
**Energy management systems —
Guidance for implementing a common
energy management system in
multiple organizations**

*Systèmes de management de l'énergie — Recommandations pour la
mise en oeuvre d'un système commun de management de l'énergie
dans les groupements d'organismes*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 301, *Energy management and energy savings*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

ISO 50001 has been developed to enable a single organization to establish the systems and processes necessary to continually improve energy performance. In some situations, better energy management results are accomplished when several organizations work together to manage their energy collectively by forming an energy management group (EnMG). These situations can be driven by changes in technology and the spread of distributed energy resources.

EnMGs can include organizations which:

- operate in a geographical region, such as a city, district or a single industrial park;
- are in a single sector, such as food processing, rail transportation or universities;
- share a common customer (supply chain members), such as a supermarket chain or car manufacturer;
- are served by a common service supplier, such as a building landlord in a shopping mall;
- share one utility system (steam, electricity, etc.);
- form part of a franchise group, which can have (but does not need to have) a common supplier, such as a franchised fast food chain (with common supplier), or independent retail stores that operate under a cooperative banner;
- form part of a wider economic group, with financial links or common ownership;
- are different type of facilities owned by a municipal government (city office, library, hospital, etc.);
- share a common objective or energy target (either voluntarily set or mandated);
- have agreed to improve the same energy performance indicator (EnPI);
- are members of a trade association.

The approach within this document may also be used by a multi-site organization covered by a single or common management system.

Groups of organizations can derive energy management benefits beyond those realizable by a single organization through a joint or common approach to energy management by several organizations. In addition, opportunities can be found by focusing on the energy that flows across the boundaries of each constituent organization. This type of opportunity cannot be found in a single organization. Generally, the wider the boundary becomes, the more opportunities there are to improve energy performance and the amount of improvement.

The establishment of the EnMG can be driven by common energy needs, with the aim of facilitating synergies or sharing expertise to improve energy performance.

EXAMPLE 1 Large energy investments can be more efficient (one large boiler rather than several small).

EXAMPLE 2 Waste heat or local renewable energy supplies can be shared.

It can be helpful for the implementation of an energy management system (EnMS) for a group of organizations if at least one constituent organization has experience in energy management.

This document presents guidance on establishing a common EnMS modelled on ISO 50001 but focusing on the issues that arise when multiple organizations coordinate energy management. The presence of multiple organizations requires guidance with respect to management aspects of a common EnMS, such as:

- leadership;
- planning;

- support for common or joint actions;
- operations or execution of common or joint actions;
- knowledge transfer;
- sharing of best practice;
- performance evaluation;
- ensuring continual improvement.

One additional benefit of a common EnMS is the ability to share expertise, equipment, etc. among constituent organizations to reduce costs and promote system improvements.

EXAMPLE 3 In an isolated mining or agricultural region it can be costly to bring in expertise (e.g. pumping experts to reduce energy consumption in irrigated agriculture) or to hire specialized machinery. An EnMG is often able to share experts' fees, travel and accommodation costs.

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Energy management systems — Guidance for implementing a common energy management system in multiple organizations

1 Scope

This document gives guidelines for establishing, implementing, maintaining and improving a common energy management system (EnMS) for multiple organizations.

This document follows the general structure used in ISO 50001:2018.

2 Normative references

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1 Terms related to organization

3.1.1 organization

person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its *objectives* (3.4.11)

Note 1 to entry: The concept of organization includes, but is not limited to, sole-trader, company, corporation, firm, enterprise, authority, partnership, charity or institution, or part or combination thereof, whether incorporated or not, public or private.

Note 2 to entry: This document refers to “multiple organizations”. Multiple simply means “more than one” and these organizations need not all have the same form or legal structure.

[SOURCE: ISO 50001:2018, 3.1.1, modified — Note 2 to entry has been added.]

3.1.2 constituent organization

organization (3.1.1) within the *energy management group* (3.1.7) that implements a *common energy management system* (3.2.3)

3.1.3 top management

person or group of people who directs and controls a *constituent organization* (3.1.2) at the highest level

Note 1 to entry: Top management is empowered to delegate authority and provide resources within the constituent organization.

