

Energy Management System

EnMS Management Document User's Guide

Baseline ISO50001



EnMS-Doc Associates

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1. Introduction

Thank you so much for taking ownership of a set of ISO 50001 compliant Energy Management System (hereinafter refer to as "EnMS") key management documents prepared by EnMS-Doc Association (hereinafter refer to as "EnMS-Doc"). The documents are prepared as a practical model case and supplied with word file so that they can be effectively and efficiently converted to documents of yours or your organisation.

1.1. EnMS-Doc ISO 50001 compliant EnMS management document set

Delivered management document folder named "M333 Set menu #1, All 12 in one" contains document file plus EnMS Audit Guideline as listed below.

No.	Document title	Document ID	File name
01	EnMS Charter	EnMS -Charter-M01E	[docID]-[ver.no.].docx
02	EnMS Document Management Guideline	EnMS -Doc.Mgmt.Gdln-M01E	[docID]-[ver.no.].docx
03	Energy Policy	EnMS -Policy-M01E	[docID]-[ver.no.].docx
04	EnMS Energy Review Report	EnMS -EnRev.Rep-M01E	[docID]-[ver.no.].docx
05	EnMS Action Plan	EnMS -Action.Plan-M01E	[docID]-[ver.no.].docx
06	EnMS Monitoring & Action Guideline	EnMS -Monitor.Gdln -M01E	[docID]-[ver.no.].docx
07	EnMS Training Plan	EnMS -Training.Plan -M01E	[docID]-[ver.no.].docx
08	EnMS Continual Improvement Guideline	EnMS -Cont.Impr.Gdln-M01E	[docID]-[ver.no.].docx
09	EnMS Communication Guideline	EnMS -Comm.Gdln-M01E	[docID]-[ver.no.].docx
10	EnMS Lean Energy Procurement Guideline	EnMS -Procure.Gdln-M01E	[docID]-[ver.no.].docx
11	EnMS Legal & Requirements Compliance Status Report	EnMS -LRC.Status.Rep-M01E	[docID]-[ver.no.].docx
12	EnMS Audit Guideline	EnMS -Audit.Gdln-M01E	[docID]-[ver.no.].docx
13	EnMS Audit Plan	EnMS -Audit.Plan-M01E	[docID]-[ver.no.].docx



2. EnMS Management Document

2.1. Changing the document ownership

In order to change ownership of the documents, please change **property fields** of the subject documents as appropriate for the items shown in the following two sub section 2.1.1 and 2.1.2

2.1.1. File properties: “Summary” tab

- Title (T); Subtitle (S); Author (A); Manager (M); Company name (O); Category (E);
Keywords (K)

Please refer to the image as shown in Fig 2-1 below.

2.1.2. File properties: “Custom” tab

- File name; Operation name; Baseline; Revision
 - Please refer to the image as shown in Fig 2-1 below.

