



E.12 Develop a systematic energy efficiency work

To maintain the focus on energy efficiency over time and avoid making energy efficiency a one-time effort, the work with energy needs to be integrated in regular routines and activities of companies.

Systematic energy efficiency work is about finding a structured approach to consciously and regularly plan, implement and follow up measures for improving energy efficiency. Working according to the principles of plan, implement, follow-up, and improve (PLAN-DO-CHECK-ACT) is an established approach for developing organizations and activities. Many SMEs have experience of working this way in other areas, such as quality and environmental management.

The structured approach clarifies responsibilities and important activities to reach energy efficiency improvements. The systematic approach aims at continuous improvements and concrete results in terms of more efficient energy use, reduced environmental impact, and lowered costs. The concept of systematic energy management practices relates to several of the aspects discussed in part E (mainly E.2, E.3, E.4, E.8, E.10, E.11 and E.13).

To systematically develop an organization, six general aspects need to be catered for, which are described from the perspective of energy efficiency (or sustainability), below:

1. **Responsibility** - Someone needs to have the appointed responsibility for energy issues in the company (often called energy manager).
2. **Support** - The one responsible needs also support from top management and appropriate resources (time and budget) to be able to take that responsibility.
3. **Documentation** - The person responsible needs to have a structured system to keep track of knowledge, what has been done, what is planned, who should do what when etc. In short, one needs to document what is going on.
4. **Direction** - Management needs to determine what are the main goals and targets for energy use and energy efficiency in the company.
5. **Knowledge** - Basic knowledge and awareness about energy efficiency is needed at all levels of the company. Continuously keeping track of energy use, increasing knowledge through energy scans or audits, monitoring development and follow up of measures are important parts of developing knowledge.
In addition, results need to be communicated among employees as well as management. Employees play an important role in changing behavior and inefficient practices, reporting waste and implementing energy efficiency projects, while management needs knowledge to support these efforts.
6. **Continuous improvement** - By follow-up of implemented measures, new ideas and potential improvements are often found. Successful projects provide



inspiration, which is important for further reductions in energy use. The continuous improvement is a central aspect in all management practices.

This does not mean that a small SME should be encouraged to implement a complex energy management system. Implementing basic energy management practices focusing on increased awareness is often a good starting point. And by focusing on setting targets, planning measures, and follow-up to identify potential improvements, the systematic work itself can be improved and developed over time. The figure below shows how a systematic work with energy aspects can be gradually developed as the company's energy maturity is increased.

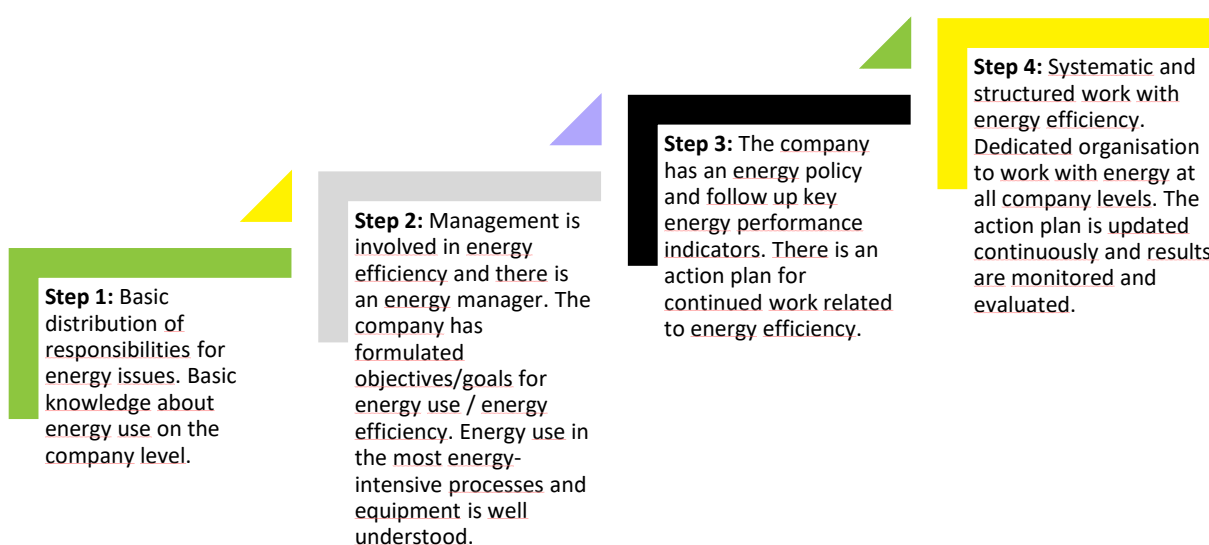


Figure 1. Step-wise development of a systematic and structured energy efficiency work in companies.

However, SMEs need support to identify at which step of this energy maturity ladder it currently is, and what would be the suggested actions to move on to the next step. It can be difficult to know what targets and strategies are appropriate, what is realistic to achieve, and how management practices can be integrated in the daily operations of the company.