Note 2 to entry: If the scope of the *management system* (3.2.1) covers only part of a constituent organization, then top management refers to those who direct and control that part of the constituent organization.

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Note 3 to entry: In an *energy management group* (3.1.7) there is usually no single top management covering the entire group.

[SOURCE: ISO 50001:2018, 3.1.2, modified — “constituent organization” has replaced “organization”. Note 3 to entry has been replaced.]

3.1.4

boundary

physical or site limits and/or organizational limits as defined by the *energy management group (EnMG)* (3.1.7) and the *constituent organizations* (3.1.2)

Note 1 to entry: The whole or any part of a constituent organization can be included in the boundary of an EnMG.

Note 2 to entry: The boundary can correspond to a geographic area, such as a city or metropolitan region or state or nation, or the franchise area of a utility or other energy service provider.

[SOURCE: ISO 50001:2018, 3.1.3, modified — The words “site limits and/or” have been added before “organizational” and the words “as defined by the energy management group (EnMG) and the constituent organizations” have been added after “limits”. The example has been deleted. Notes 1 and 2 to entry have been added.]

3.1.5

interested party (preferred term)

stakeholder (admitted term)

person or *organization* (3.1.1) that can affect, be affected by, or perceive itself to be affected by a decision or activity

[SOURCE: ISO 50001:2018, 3.1.5]

3.1.6

energy management committee

EnMC

committee to coordinate the *common energy management system* (3.2.3) on behalf of an *energy management group* (3.1.7)

3.1.7

energy management group

EnMG

two or more *organizations* (3.1.1) implementing a *common energy management system* (3.2.3)

Note 1 to entry: *Constituent organizations* (3.1.2) within an EnMG can have (but do not need to have) a financial connection.

3.2 Terms related to management system

3.2.1

management system

set of interrelated or interacting elements of an *organization* (3.1.1), *constituent organization* (3.1.2) or *energy management group* (3.1.7) to establish *policies* (3.2.5) and *objectives* (3.4.11) and *processes* (3.3.6) to achieve those objectives

Note 1 to entry: A management system can address a single discipline or several disciplines.

Note 2 to entry: The system elements include the entity’s structure, roles and responsibilities, planning and operation.

Note 3 to entry: The scope of a management system can include the whole of the organization, constituent organization or energy management group, specific and identified functions or sections of each organization or constituent organization, or one or more functions across the energy management group.

[SOURCE: ISO 50001:2018, 3.2.1, modified — “constituent organization or energy management group” has been added to the definition and to Note 3 to entry. “The EnMS scope includes all energy types within its boundaries” has been deleted from Note 3 to entry.]

3.2.2

energy management system

EnMS

management system (3.2.1) to establish an *energy policy* (3.2.6), *objectives* (3.4.11), *energy targets* (3.4.13), action plans and *process(es)* (3.3.6) to achieve the objectives and energy targets

[SOURCE: ISO 50001:2018, 3.2.2]

3.2.3

common energy management system

common EnMS

EnMS (3.2.2) implemented by two or more *organizations* (3.1.1) that is coordinated by an *energy management committee* (3.1.6)

3.2.4

common energy management system scope

common EnMS scope

set of activities which the *energy management group* (3.1.7) addresses through a *common EnMS* (3.2.3)

Note 1 to entry: The common EnMS scope can include several *boundaries* (3.1.4).

Note 2 to entry: The common EnMS scope can include activities outside the boundaries of individual *constituent organizations* (3.1.2) and transport operations.

3.2.5

policy

intentions and direction of an *organization* (3.1.1), as formally expressed by its *top management* (3.1.3)

[SOURCE: ISO 50001:2018, 3.2.3]

3.2.6

energy policy

statement by the *energy management group* (3.1.7) of its overall intention(s), direction(s) and commitment(s) related to its *energy performance* (3.4.3)

[SOURCE: ISO 50001:2018, 3.2.4, modified — “energy management group” has replaced “organization” and “as formally expressed by top management” has been deleted.]

3.3 Terms related to requirement

3.3.1

requirement

need or expectation that is stated, generally implied or obligatory

Note 1 to entry: “Generally implied” means that it is custom or common practice for the *organization* (3.1.1), *constituent organization* (3.1.2), *energy management group* (3.1.7) and *interested parties* (3.1.5) that the need or expectation under consideration is implied.

