

*IEE GoEco*  
*Catalogue of monitoring tasks for continuously energy management*  
**Energy Management in Business Parks - Guideline**

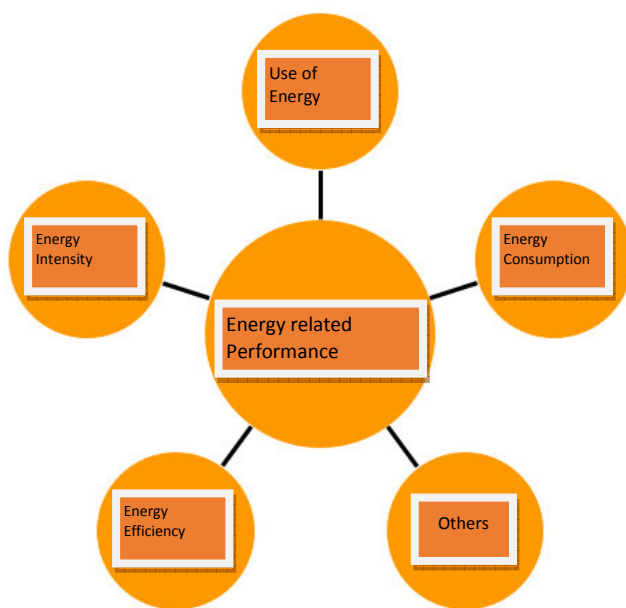
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## 1. DIN EN ISO 50001

The norm supports companies and entities in implementing procedures and systems which contribute to the optimization of energy related performance. This includes energy use, efficiency, consumption as well as intensity of processes and structures. The application of an energy management system (EMS) aims at improving the corporate energy management and the efficient use of energy. Furthermore, EMS is able to reduce costs, green house gas emissions and environmental pollution. The norm can be implemented, when organizations are able to control energy flows by monitoring and controlling.



**Graph 1: Conceptual illustration of energy related performance by ISO 50001**

The graph contains a conceptual illustration of energy related services in any company. There are five sectors to be considered, which can influence the energy related performance. Additionally, the norm describes the requirements for organisations to develop and implement a corporate energy policy with the help of EMS. Besides operative and strategic objectives action plans have to be developed which correspond to the legal framework and latest standards.

The implementation of EMS is following the PDCA principle (Plan-Do-Check-Act) which also follows other management systems as ISO 90001 (quality management) or ISO 140001 (environmental management). If a company has already implemented another management system, the energy management can be integrated easily in given structures.

Basically the cycle can be describes as follows:

### Plan

In this phase the basic strategic procedures and objectives are defined which aim at increasing the energy related performance of the company. Therefore, energy saving objectives are developed, responsibilities and strategies determined as well as the questions of the budget addressed.

### Do

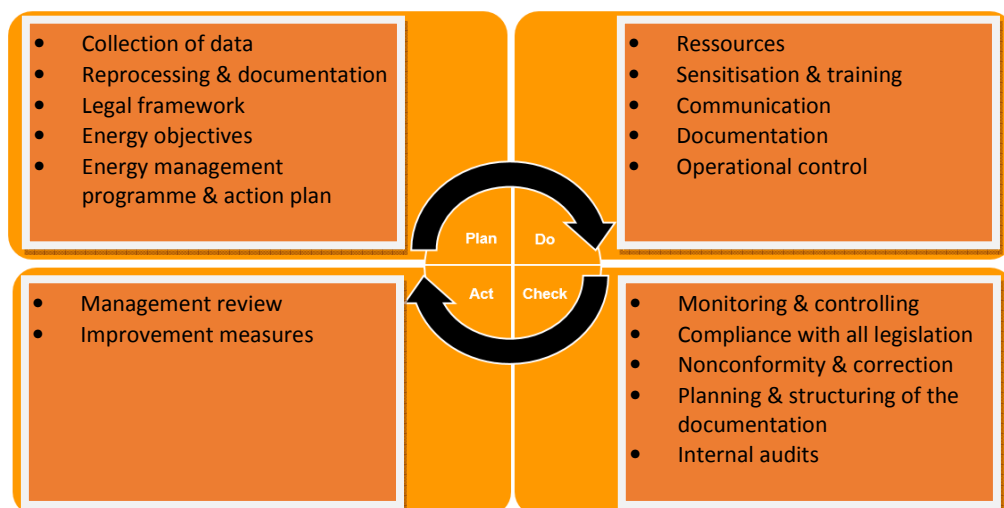
In this phase, processes have to be implemented within the organization which aim at achieving the objectives.