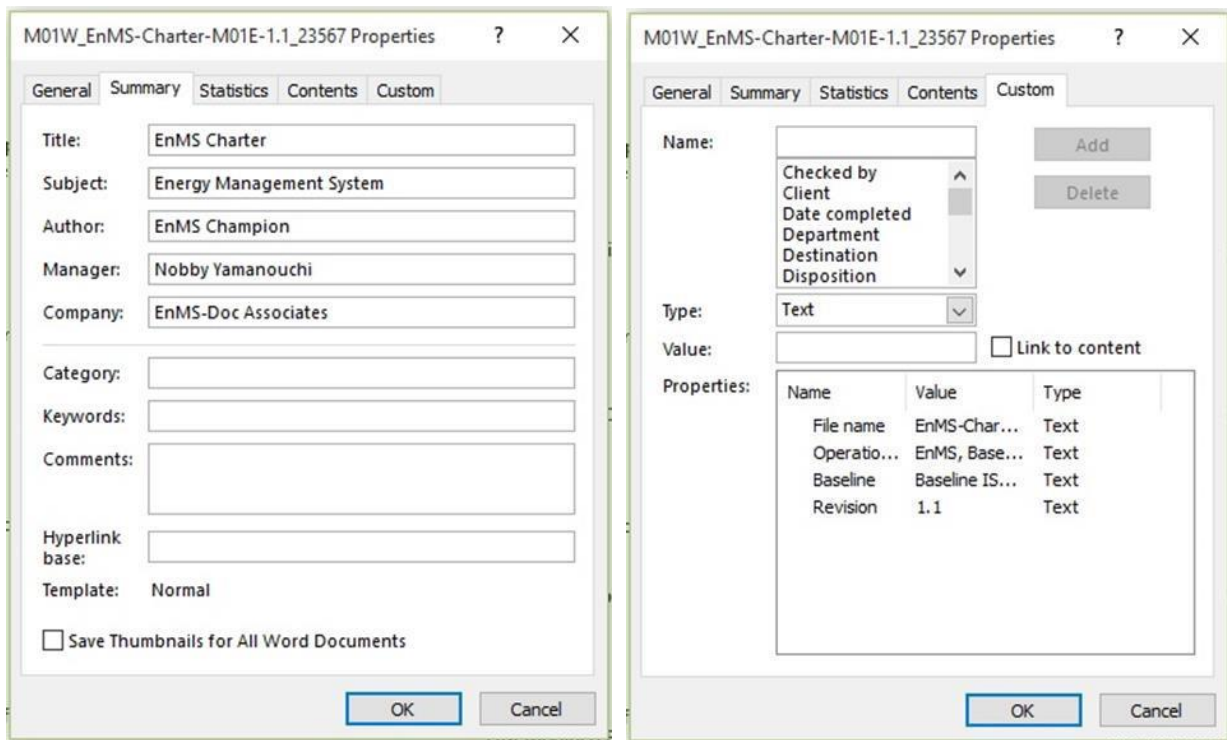


Figure 2-1: File properties

2.1.3. Page size

The document files are based on A4 page size. If you are letter size user, you may want to change the page layout setting from A4 to Letter size.



2.2. Management document commentary

ISO 50001 compliant EnMS management document model has two purposes:

1. All documents were designed to faithfully follow entire aspects of ISO 50001 requirements and therefore serves as an exclusive guidebook on ISO 50001 class EnMS operation
2. They are provided with word file and therefore you can use as a template to establish your own documents saving enormous time and cost of crating documents from scratch.

The beauty of the design is as long as the ISO 50001 requirement structures as established in all documents are maintained your work will automatically conforms to ISO 50001.

The EnMS management document model provides following benefits:

- You can add, delete, modify, correct and improve the model document any way you want to come up with your own original document that will at least comply with ISO 50001.
- Documents are created based on a virtual business operation to demonstrate examples of potential output in real terms. When using this document as a reference to establish your own document, it provides you to visualise and appreciate the essence of the EnMS operation as though you are a part of the organisation. You will also gain good insight into how the documents are actually used in an operation as well as being exposed to various examples of methods and techniques used in operating EnMS.
- Once you integrate your originality and creativity, you should come up with far more effective and powerful documents for your organisation.
- Documents contain plenty of invaluable techniques and tools in realising continual energy efficiency and performance improvement through EnMS operation and therefore you can use the documents as operational references in your daily business.

2.2.1. EnMS Charter (EnMS-Charter-M01E)

EnMS Charter is the highest level document of EnMS management documents ruling subsequent key management documents (Plan, Report and guideline) and procedural documents and record created for facility and process operation.

In order for you to maximise the use of this document, following comments are provided:

- It has been designed such that in the document clause 4: “EnMS Operational Guideline and Provisions: Baseline ISO 50001” follows and harmonises with the ISO 50001 clause 4: “Energy management system requirements”. With this framework once you develop the charter document in line with this model, it automatically conforms to the international standard
- This charter document authored by a high ranking officer who is responsible to lead and manage the company’s EnMS operation (It is termed “management representative” by ISO 50001, and in this document we named “EnMS Champion”) designated by the top management (in this document we named “EnMS Owner”). You will immediate appreciate what are the roles and responsibility of EnMS Champion while recognising the criticality of EnMS Owner commitment to the operation.
- ISO 50001 focuses on operation aiming for continual improvement on energy efficiency and performance, however the requirement does not cover the entire elements in energy management system operation for the purpose to reach organisation’s business goal. The consequence can be observed in operational control aspects. Sub-clause 4.5.5. “Operational Control” that only addresses procedure requirements on facilities/equipments that of significant energy use. For this reason in this



charter, regardless of ISO 50001 requirements, the Clause 5. "EnMS Operational Management Guideline Supplements" has been added to ensure EnMS related business activities are making progress, and to steer the direction of EnMS operation to within the objective range.

2.2.2. EnMS Document Management Guideline (EnMS-Doc.Mgmt.Gdln-M01E)

This model document "EnMS Document Management Guideline" is created based on ISO 50001 Clause 4 "Energy management systems — Requirements with guidance for use" sub-clause 4.5 "Implementation and operation" section 4.5.4 "Documentation"

It covers all documents related to EnMS operation and defines guideline for handling documents for the entire life cycle from development until retirement.

In order for you to maximise the use of this document, following comments are provided:

- The document is authored by a high ranking officer who is responsible to lead and manage the company's energy management system operation (in this document we named "EnMS Champion") designated by the top management (in this document we named "EnMS Owner").
- The document demonstrates how the guideline is established and key requirements defined in order for the documents used in EnMS operation to have a fundamental uniformity providing following benefitting elements:
 - Reader friendly composition and contents
 - Ensure availability of updated document
 - Proper maintain of the documents
- Many organisations start with creating "document management guideline" in order to standardise the documentation, however we suggest you start with EnMS Charter to have practical experience. In this way your process in engaging in this document becomes more practical and efficient.

2.2.3. Energy Policy (EnMS-Policy-M01E)

This model document designed to create a management document "Energy Policy", following strictly item by item on ISO 50001:2011 sub-clause 4.3 "Energy Policy". ISO 50001 does not require to reflect the quantitative saving targets however our intention is to aggressively pursue performance improvement and so the saving target was reflected.

