

Energy management systems in practice

Annex

The energy management checklist

The energy management checklist helps you to assess whether your EnMS conforms with the requirements of ISO 50001:2018. The checklist contains a series of reference items, formulated as questions and numbered consecutively. For easier reference, these are allocated to superordinate topics marked with letters. If the EnMS has been implemented properly, you will be able to answer the reference questions with "YES". On the right-hand side of the table you will find a column for comments on each item. At the end of the checklist, you will find a concluding evaluation of the sub-questions. Enter the number of questions answered with "Yes" and "No" in each sub-area. This allows you to identify, at a glance, the respective areas in which the EnMS has been implemented in conformity with the standard as well as those areas that may still need improvement.

Use the comments column during the review process

Your comments can serve as a good reference point for improvement and optimization actions once auditing and certification have been completed. Comments may be specific improvement actions or references to certain areas that need further attention, for example.

Company data

This checklist has been created for the following company/organization:

Address:

Zip code and city (i.e. registration):

Telephone number:

Fax:

E-mail:

Contact:

Telephone number:

1.

2.

3.

Date of review:

No.	Required elements	Implementation; Yes/No	Comments
A	Context of the organization		
A1	Understanding the organization and its context		
	Have the external and internal issues that are relevant in achieving the outcomes of the EnMS and improving energy performance been identified?		
A 2	Understanding the needs and expectations of interested parties		
	Have the relevant interested parties been identified?		
	Have the needs of interested parties been identified as well as how they should be addressed in the EnMS?		
A 3	Determining the scope of the energy management system		
	Have the scope and boundaries of the EnMS been determined and documented?		
B	Leadership		
B 1	Leadership and commitment		
	Has the strategic direction of the organization been taken into account when defining the energy policy, objectives and energy targets?		
	Are the requirements of the EnMS integrated into the business processes of the company?		

No.	Required elements	Implementation; Yes/No	Comments
	Does top management ensure that action plans are approved and implemented?		
	Does top management ensure that the resources required for the implementation and maintenance of the EnMS are provided?		
	Are the importance of effective energy management as well as the EnMS requirements communicated within the organization?		
	Does top management promote continual improvement of energy performance and the EnMS?		
	Are the relevant persons being directed and supported so that they can contribute to the effectiveness of the EnMS and to the improvement of energy performance?		
	Are other relevant management roles being supported in order to demonstrate their leadership role in their areas of responsibility?		
	Has an energy management team been put together?		
	Is ensured that the energy performance is adequately represented by suitable EnPi(s)?		

No.	Required elements	Implementation; Yes/No	Comments
B 2	Energy policy		
15.	Is the energy policy appropriate to the purpose of the organization?		
16.	Does the energy policy provide a framework for setting and reviewing objectives and energy targets?		
17.	Does the energy policy include a commitment to ensure the availability of information and resources required to achieve objectives and energy targets?		
18.	Does the energy policy include a commitment to comply with applicable legal and other requirements?		
19.	Does the energy policy include a commitment to continually improve the energy performance and the EnMS?		
20.	Does the energy policy support the procurement of energy-efficient products and services as well as design-related activities that consider the improvement of energy performance?		
21.	Has the energy policy been communicated within the organization and has it been made available to employees and interested parties in the form of documented information?		
22.	Is the energy policy regularly reviewed and updated?		

No.	Required elements	Implementation; Yes/No	Comments
B 3	Organization roles, responsibilities and authorities		
23.	Has top management established relevant responsibilities and authorities and communicated these within the organization?		
24.	Has top management assigned the responsibilities and authorities to the energy management team to ensure that the EnMS meets the requirements of ISO 50001, and is being developed, implemented, maintained and continually improved?		
25.	Is the energy management team entitled to implement action plans for the continual improvement of energy performance?		
26.	Does the energy management team issue reports on the performance of the EnMS and the improvement of energy performance to management at determined intervals?		
27.	Is the energy management team responsible for and entitled to establish criteria, methods and processes for the effective operation and control of the EnMS?		