Note 2 to entry: A specified requirement is one that is stated, for example in *documented information* (3.3.5).

[SOURCE: ISO 50001:2018, 3.3.1, modified — “constituent organization, energy management group” has been added to Note 1 to entry.]

3.3.2

conformity

fulfilment of a *requirement* (3.3.1)

[SOURCE: ISO 50001:2018, 3.3.2]

3.3.3

nonconformity

non-fulfilment of a *requirement* (3.3.1)

[SOURCE: ISO 50001:2018, 3.3.3]

3.3.4

corrective action

action to eliminate the cause of a *nonconformity* (3.3.3) and to prevent recurrence

[SOURCE: ISO 50001:2018, 3.3.4]

3.3.5

documented information

information required to be controlled and maintained by a *constituent organization* (3.1.2) or the *energy management committee* (3.1.6) and the medium on which it is contained

Note 1 to entry: Documented information can be in any format and media, and from any source.

Note 2 to entry: Documented information can refer to:

- the *management system* (3.2.1), including related *processes* (3.3.6);
- information created in order for the *organization* (3.1.1) to operate (documentation);
- evidence of results achieved (records).

[SOURCE: ISO 50001:2018, 3.3.5, modified — “a constituent organization or the energy management committee” has replaced “an organization”.]

3.3.6

process

set of interrelated or interacting activities which transform inputs into outputs

Note 1 to entry: A process related to an *organization's* (3.1.1) activities can be:

- physical (e.g. energy-using processes, such as combustion); or
- business or service (e.g. order fulfilment).

[SOURCE: ISO 50001:2018, 3.3.6]

3.3.7

monitoring

determining the status of a system, a *process* (3.3.6) or an activity

Note 1 to entry: To determine the status, there can be a need to check, supervise or critically observe.

Note 2 to entry: In an *energy management system* (3.2.2), monitoring can be a review of energy data.

[SOURCE: ISO 50001:2018, 3.3.7]

3.3.8

audit

systematic, independent and documented *process* (3.3.6) for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled

Note 1 to entry: An audit can be an internal audit (first party) or an external audit (second party or third party), and it can be a combined audit (combining two or more disciplines).

Note 2 to entry: An internal audit is conducted by the *organization* (3.1.1) itself, or by another *constituent organization* (3.1.2) within the *energy management group* (3.1.7), or by an external party on its behalf.

Note 3 to entry: “Audit evidence” and “audit criteria” are defined in ISO 19011.

Note 4 to entry: The term “audit” as defined here and as used in this document means the internal audit of an *energy management system* (3.2.2). This is different from an “energy audit”. In this definition, “audit evidence” means evidence from an internal audit of the energy management system, and not evidence from an energy audit.

[SOURCE: ISO 50001:2018, 3.3.8, modified — “or by another constituent organization within the energy management group” has been added to Note 2 to entry.]

3.3.9

outsource, verb

make an arrangement where an external *organization* (3.1.1) performs part of an organization’s function or *process* (3.3.6)

Note 1 to entry: While an external organization is outside the scope of the *management system* (3.2.1), the outsourced function or process is within the scope.

[SOURCE: ISO 50001:2018, 3.3.9]

3.4 Terms related to performance

3.4.1

measurement

process (3.3.6) to determine a value

Note 1 to entry: See ISO/IEC Guide 99 for additional information on measurement-related concepts.

[SOURCE: ISO 50001:2018, 3.4.1]

3.4.2

performance

measurable result

Note 1 to entry: Performance can relate either to quantitative or qualitative findings.

Note 2 to entry: Performance can relate to the management of activities, *processes* (3.3.6), products (including services), systems, *organizations* (3.1.1), *constituent organizations* (3.1.2) or to the *energy management group* (3.1.7).

[SOURCE: ISO 50001:2018, 3.4.2, modified — The words “constituent organizations or to the energy management group” have been added to Note 2 to entry.]