2.2.4. EnMS Energy Review Report (EnMS-EnRev.Rep-M01E)

This model document "EnMS Energy Review Report" is created based on ISO 50001 Clause 4 "Energy management systems — Requirements with guidance for use" sub-clause 4.4 "Planning" section 4.4.3 "Energy review", 4.4.4 "Energy baseline" and 4.4.5 "Energy performance indicator (EnMS)". It is considered one of the most important documents in energy management operation identifying the opportunities for improvement in energy performance.

In order for you to maximise the use of this document, following comments are provided:

- This is a document related to energy review in line with the requirements of EnMS Charter (EnMS-Charter-M01E).
- The document shows how the energy review report is established, describing the results or updates on action items to be defined in the plan.



- After exhibiting the scope, it addresses opportunities identified as the result of energy review. In the final clause it provides recommendations for action which are the key elements to be considered for the action plan.
- The document demonstrate how to define baseline and target EnPIs and explains how energy performance improvement opportunities are identified that enables you to develop not only the document but to develop effective energy review activities.
- Energy review report must be coherent to the plan.

2.2.5. EnMS Action Plan (EnMS-Action.Plan-M01E)

This model document "EnMS Action Plan" is created based on ISO 50001 Clause 4 "Energy management systems - Requirements with guidance for use" sub-clause 4.4 "Planning", one of the most important documents together with "EnMS Energy Review Report" in energy management operation identifying the action items aiming to achieve the objectives and targets of improving in energy performance through EnMS operation

In order for you to maximise the use of this document, following comments are provided:

- It demonstrates over 20 action items to be planned for the upcoming EnMS fiscal year. Majority of action items are as the result of the energy review conducted prior to the planning. Therefore the action plan is based on objectives with highly feasible achievement of improved energy efficiency and performance.
- Objective of the document following the guideline and provisions defined in the EnMS Charter (EnMS-Charter-M01E) is to define what actions are required, by whom and by when so that the implementation of EnMS operation achieves its objectives and targets to improve energy performance in the organisation.
- This document addresses the people of the organisation to understand what action and output required by them to take action in timely manner for pursuing the optimum energy performance together with appreciating how business can benefits from the process of the system.
- The document shows how the EnMS Action Plan is established and developed, by identifying required action item with clear descriptions with objectives. In the final clause, "EnMS Management Principle" was created. This clause addresses the operational control from the perspective of ensuring operational movement and progress of items identified in action plan as well as to steer the direction to within the objective range.

2.2.6. EnMS Monitoring & Action Guideline (EnMS-Monitor.Gdln-M01E)

This model document "EnMS Monitoring & Action Guideline" is created based on ISO 50001 Clause 4 "Energy management systems — Requirements with guidance for use" sub-clause 4.6 "Checking (performance)" section 4.6.1 "Monitoring, measurement and analysis". It follows sub-clause 4.4 "Planning", section 4.4.4 "Energy baseline" together with section 4.4.5 "Energy performance indicators". EnMS Monitoring & Action plays key role in continual energy performance improvement by seeing the movement of energy and day-to-day performance with procedures integrated with EnMS Communication Guideline (EnMS-Comm.Gdln-M01E) and EnMS Continual Improvement Guideline (EnMS-Cont.Impr.Gdln-M01E). It is a guideline for one of the most key activity in EnMS operation in achieving measurable objectives and targets for improved energy performance.

In order for you to maximise the use of this document, following comments are provided:



- The guideline is based on hypothetical EnMS M&A system in action. An efficient “Miyeru-ka” (visualisation of energy) operation in action where the monitoring users compare the actual energy consumption with the energy consumption derived from the specific energy consumption based baseline and target EnPIs.

The objective of monitoring and action process is to implement energy monitoring (Miyeru-ka) combining with improvement procedure by the entire work force:

- Seeing the energy movement
 - Keeping track of baseline and target EnPI
 - Being reminded when performance deviated from target
 - Action for continual improvement
 - Seeing measurable effort being output for gaining the energy performance
- Objective of this document following the guideline and provisions defined in the EnMS Charter (EnMS-Charter-M01E) is to define the managerial guideline and provisions for the monitoring and action process. Prime aim is to get all users familiarised with the available monitoring system and provide guidance on how to benefit from the system in order to enhance the EnMS operation in achieving objectives and targets as well as to sustaining good energy performance and setting path for continual improvement.

2.2.7. EnMS Training Plan (EnMS-Training.Plan-M01E)

This model document “EnMS Training Plan” is created based on ISO 50001 Clause 4 "Energy management systems — Requirements with guidance for use" sub-clause 4.6 "Checking (performance)" section 4.5.2 "Competence, training and awareness".