No.	Required elements	Implementation; Yes/No	Comments
C	Planning		
C 1	Actions to address risks and opportunities		
28.	Were activities and processes that impact energy performance reviewed? Have internal and external issues as well as the needs and expectations of interested parties been taken into account?		
29.	Are risks and opportunities that need to be addressed in order to achieve the intended outcomes, to prevent or reduce undesirable effects and to achieve the continual improvement of the EnMS and energy performance identified?		
30.	Has the company planned actions to address these risks and opportunities? Does the planning include how the actions can be integrated into company processes and how their effectiveness can be evaluated?		
C 2	Objectives, energy targets, and planning to achieve them		
31.	Have objectives and energy targets been formulated and documented that are consistent with the energy policy, measurable, consider SEUs and take other requirements into account?		
32.	Are objectives and energy targets monitored, communicated and, if necessary, updated?		
33.	Have action plans been introduced and documented?		

No.	Required elements	Implementation; Yes/No	Comments
34.	Has been considered how the actions to achieve the objectives and energy targets can be integrated into the organization's business processes?		
C 3	Energy review		
35.	Has an energy review been developed and conducted? Have the associated results as well as the method and criteria been documented?		
36.	Have time periods been established for updating the energy review? Are actions in place to ensure that the energy review is updated when major changes are made to installations, sites, facilities, systems or processes?		
37.	Have the following aspects been considered in the development of the energy review?		
38.	► Analysis of energy use and consumption		
39.	► Identification of SEUs as well as the relevant variables for each SEU, the current energy performance and relevant persons who influence the SEU		
40.	► Identification and prioritization of opportunities to improve energy performance		
41.	► Assessment of future energy use and energy consumption		

No.	Required elements	Implementation; Yes/No	Comments
C 4	Energy performance indicators		
42.	Have suitable energy performance indicators been defined for the measurement and monitoring of energy performance, and are these indicators capable of demonstrating improvement in energy performance?		
43.	Has the procedure for determining and updating EnPIs been selected so that all relevant variables and static factors are taken into account?		
C 5	Energy baseline		
44.	Has an energy baseline been developed on the basis of the initial energy review and will it be refined as needed?		
C 6	Planning for collection of energy data		
45.	Has a plan for the collection of energy-related data that is appropriate in terms of size and complexity of the organization been defined and implemented?		
46.	Does the energy-related data collection plan include the main features relevant to the assessment of energy performance (this may also be data not related to energy, such as production volumes)?		
47.	Have you ensured that the measuring instruments used allow for accurate and repeatable measurements?		

No.	Required elements	Implementation; Yes/No	Comments
D	Support		
D 1	Resources		
48.	Have the resources required to build, implement, maintain and ensure the continual improvement of the EnMS and energy performance been identified and provided?		
D 2	Competence		
49.	Has the required competence of internal and external persons whose activities could influence the energy performance and the EnMS of the organization been defined and determined?		
50.	Can the company provide verification of people's competences, such as proof of vocational training, trainings, skills and experience?		
D 3	Awareness		
51.	Are all employees and other relevant persons aware of the following issues?		
52.	► Energy policy		
53.	► Their contribution to the effectiveness of the EnMS, including the achievement of objectives and energy targets and the benefits of improved energy performance		
54.	► The impact of their activities and behavior on energy performance		
55.	► The implications of not conforming with the EnMS requirements		

No.	Required elements	Implementation; Yes/No	Comments
D 4	Communication		
56.	Has the company defined who will communicate what, when, with whom and how with regard to internal and external communication of the EnMS?		
57.	Can anyone working under the supervision of the organization submit suggestions on how to improve the EnMS and energy performance?		
D 5	Documented information		
D 5.1	General		
58.	Has all the documented information required in ISO 50001 been provided (a separate checklist for this can be found in the main document in chapter 3.6 "Documentation and communication")?		
59.	Has the company determined what other documented information is necessary to ensure the effectiveness of the EnMS and verify the improvement of energy performance and can this information be presented?		
D 5.2	Creating and updating		
60.	When creating and updating documented information, has the company ensured that labeling, descriptions and formats are adequate and have a review and approval been performed?		
D 5.3	Control of documented information		
61.	Is the documented information available when needed, suitable for use and adequately protected?		
E	Operation		

No.	Required elements	Implementation; Yes/No	Comments
E 1	Operational planning and control		
62.	Were the following aspects fulfilled when planning, implementing and controlling the processes related to the SEUs?		
63.	► Definition of criteria that can lead to a significant deviation from the anticipated energy performance if they are not conformed with		
64.	► Communication of criteria to all relevant persons		
65.	► Control of processes in accordance with the established criteria		
66.	► Assurance of the correct execution of processes by providing documented information		
E 2	Design		
67.	Have options for the improvement of energy performance been considered and documented when designing new or changing the design of existing installations and processes?		
E 3	Procurement		
68.	Have criteria been defined for the evaluation of energy performance in procurement?		
69.	Will suppliers who have an impact on the SEUs be informed that energy performance is one of the procurement criteria?		