3.4.3

energy performance

measurable result(s) related to *energy efficiency* (3.5.3), *energy use* (3.5.4) and *energy consumption* (3.5.2)

Note 1 to entry: Energy performance can be measured against the *constituent organization’s* (3.1.2) or the *energy management group’s* (3.1.7) *objectives* (3.4.11), *energy targets* (3.4.13) and other energy performance *requirements* (3.3.1).

Note 2 to entry: Energy performance is one component of the *performance* (3.4.2) of the *energy management system* (3.2.2).

[SOURCE: ISO 50001:2018, 3.4.3, modified — “constituent organization’s or the energy management group’s” has replaced “organization’s” in Note 1 to entry.]

3.4.4

energy performance indicator

EnPI

measure or unit of *energy performance* (3.4.3), as defined by the *energy management group* (*EnMG*) (3.1.7) or its *constituent organizations* (3.1.2)

Note 1 to entry: EnPI(s) can be expressed by using a simple metric, ratio or a model, depending on the nature of the activities being measured.

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Note 2 to entry: See ISO 50006 for additional information on EnPIs.

Note 3 to entry: In the *energy management system* (3.2.2) activity by an EnMG, one or more EnPIs can be set for the whole group. Constituent organizations can have their own EnPI(s).

[SOURCE: ISO 50001:2018, 3.4.4, modified — “energy management group (EnMG) or its constituent organizations” has replaced “organization”. Note 3 to entry has been added.]

3.4.5 energy performance indicator value EnPI value

quantification of the *EnPI* (3.4.4) at a point in or over a specified period of time

[SOURCE: ISO 50001:2018, 3.4.5]

3.4.6 energy performance improvement

improvement in measurable results of *energy efficiency* (3.5.3), or *energy consumption* (3.5.2) related to *energy use* (3.5.4), compared to the *energy baseline* (3.4.7)

[SOURCE: ISO 50001:2018, 3.4.6]

3.4.7 energy baseline EnB

quantitative reference(s) providing a basis for comparison of *energy performance* (3.4.3)

Note 1 to entry: An energy baseline is based on data from a specified period of time and/or conditions.

Note 2 to entry: One or more energy baselines are used for determination of *energy performance improvement* (3.4.6), as a reference before and after, or with and without implementation of energy performance improvement actions.

Note 3 to entry: See ISO 50015 for additional information on *measurement* (3.4.1) and verification of energy performance.

Note 4 to entry: See ISO 50006 for additional information on *energy performance indicators* (3.4.4) and *energy baselines* (3.4.7).

[SOURCE: ISO 50001:2018, 3.4.7, modified — “as defined by the organization” has been deleted from Note 1 to entry.]

3.4.8 relevant variable

quantifiable factor that significantly impacts *energy performance* (3.4.3) and routinely changes

EXAMPLE Weather conditions, operating conditions (indoor temperature, light level), working hours, production output.

[SOURCE: ISO 50001:2018, 3.4.9, modified — Note 1 to entry has been deleted.]

3.4.9 risk effect of uncertainty

Note 1 to entry: An effect is a deviation from the expected – positive or negative.

Note 2 to entry: Uncertainty is the state, even partial, of deficiency of information related to, understanding or knowledge of, an event, its consequence, or likelihood.

Note 3 to entry: Risk is often characterized by reference to potential “events” (as defined in ISO Guide 73) and “consequences” (as defined in ISO Guide 73), or a combination of these.

Note 4 to entry: Risk is often expressed in terms of a combination of the consequences of an event (including changes in circumstances) and the associated “likelihood” (as defined in ISO Guide 73) of occurrence.

[SOURCE: ISO 50001:2018, 3.4.11]

3.4.10 competence

ability to apply knowledge and skills to achieve intended results

[SOURCE: ISO 50001:2018, 3.4.12]

3.4.11 objective

results to be achieved

Note 1 to entry: Objectives are set to meet the *energy policy* (3.2.6) of an *energy management group* (EnMG) (3.1.7).

Note 2 to entry: The objectives of a *constituent organization* (3.1.2) can be part of the objectives of the EnMG.

[SOURCE: ISO 50001:2018, 3.4.13, modified — Notes 1, 2, 3 and 4 to entry have been deleted. Notes 1 and 2 to entry have been added.]