In order for you to maximise the use of this document, following comments are provided:

- The document defines and sets implementation plan for necessary training programme, including workshop, seminar and on-line training sessions. It also covers necessary external training sessions.
- Objective of the document following the guideline and provisions defined in the EnMS Charter (EnMS-Charter-M01E) is to demonstrate planning method for training program containing what and how, by whom and by when in order to meet the training objectives. The training plan authored by a high ranking officer who is responsible to lead and manage the company’s energy management system operation (in this document we named “EnMS champion”) designated by a top management (in this document we named “EnMS owner”) is part of EnMS Action Plan (EnMS-Action.Plan-M01E) that defines overall EnMS action items.
- The document explains how the training plan was established, which was recommended as the result of energy review. After exhibiting the scope, it states the identified training sessions defining who are to participate. It then describes role/responsibility in conducting the sessions. In the final clause it specifies the schedule of the training with indication of logistics. The document as a management principle, asks for records of attendance and the evaluation of each session.



2.2.8. EnMS Continual Improvement Guideline (EnMS-Cont.Impr.Gdln-M01E)

This model document "EnMS Continual Improvement Guideline" is a guideline for one of the most important drives in EnMS operation aims for operating EnMS under the best practice environment pursuing everlasting improvement of business performance as well as that of energy.

The document is created based on ISO 50001 Clause 4 "Energy management systems — Requirements with guidance for use" closely related to the following sub-clauses or sections:

Sub-clause 4.5 "Implementation and operation"

Section 4.5.2 "Competence, training and awareness"

Section 4.5.3 "Communication"

Section 4.5.5 "Operational control"

Sub-clause 4.6 "Checking (performance)"

Section 4.6.1 "Monitoring measurement, and analysis"

Section 4.6.3 "Internal audit"

Section 4.6.4 "Nonconformities, corrective, preventive and improvement actions"

Sub-clause 4.7 "Management review"

Section 4.7.2 "Inputs to management review"

Section 4.7.3 "Output from management review"

Continual energy performance improvement practice requires dedicated attention toward problems, issues and ideas. Problems, issues and ideas can be identified through:

Energy monitoring and improvement procedure

Nonconformities, corrective and preventive approaches

Individual willingness for improvement

It is a guideline for one of the most key activities in EnMS operation in achieving measurable objectives and targets for improved energy performance.

In order for you to maximise the use of this document, following comments are provided:

- Features from the "EnMS Continual Improvement Guideline" are
 - To create positive environment in the organisation so that workers do not shy away from challenges.
 - To pursue higher level, in order to maintain the achieved good performance or to do better.
 - To act swiftly, efficiently and timely at time of problems for solution with measures of non-recurrence, and turn the experience into opportunity.
 - To take corrective or preventive action by making correction against actual or potential nonconformity.
 - To humbly learn and share valuable information in the organisation regarding:
 - What could be an irregular incident and how it was treated and resolved
 - What could be non-conformance and how it was improved and turned into opportunity



- It could be a challenging task to maintain the high level of performance and how continual improvement practice can overcome the challenges
- How proactive approach can motivate the work force and make things easier
- Objective of the document following the guideline and provisions defined in the EnMS Charter (EnMS-Charter-M01E) is to define the managerial guideline and provisions for activities directed towards continual improvement related to EnMS operation. The document aims for the entire work force to become familiarised with the process of continual improvement action path, and assists in setting their mind to pursue the best practice in EnMS operation regardless of the situation.

2.2.9. EnMS Communication Guideline (EnMS-Comm.Gdln-M01E)

This model document “EnMS Communication Guideline” is created based on ISO 50001 Clause 4 "Energy management systems — Requirements with guidance for use" sub-clause 4.5 "Implementation and operation" section 4.5.3 "Communication". Communication is invaluable in continual energy performance improvement by communicating day-to-day performance with procedures integrated with EnMS Continual Improvement Guideline (EnMS-Cont.Impr.Gdln-M01E).

In order for you to maximise the use of this document, following comments are provided:

- The document defines communication method and procedure in order to have active and motivated EnMS operation. It covers not only the in-house communication but also features on communication directed to external parties
- Objective of the document following the guideline and provisions defined in the EnMS Charter (EnMS-Charter-M01E) is to provide an introduction which it explains the background of EnMS operation related to the communication requirements, and defines the scope of communication. It then covers role and responsibility in the organisation before defining available internal and external communication methods for the operation. The final clause defines the procedural principles for each communication method.
- The document users will be exposed to useful communication ideas to promote your EnMS operation. Well strategized communication will upsurge the people’s motivation internally as well as to improve corporate credential in demonstrating sustainable business development to the external parties. The document provides good appreciation of how powerful a good communication can be and how it contributes to the development of business.

2.2.10. EnMS Lean Energy Procurement Guideline (EnMS -Procure.Gdln-M01E)

This model document “EnMS Lean Energy Procurement Guideline” is created based on ISO 50001 Clause 4 “Energy management systems — Requirements with guidance for use” sub-clause 4.5 “Implementation and operation” section 4.5.6 “Design” and section 4.5.7 “Procurement of energy services, products, equipment and energy”. The guideline document was designed to ensure procured items once delivered to the EnMS boundary, they perform to energy efficient level required to operate EnMS in achieving objectives and targets.