There are tools that can help develop the structure, for example, checklists for energy policies, templates for action plans (see examples in Appendix E.1), or checklists for self-evaluation (see for example Appendix B.1).

It can also be noted that Energy Service Suppliers are generally not a part of this development process in the SMEs. This gives them a lack of knowledge about at which stage the SME is, and thereby about what type of support and services the SME needs (if they need an audit, more detailed analysis of specific measures, improved measurements or help with finding financial solutions) or how the service can be communicated to be understood by the SME. This is where a Trusted Partner can play a key role, and help matching Energy Service Suppliers to the right level of support.



APPENDIX B.1: Checklist for energy maturity

This tool is meant to function as a starting point for a small company’s journey to a more structured and systematic way of working with energy efficiency. It can be used as a self-assessment tool, or as a support tool for Trusted Partners who want to understand the level of maturity for the SMEs in the local energy collective.

Level 1

Question	Comment	Check
Do you know the size of the company’s energy use?	For all different energy carriers such as electricity, oil, district heating, etc (in kWh or m ³). Check energy bills.	
Are you doing anything to save energy?	For example, routines aimed to reduce energy use, e.g. care and maintenance of machinery, and switching off lights.	
Is responsibility for energy issues distributed within company?	For example, that someone handles energy bills and follow up the energy use	
Are you aware of what energy-related regulations and requirements that affect your organization?	What applies in your specific country	

Level 2

Question	Comment	Check
Do you have access to statistics and data of the company’s energy use?	Check energy bills and/or customer pages at your energy supplier’s website. Compare one year to another, or season to season. Customer pages may also show hourly values. This can be used to identify idling load.	
Do you know what in your operations uses most energy?	Audit or scan your energy use and identify the major energy users	
Is management involved in the work with energy?	Management should make sure that energy-related issues are handled and provide enough resources for the work.	
Have you selected a person for the overall responsibility for energy issues?	Someone has an overview of all parts, e.g. energy bills and production	



Do you have energy goals/targets?	Possibly together with environmental targets, SMART objectives.	
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Level 3

Question	Comment	Check
Do you have an energy policy or an environmental policy describing energy issues?	Describes the direction of the work with energy. Connect policy to energy targets and objectives.	
Have you developed an action plan for energy efficiency?	Write down what has been done, what should be done, and plans to achieve this.	
Do you consider energy / energy efficiency when making investments?	Energy performance, compare life cycle costs for investments.	
Are you using energy related KPIs?	Could this be a possibility for your business? Energy use per product, per euro or something else.	

Level 4

Question	Comment	Check
Do you follow up your action plan and the result from implemented energy efficiency measures?	Update the action plan, its measures and calculate costs and savings.	
Is there a possibility for employees to contribute with ideas to the work of reducing the company's energy use?	E.g., in coffee breaks, workplace meetings.	
Are energy related routines updated regularly?	Internal revision, e.g., once a year.	



APPENDIX E.1: Templates for energy efficiency action plans

There are two version of templates for an energy efficiency action plan. Both should be approved by management, with clear responsibilities and timeframes.

Compact: This template focuses on the plan as being a plan of action. It is focused on the implementation. What should be done, by whom, and when? And how will the measure be evaluated to see if it gave the expected result? If this version of the template is used, the analysis that led to a measure being prioritized and put on the action plan also needs to be documented. Such, more detailed information about individual measures, like energy savings and profitability can then be presented separately. A proposal for how the individual measures can be documented is provided after the two action plan templates.

Detailed: This template contains all information from the compact version, but here you also have a possibility to add information about energy savings, emission reductions, costs and multiple benefits. This means that this template collects a lot of information in the same place. To get room to enter all information, it is probably necessary to copy the template to a spreadsheet, where the columns can be wider.



Action plan for energy efficiency
(compact)

Updated
date:

#	Description of measure	Persons(s) responsible	Status	Target date	Method for follow-up
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Action plan approved by:

Signature

Date

Action plan for energy efficiency (detailed)

Updated
date:



#	Energy target addressed	Area/ Equipment	Description of measure	Type of measure	Person(s) responsible	Status	Target date	Expected energy saving (kWh/yr)	Reduced CO2 emissions (kg/yr)	Net cost savings (euro/yr)	Investment cost (euros)	Non-energy benefits / Other consequences	Method for follow-up	Result of follow-up	Comment
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															

Action plan approved by:

Signatur

Datum



Measure:	
Area / Equipment:	
Description:	
Energy saving (MWh/yr)	
Cost saving (euro/yr)	
Investment cost (euros)	
Life cycle cost saving (euros)	
Payback time (yr)	
Reduced emissions of fossil CO ₂ (kg/yr)	
Method for follow-up (key performance indicators, measurements/monitoring ...):	
Other consequences of implementing the measure (multiple benefits, other costs, how the measure affects or is affected by implementation of other measures ...):	