### Check

Besides the documentation of the results, in this phase procedures and devices have to be monitored and controlled regarding their performance. On the basis of the results, new and more fitting ideas can be developed by internal audits or in cooperation with external advice.

### Act

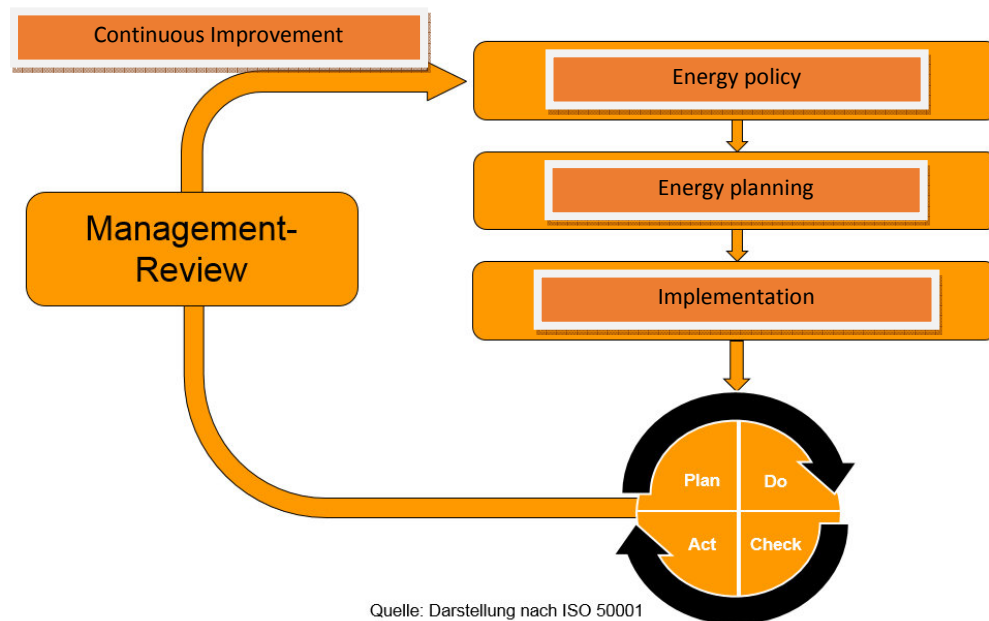
The organisation now has to decide, which measures seem to be fitting to trigger a sustainable improvement of the energy related performance. Together with current energy data, the decision makers are able to use results of audits and newly gained knowledge of the first three steps can be used to make that decision. On the basis of this data, new objectives can be developed and progress can be assessed.



Graph 2: PDCA principle according ISO 50001

EMS focusses on continuous improvement. Activities in the different phases can proceed in parallel. Companies have to determine with which activity they want to commence since not all organisations are the same.

The following procedure illustrates the whole management system:



**Graph 3: EMS model according ISO 50001**

After the determination of a certain energy policy for the respective company, an energy plan is being developed. Objectives and processes have to be implemented in the organization. The implementation is subject to a permanent control mechanism. A regular management review helps to evaluate the process and find hints for continuous improvement of the EMS.

## 2. Course of Action

Time period	Task	Responsibility
asap	Determination of balance limits	CEO (presentation by EMS team)
2-4 weeks	Establishment of EMS team, delegation of authority regarding EMS	EMS team, all divisions, CEO
asap	Development of a corporate energy policy	CEO (presentation by EMS team)
4-6 weeks	Recognition and collection of legal requirements	EMS team
4-6 weeks	Registration and compilation of measuring equipment for EMS	EMS team, all divisions
4-6 weeks	Energetic assessment with documentation	EMS team, all divisions, CEO
1 week	Determination, record and maintenance of energetic advance base	EMS team

2 weeks	Recognition and record of energy performance key figures, continuous alignment with energetic advance base	EMS team, all divisions, CEO
2 weeks	Determination of corporate energy saving objectives, programmes and action plans, definition of individual procedures	EMS team, all divisions, CEO
1-2 weeks	Recognition of training demand and implementation	EMS team, all divisions, CEO
4-6 weeks	Documentation	EMS team, all divisions
4-6 weeks	Examination and adjustment of all existing procedures regarding EMS	EMS team, all divisions
4-6 weeks	Planning and determination of energy related activities with documentation	EMS team, all divisions
1 week	Internal audits with documentation  Durchführung Interner Audits mit Dokumentation	Energy manager, auditor, divisions
4-6 weeks	Adaptation in case of nonconformity, preventive measures	EMS team, all divisions
1 day	Management review	Energy manager; CEO