In order for you to maximise the use of this document, following comments are provided:

- The objective of lean energy procurement is to procure from suppliers who are willing to provide their professional support and service in realising the company to conduct its business of high standard and to produce the highest quality outputs at the leanest energy consumption.



- Objective of the document following the guideline and provisions defined in the EnMS Charter (EnMS-Charter-M01E) is to define the managerial guideline and provisions for the lean energy procurement process.
- The energy services, products, equipment and energy once they are procured by a beneficiary and being supplied and enter into the beneficiary's boundary of EnMS (hereinafter refer to as "procured item"), the operation relies on the output performed by the procured item arranged by the supplier. Unless suppliers understand and can respond to the exact requirements of EnMS, the delivered item will not meet the quality level required by the EnMS operation. LEPG aims to gain suppliers' collaboration to realise that EnMS achieves objectives and targets in energy performance while maintaining momentum to further improve with continuity. LEPG will not be effective unless having in depth cooperation by the suppliers. LEPG is to request suppliers putting their mind in our position, while we putting our mind in suppliers' position.

2.2.11. EnMS Legal & Requirements Compliance Status Report (EnMS-LRC.Status.Rep-M01E)

This model document "EnMS Legal & Requirements Compliance Status Report" is created based on ISO 50001 Clause 4 "Energy management systems — Requirements with guidance for use" sub-clause 4.4 "Energy Planning" section 4.4.2 "Legal requirements and other requirements" and sub-clause 4.6 "Checking (performance)" section 4.6.2 "Evaluation of legal/other compliance".

In order for you to maximise the use of this document, following comments are provided:

- "EnMS Legal & Requirements Compliance Status Report"(LRC status report) is a rolling reporting system to stay touch with the updated situation that can be used for dual purposes, one as a report function and the other as a monitoring tool to keep eyes on updated situation on legal and other requirements. By taking control of the version number of the documents, the administrator ensures the organisation operating EnMS under the conformity to all applicable legal and other requirements
 - The objective of LRC status report is to ensure:
 - EnMS operation has the right information, interpretation and action regarding legal requirements, and associated regulations and standards pertaining to significant energy use
 - EnMS follow comfortably with all requirements with the legal requirements as a minimum standard to comply with.
- Objective of the document following the guideline and provisions defined in the EnMS Charter (EnMS-Charter-M01E) is:
 - To define the guideline and provisions for LRC status report
 - To identify role and responsibility for activate the LRC status report
 - To update the most recent situation on legal requirements and associated regulations/standards, and state the compliance status and identify recommended action whenever applicable

2.2.12. EnMS Audit Guideline (EnMS-Audit.Gdln-M01E)

This model document "EnMS Audit Guideline" is created based on ISO 50001 Clause 4 "Energy management systems — Requirements with guidance for use" sub-clause 4.4 "Energy Planning" section 4.4.4 "Energy baseline" and section 4.4.5 "Energy performance indicators (EnPI)", and sub-clause 4.6 "Checking (performance)" section 4.6.3 "Internal audit" and section 4.6.4 "Nonconformities, corrective, preventive and improvement actions".

In order for you to maximise the use of this document, following comments are provided:



- EnMS audit is one of the most important activities in energy management operation, a systematic, independent and documented process for obtaining evidence (records, statements of fact or other information) and aim to evaluating it objectively to determine the extent to which the audit criteria (set of policies, procedures or requirements) are fulfilled as well as to assess achieving energy performance improvement.
- The document provides a guideline to perform EnMS audit. It provides useful audit concept in assessing the energy performance improvement while positioning to ensure conformity to the ISO 50001 as the minimum requirements and has the following features:
 - Guides to use Specific Energy Consumption Regression Analysis for verifying energy performance improvement providing simple, clear-cut and transparent way to demonstrate quantitative assessment. The method is coherent to SEP's Measurement and Verification Protocol for Industry
 - Assess EnMS operation conforming to the company's EnMS standard.
 - Assess EnMS operation conforming to ISO 50001 requirements.
 - To build up confidence level to obtain ISO 50001 certification, or to self-declare certification.
 - Identify areas to further improve (continuous improvement activity).
 - Build up company-wide awareness for achieving the objectives of EnMS operation.
 - Improve competency of the internal auditors to take superior position over the third party auditors.
- Objective of the document following the guideline and provisions defined in the EnMS Charter (EnMS-Charter-M01E) is to provide guideline to implement EnMS audit activities. The guideline document can be used by the company's internal auditors or by the team of second or third party auditor so that the audit process is persistent to assess energy performance improvement whoever the auditors are.

2.2.13. EnMS Audit Plan (EnMS-Audit.Plan-M01E)

This model document "EnMS Audit Plan" is created based on ISO 50001 Clause 4 "Energy management systems — Requirements with guidance for use" sub-clause 4.4 "Energy Planning" section 4.4.4 "Energy baseline" and section 4.4.5 "Energy performance indicators (EnPI)", and sub-clause 4.6 "Checking (performance)" section 4.6.3 "Internal audit" and section 4.6.4 "Nonconformities, corrective, preventive and improvement actions".

