficiency	yes	1. Improved product/ service efficiency	yes	1. Improved product/ service efficiency	yes
2. Introduction of new products/ services	yes	2. Introduction of new products/ services	yes	2. Introduction of new products/ services	yes
3. Development or innovations	0	3. Development or innovations	0	3. Development or innovations	0
4. Increased productivity	yes	4. Increased productivity	yes	4. Increased productivity	yes
5. Increased utilization	yes	5. Increased utilization	yes	5. Increased utilization	yes
6. Improved maintenance	yes	6. Improved maintenance	yes	6. Improved maintenance	yes
7. Reduced carbon footprint	no	7. Reduced carbon footprint	no	7. Reduced carbon footprint	yes
8. Improved quality	yes	8. Improved quality	yes	8. Improved quality	yes
9. Improved Safety	yes	9. Improved Safety	no	9. Improved Safety	yes
10. reduced energy consumption	yes	10. reduced energy consumption	no	10. reduced energy consumption	yes
11. Improved raw materials consumption	yes	11. Improved raw materials consumption	yes	11. Improved raw materials consumption	yes
12. Increased recycling	0	12. Increased recycling	0	12. Increased recycling	0
13. Reduced waste	yes	13. Reduced waste	no	13. Reduced waste	yes
14. Increased employee satisfaction	0	14. Increased employee satisfaction	0	14. Increased employee satisfaction	0
15. Acquisition of 'green' customers	0	15. Acquisition of 'green' customers	0	15. Acquisition of 'green' customers	0
16. Acquisition of new customers	yes	16. Acquisition of new customers	yes	16. Acquisition of new customers	yes
17. Increased customer satisfaction	yes	17. Increased customer satisfaction	yes	17. Increased customer satisfaction	yes
18. Increased customer loyalty	0	18. Increased customer loyalty	0	18. Increased customer loyalty	0
19. Improved supply chain relationships	yes	19. Improved supply chain relationships	yes	19. Improved supply chain relationships	yes
20. Improved stakeholder relationships	0	20. Improved stakeholder relationships	0	20. Improved stakeholder relationships	0
21. Reduced litigation risks	0	21. Reduced litigation risks	0	21. Reduced litigation risks	0
22. Increased regulatory compliance	0	22. Increased regulatory compliance	0	22. Increased regulatory compliance	0

Cover (illustrating the analysis main results)

In the meantime: More complex calculation tools (are being) developed



04_Further workplan



Challenges:

- Benchmarking of current audit/EMS and measures implementation per sector in four countries - approach and interest;
- What is out there? (advancement of the calculation tool, cooperation with other projects), needs of NAs, links with standard(s);
- Further research on possible monetisation of MBs;
- Linking CSRD to EED.



Our Partners



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Thank you!

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