3.4.12 effectiveness

extent to which planned activities are realized and planned results achieved

[SOURCE: ISO 50001:2018, 3.4.14]

3.4.13 energy target

quantifiable *objective* (3.4.11) of *energy performance improvement* (3.4.6)

Note 1 to entry: An energy target can be included within an objective.

Note 2 to entry: An energy target for each *constituent organization* (3.1.2) can be different from the energy target of the *energy management group* (3.1.7).

[SOURCE: ISO 50001:2018, 3.4.15, modified — Note 2 to entry has been added.]

3.4.14 continual improvement

recurring activity to enhance *performance* (3.4.2)

Note 1 to entry: The concept relates to the improvement of *energy performance* (3.4.3) and the *energy management system* (3.2.2).

[SOURCE: ISO 50001:2018, 3.4.16]

3.5 Terms related to energy

3.5.1 energy

electricity, fuels, steam, heat, compressed air and other similar media

Note 1 to entry: For the purposes of this document, energy refers to the various types of energy, including renewable, which can be purchased, stored, treated, used in an equipment or in a *process* (3.3.6), or recovered.

[SOURCE: ISO 50001:2018, 3.5.1]

3.5.2

energy consumption

quantity of *energy* (3.5.1) applied

[SOURCE: ISO 50001:2018, 3.5.2]

3.5.3

energy efficiency

ratio or other quantitative relationship between an output of *performance* (3.4.2), service, goods, commodities, or *energy* (3.5.1), and an input of energy

EXAMPLE Conversion efficiency; energy required/energy consumed.

Note 1 to entry: Both input and output should be clearly specified in terms of quantity and quality and be measurable.

[SOURCE: ISO 50001:2018, 3.5.3]

3.5.4

energy use

application of *energy* (3.5.1)

EXAMPLE Ventilation; lighting; heating; cooling; transportation; data storage; production *process* (3.3.6).

Note 1 to entry: Energy use is sometimes referred to as “energy end-use”.

[SOURCE: ISO 50001:2018, 3.5.4]

3.5.5

energy review

analysis of *energy efficiency* (3.5.3), *energy use* (3.5.4) and *energy consumption* (3.5.2) based on data and other information, leading to identification of *significant energy uses* (3.5.6) and opportunities for *energy performance improvement* (3.4.6)

[SOURCE: ISO 50001:2018, 3.5.5]

3.5.6

significant energy use

SEU

energy use (3.5.4) accounting for substantial *energy consumption* (3.5.2) and/or offering considerable potential for *energy performance improvement* (3.4.6)

Note 1 to entry: Significance criteria are determined by the *energy management committee* (3.1.6) and can apply at the level of one or more *constituent organizations* (3.1.2) or the *energy management group* (3.1.7).

Note 2 to entry: SEUs can be facilities, systems, *processes* (3.3.6), or equipment.

[SOURCE: ISO 50001:2018, 3.5.6, modified — “energy management committee and can apply at the level of one or more constituent organizations or the energy management group” has replaced “organization” in Note 1 to entry.]

3.6 Abbreviated terms

AHU	air handling unit
BMS	building management system
CHP	combined heat and power
common EnMS	common energy management system

common EnMS scope	common energy management system scope
EnB	energy baseline
EnMC	energy management committee
EnMG	energy management group
EnMS	energy management system
EnPI	energy performance indicator
MOU	memorandum of understanding
SEU	significant energy use

4 Context of the energy management group

4.1 Understanding the energy management group and its context

Members of the EnMG (referred to in this document as the “constituent organizations”) have agreed to manage their energy use collaboratively to improve energy performance by using a common EnMS. In order to do so they may form an EnMG, which can be (but does not need to be) a separate legal entity, to develop and maintain a common EnMS. The EnMG will be responsible for determining the scope and boundaries of the common EnMS that they establish. The common EnMS includes the energy uses that each of the constituent EnMG members choose to manage in common (see 4.3.1). Constituent organizations should manage at least some, but not necessarily all, of their energy through the common EnMS. There can be a variety of forms for an EnMG.

The Introduction includes a list of possible situations where EnMGs may be formed. Examples of EnMGs are given in [Annex B](#).

The EnMG should establish an energy management committee (EnMC) to coordinate the activities of the common EnMS. This may be a formal committee or an informal group of individuals representing constituent organizations.