In order for you to maximise the use of this document, following comments are provided:

- EnMS Audit Plan is established based on EnMS Audit Guideline as described in the previous section 2.2.12.
- The document defines and sets implementation plan for conducting EnMS audit activities including preparation, document and site assessment and report.
- Objective of the document following the guideline and provisions defined in the EnMS Charter (EnMS-Charter-M01E) is to plan and define action items to implement EnMS audit activities. The EnMS audit in this document is to run by the company's internal lead auditors with a team of third party auditor acting as advisor throughout the activities so that the audit process is similar to third party audit in preparation for the certification audit.



Appendix 1. Terms and Definition, Acronyms

The terms and definitions, acronyms used in the EnMS documentation as well as in this document in line with the ISO 50001 are shown in the Table A- 1, below.

Majority of terms and definitions are taken from the following ISO standard:

- International Standard ISO 50001:2011(E), Energy management system-Requirements with guidance for use
- International Standard ISO 19011:2002, Guidance on the Principles of Auditing

Table A- 1: Terms and Definitions, Acronyms

Terms / Acronyms	Definitions
audit	<p>systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled</p> <p>NOTE 1: Internal audits, sometimes called first-party audits, are conducted by, or on behalf of, the organisation itself for management review and other internal purposes, and may form the basis for an organisation's self-declaration of conformity. In many cases, particularly in smaller organisations, independence can be demonstrated by the freedom from responsibility for the activity being audited.</p> <p>NOTE 2: External audits include those generally termed second- and third-party audits. Second-party audits are conducted by parties having an interest in the organisation, such as customers, or by other persons on their behalf. Third-party audits are conducted by external, independent auditing organisations, such as those providing registration or certification of conformity to the requirements of ISO 9001, ISO 14001 or ISO 50001.</p> <p>NOTE 3: When an energy management system and an environmental management system are audited together, this is termed a combined audit.</p> <p>NOTE 4: When two or more auditing organisations cooperate to audit a single auditee, this is termed a joint audit.</p>
audit client	<p>organisation or person requesting an audit</p> <p>NOTE: The audit client may be the auditee or any other organisation which has the regulatory or contractual right to request an audit.</p>
audit conclusion	<p>outcome of an audit, provided by the audit team after consideration of the audit objectives and all audit findings</p>
audit criteria	<p>set of policies, procedures or requirements</p> <p>NOTE: Audit criteria are used as a reference against which audit evidence is compared.</p>
auditee	<p>organisation being audited</p>



Terms / Acronyms	Definitions
audit evidence	records, statements of fact or other information, which are relevant to the audit criteria and verifiable NOTE: Audit evidence may be qualitative or quantitative.
audit findings	results of the evaluation of the collected audit evidence against audit criteria NOTE: Audit findings can indicate either conformity or nonconformity with audit criteria or opportunities for improvement.
auditor	person with the competence to conduct an audit
audit plan	description of the activities and arrangements for an audit
audit program	set of one or more audits planned for a specific time frame and directed towards a specific purpose NOTE: An audit program includes all activities necessary for planning, organizing and conducting the audits.
audit scope	extent and boundaries of an audit NOTE: The audit scope generally includes a description of the physical locations, organisational units, activities and processes, as well as the time period covered
audit team	one or more auditors conducting an audit, supported if needed by technical experts NOTE: 1 One auditor of the audit team is appointed as the audit team leader. NOTE: 2 The audit team may include auditors-in-training.
audit, technical expert for	person who provides specific knowledge or expertise to the audit team NOTE: 1 Specific knowledge or expertise is that which relates to the organisation, the process or activity to be audited, or language or culture. NOTE: 2 A technical expert does not act as an auditor in the audit team.
boundaries	physical or site limits and/or organisational limits as defined by the organisation EXAMPLE: A process; a group of processes; a site; an entire organisation; multiple sites under the control of an organisation.
continual improvement	recurring process which results in enhancement of energy performance and the energy management system NOTE 1: The process of establishing objectives and finding opportunities for improvement is a continual process. NOTE 2: Continual improvement can achieve improvements in overall energy performance, consistent with the organisation's energy policy.
correction	action to eliminate a detected nonconformity NOTE: Adapted from ISO 9000:2005, definition 3.6.6.