No.	Required elements	Implementation; Yes/No	Comments
F	Performance evaluation		
F 1	Monitoring, measurement, analysis and evaluation of energy performance and the EnMS		
70.	Are the main characteristics of those company activities that determine energy performance measured, monitored and analyzed at scheduled intervals?		
71.	Have the following aspects been determined for the assessment of energy performance and the EnMS?		
72.	► What needs to be monitored and measured		
73.	► The methods for monitoring, measurement, analysis and evaluation		
74.	► When monitoring and measurement is to be conducted		
75.	► When to analyze and evaluate the results of monitoring and measurement		
76.	Have the improvements in energy performance been assessed by comparing the corresponding EnPI values with the corresponding EnBs?		
F 1.1	Evaluation of compliance with legal requirements and other requirements		
77.	Is compliance with legal regulations and other relevant obligations regularly reviewed and documented?		
F 2	Internal audit		
78.	Have internal EnMS audits been performed at scheduled intervals?		

No.	Required elements	Implementation; Yes/No	Comments
79.	Is a documented audit plan in place?		
80.	Have audit criteria and scope been defined for each audit?		
81.	When selecting personnel for the audits, does the company make sure that audit objectivity can be ensured?		
82.	Are results of the audit documented and reported to the responsible members of management?		
83.	Are suitable actions carried out?		
F 3	Management review		
84.	Is the EnMS regularly audited by management?		
85.	Are the following general aspects of management evaluation taken into account?		
86.	► The status of the actions from previous management reviews		
87.	► Changes to external and internal issues that affect the EnMS and associated risks and opportunities		
88.	► Information about the performance of the EnMS as well as possibilities for continual improvement		
89.	► The energy policy		
90.	Have the following aspects been included in the input to the management review?		

No.	Required elements	Implementation; Yes/No	Comments
91.	► The extent to which energy targets have been achieved		
92.	► Energy performance and its improvement based on monitoring and measurement results (including EnPIs)		
93.	► Status of action plans		
94.	Do the results of the management review include all decisions on opportunities for continual improvement as well as any need for changes to the EnMS?		
G	Improvement		
G 1	Nonconformity and corrective actions		
95.	Have nonconformities been identified and corrective actions been taken and their results documented?		
G 2	Continual improvement		
96.	Will the energy performance of the company and the suitability, appropriateness and effectiveness of the EnMS be continually improved?		

No.	Required elements	Number of questions answered with yes	Number of questions answered with no
A	Context of the organization		
A1	Understanding the organization and its context		
A2	Understanding the needs and expectations of interested parties		
A3	Determining the scope of the EnMS		
B	Leadership		
B1	Leadership and commitment		
B2	Energy policy		
B3	Organization roles, responsibilities and authorities		
C	Planning		
C1	Actions to address risks and opportunities		
C2	Objectives, energy targets, and plans to achieve them		
C3	Energy review		
C4	Energy performance indicators		
C5	Energy baseline		
C6	Planning for collection of energy data		
D	Support		
D1	Resources		
D2	Competence		
D3	Awareness		
D4	Communication		
D5	Documented information		
D5.1	General		
D5.2	Creating and updating		
D5.3	Control of documented information		
E	Operation		
E1	Operational planning and control		
E2	Design		
E3	Procurement		
F	Performance evaluation		
F1	Monitoring, measurement, analysis and evaluation of energy performance and the EnMS		
F1.1	Evaluation of compliance with legal requirement and other requirements		
F2	Internal audit		
F3	Management review		
G	Improvement		
G1	Nonconformity and corrective actions		
G2	Continual improvement		

Imprint

Publisher

Umweltbundesamt
Wörlitzer Platz 1
06844 Dessau-Roßlau
Telephone: +49 340-2103-0
Fax: +49 340-2103-2285
buergerservice@uba.de
Internet: www.umweltbundesamt.de
 [umweltbundesamt.de](https://www.facebook.com/umweltbundesamt.de)
 [umweltbundesamt](https://twitter.com/umweltbundesamt)

Authors, Institutions

Anton Barckhausen, adelphi
Juliane Becker, adelphi
Peter Malodobry, adelphi
Nathanael Harfst, Niederrhein University
of Applied Sciences
Ulrich Nissen, Niederrhein University of
Applied Sciences

Completion: March 2020