Terms / Acronyms	Definitions
corrective action	action to eliminate the cause of a detected nonconformity (3.21) NOTE 1: There can be more than one cause for a nonconformity. NOTE 2: Corrective action is taken to prevent recurrence whereas preventive action is taken to prevent occurrence. NOTE 3: Adapted from ISO 9000:2005, definition 3.6.5.
detailed energy audit	As a result of walk-through energy audit, any ECOs the organisation determines to pursue further, is to carry out the detailed energy audit. The purpose of the detailed energy audit is to evaluate if the ECO can be a realistic energy saving project as well as to gain enough financial and scale of economy information for the top management to make decision. In the detail energy audit, actual date are taken from the defined period of time in order to make analysis to come up with accurate energy saving estimate. As deliverables, it provides detail method to implement the energy efficient project including specifications that can draw quotation from vendors. The work is completed with a submission of detailed energy audit report.
ENCON Act	Energy Conservation Act, Ministry of Energy and Environment (hypothetical but true for some nations)
energy	electricity, fuels, steam, heat, compressed air, and other like media. NOTE 1: For the purposes of this International Standard, energy refers to the various forms of , including renewable, which can be purchased, stored, treated, used in equipment or in a process, or recovered. NOTE 2: Energy can be defined as the capacity of a system to produce external activity or perform work.
energy audit	activities of site-inspection, survey and analysis of energy flows for energy conservation in a building, process or system to reduce the amount of energy input into the system without negatively affecting the business output(s).
energy baseline	quantitative reference providing a basis for comparison of energy performance NOTE 1: An energy baseline can reflect a point in time or a period of time. NOTE 2: An energy baseline can be normalized by adjustment factors [relevant variable affecting energy use and/or consumption] such as production level, degree days (outdoor temperature), etc.
energy consumption	quantity of energy applied
energy efficiency	ratio or other quantitative relationship between an output of performance, service, goods or energy, and an input of energy EXAMPLE: Conversion efficiency; energy required/energy used; output/input; theoretical energy used to operate/energy used to operate.
energy intensity	energy intensity is a measure of the energy efficiency within the business unit under energy management system scope. A typical measure can be the amount of energy it takes to produce a specific output unit, the specific energy consumption.



Terms / Acronyms	Definitions
energy management system (EnMS)	set of interrelated or interacting elements to establish an energy policy and energy objectives, and processes and procedures to achieve those objectives
energy management team	person(s) responsible for effective implementation of the energy management system activities and for delivering energy performance improvements NOTE: The size and nature of the organisation, and available resources, will determine the size of the team. The team may be one person, such as the management representative. <i>In this document, a unique noun “EnMS operation committee (EnMS-OC)” is designated representing energy management team.</i>
energy objective	specified outcome or achievement set to meet the organisation's energy policy related to improved energy performance
energy performance	measurable results related to energy efficiency , energy use and energy consumption NOTE 1: In the context of energy management systems, results can be measured against the organisation’s energy policy, objectives, targets and other energy performance requirements NOTE 2 :Energy performance is one component of the performance of the energy management system
energy performance indicator (EnPI)	quantitative value or measure of energy performance as defined by the organisation NOTE: EnPIs could be expressed as a simple metric, ratio or a more complex model.
energy policy	statement by the organisation of its overall intentions and direction of an organisation related to its energy performance as formally expressed by top management NOTE: The energy policy provides a framework for action and for the setting of energy objectives and energy targets.
energy review	determination of the status of the organisation’s energy performance based on data and other information leading to identification of opportunities for improvement NOTE: In other regional or national standards, concepts such as identification and review of energy aspects or energy profile are included in the concept of energy review
energy services	activities and their results related to the provision and/or use of energy
energy target	detailed energy performance requirement, quantifiable, applicable to the organisation or parts thereof, that arises from the energy objective and that needs to be set and met in order to achieve this objective



Terms / Acronyms	Definitions
energy use	manner or kind of application of energy EXAMPLE: Ventilation; lighting; heating; cooling; transportation; processes; production lines.
EnMS procurement	When procuring energy services, products and equipments that have or may have an impact on significant energy use, the procurement is based on energy service, product or equipment carrying lifecycle operation specifications meeting the EnMS defined energy performance criteria
EnPI-Alert	“EnPI-Alert” is the name for “Energy Performance Indication for Improvement form”, when operators or any users of monitoring system judging from the information of the system that the improvement is required, fill in this form and issue to one of EnMS-OC members. This will generate the improvement process as part of EnMS operation. EnPI-Alert process is defined in “EnMS Continual Improvement Guideline” (EnMS-Cont.Impr.Gdln-M01E).
IDEA-Alert	“IDEA-Alert” is the name for “EnMS IDEA for Improvement form”, that the entire work force including contracted staff and part time workers are invited to submit any improvement ideas, by using the form, filled in and put it in to one of five IDEA boxes located in the premises. By submitting, it will generate the improvement process as part of EnMS operation and delivered to EnMS champion that the all ideas get management attention and all ideas will receive a first hand response. IDEA-Alert process is defined in “EnMS Continual Improvement Guideline” (EnMS-Cont.Impr.Gdln-M01E).
interested parties	person or group concerned with or affected by the energy performance of the organisation
internal audit	systematic, independent and documented process conducted within the EnMS operated organisation having a team of internal auditors for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled
manage by objectives	Commonly termed “MBO”, a document used by a company to evaluate the performance of employees containing the individual job objectives and targets to evaluate against at the defined closing date.
Miyeru-ka	A Japanese established energy management terminology “visualization of energy” which is a rolling PDCA process of (1) seeing (monitoring or measurement) of energy; (2) appreciation of what you have seen; (3) act based on what you have appreciated; (4) while reviewing the progress; (5) take further action for improvement.
nonconformity	non-fulfillment of a requirement NOTE: Adapted from ISO 9000:2005, definition 3.6.2.



Terms / Acronyms	Definitions
Operation alert	<p>“Operation alert” is the name for “EnMS Operation Request for Improvement form”, when the improvement in EnMS operation is required as a result of irregularity, non-conformance and matters subject to corrective actions found in daily operation or audit findings, a person concerned fills in this form and issues to one of EnMS-OC members. This will generate the improvement process as part of EnMS operation. Operation alert process is defined in “EnMS Continual Improvement Guideline” (EnMS-Cont.Impr.Gdln-M01E).</p>
organisation	<p>company, corporation, firm, enterprise, authority or institution, or part or combination thereof, whether incorporated or not, public or private, that has its own functions and administration and that has the authority to control its energy use and consumption.</p> <p>NOTE: An organisation can be a person or group of people.</p>
output	<p>the amount of energy, work, goods, or services produced by a machine, factory, company, or an individual in a period.</p>
preventive action	<p>action to eliminate the cause of a potential nonconformity</p> <p>NOTE 1: There can be more than one cause for a potential nonconformity.</p> <p>NOTE 2: Preventive action is taken to prevent occurrence whereas corrective action is taken to prevent recurrence.</p> <p>NOTE 3: Adapted from ISO 9000:2005, definition 3.6.4.</p>
procedure	<p>specified way to carry out an activity or a process</p> <p>NOTE 1: Procedures can be documented or not.</p> <p>NOTE 2: When a procedure is documented, the term “written procedure” or “documented procedure” is frequently used.</p> <p>NOTE 3: Adapted from ISO 9000:2005, definition 3.4.5.</p>
product	<p>result of a process</p>
record	<p>document stating results achieved or providing evidence of activities performed</p> <p>NOTE 1: Records can be used, for example, to document traceability and to provide evidence of verification, preventive action and corrective action.</p> <p>NOTE 2: Adapted from ISO 9000:2005, definition 3.7.6.</p>
scope	<p>extent of activities, facilities and decisions which the organisation addresses through an EnMS, which can include several boundaries</p> <p>NOTE: The scope can include energy related to transport.</p>
significant energy use	<p>energy use accounting for substantial energy consumption and/or offering considerable potential for energy performance improvement</p> <p>NOTE: Significance criteria are determined by the organisation.</p>



Terms / Acronyms	Definitions
team	person(s) responsible for effective implementation of the energy management system activities and for delivering energy performance improvements NOTE: The size and nature of the organisation, and available resources, will determine the size of the team. The team may be one person, such as the management representative.
top management	person or group of people who directs and controls an organisation at the highest level NOTE 1: Top management controls the organisation defined within the scope of the management system for energy. NOTE 2: Adapted from ISO 9000:2005, definition 3.2.7. <i>In this document, a unique noun "EnMS owner" is designated representing top management.</i>
walk-through energy audit	preliminary energy conservation analysis by one or two day site-inspection (walk-through) and survey to identify ECOs. The site-inspection is based on visual verifications, study of installed equipment and operating data and detailed analysis of recorded energy consumption for the defined period of time. Preliminary energy audit is another terminology.
BY	Business Year: 1 st April to 31 st March of the following year. (Example BY2013: 1 st April 2013 to 31 st March 2014)
CSR	Corporate Social Responsibility
CEM	Certified Energy Manager
CET	Communication Engine Team
DMG	Document Management Guideline
DMP	Document Management Procedure
EAC	Energy Account Centre
EATT	Energy Audit Task Team
ECO	Energy Conservation Opportunity
EMS	Environmental Management System
EnMS	Energy Management System, EnMS vs. EMS (Environmental Management System)
EnMS-MA	EnMS Monitoring & Action
EnMS-OC	EnMS Operation Committee
EnPI	Energy Performance Indicator
ERTT	Energy Review Task Team
ESCO	Energy Service Company
EY	EnMS Year: 1 st July to 30 th June of the following year (Example EY2013: 1 st July 2013 to 30 th June 2014)



Terms / Acronyms	Definitions
FS	Feasibility Study
ISO	International Organization for Standardization An acronym "ISO" was chosen deriving from the Greek isos, meaning "equal" (Whatever the country, whatever the language, the short form of the organisation's name is always ISO)
MBO	Management By Objective
OJT	On the job training
PDCA	Plan, Do, Check and Action
SEP ^{cm}	Superior Energy Performance ^{cm} introduced by the U.S. Council for Energy-Efficient Manufacturing
SEP	Superior Energy Performance
SEP-SC	Superior Energy Performance Suppliers Club
TPTT	Training Program Task Team
URS	User Requirements Specification
U.S. CEEM	U.S. Council for Energy-Efficient Manufacturing



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