The EnMG should be responsible for drawing up necessary memorandums of understanding (MOU) and non-disclosure agreements concerning the establishment of the EnMC and the operation of the common EnMS, including how confidential data should be handled and made available for EnMS auditing purposes.

The EnMG or EnMC should determine external and internal issues that are relevant to the EnMG that could affect its ability to achieve the intended outcome(s) of the common EnMS. The activities of the EnMC are described in [5.1.2](#).

4.2 Understanding the needs and expectations of interested parties

4.2.1 General

The EnMG or its EnMC should determine:

- a) the interested parties that are relevant to the common EnMS and energy performance;
- b) any relevant requirements of the interested parties.

EXAMPLE In a shopping mall where all the tenants have formed an EnMG, the landlord would be an interested party.

4.2.2 Understanding the legal requirements and other requirements

The EnMG or the EnMC should identify and ensure that it has access to the applicable legal requirements and other requirements related to the EnMG’s energy use, energy consumption and energy efficiency.

The EnMC should determine how these requirements apply and should ensure that they are taken into account in establishing, implementing and maintaining the common EnMS.

Legal requirements and other requirements should be reviewed at defined intervals by the EnMG or the EnMC. It should take into account factors such as confidentiality, conflict of interest and competition when planning and implementing the common EnMS.

4.3 Determining the scope of the common energy management system

4.3.1 Establishing the scope of the common energy management system

The boundaries may be different for each constituent organization, but the scope of the common EnMS should clearly identify the set of activities and processes which the EnMG addresses (see [Figure 1](#)).

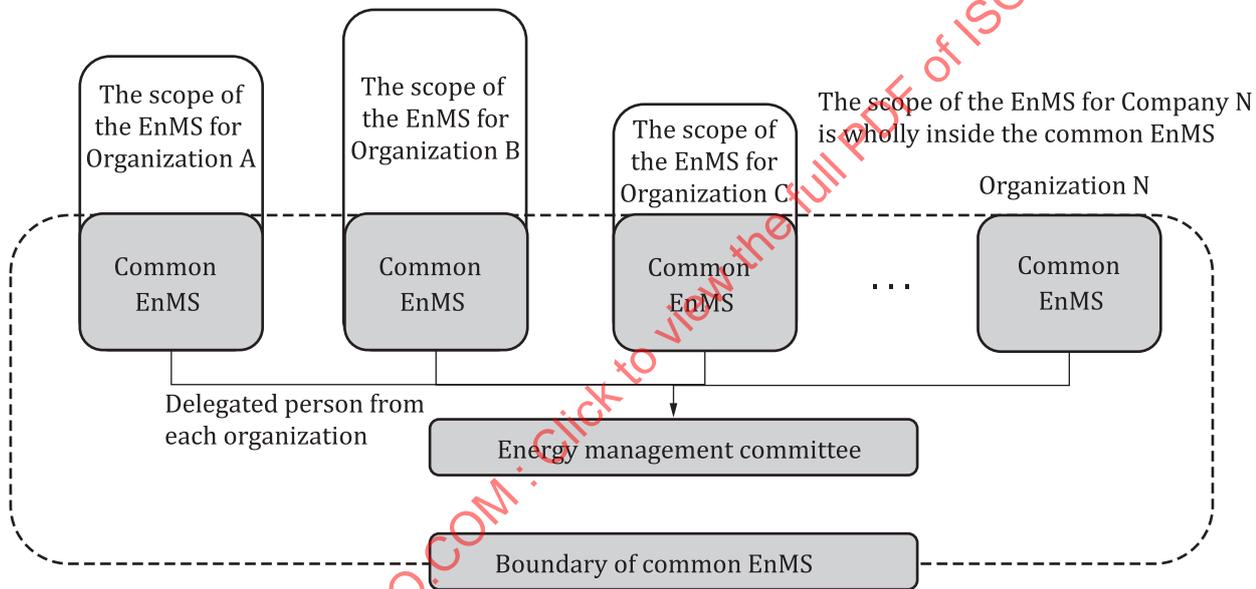


Figure 1 — Scope and boundaries of the common EnMS

The scope of the common EnMS may include:

- activities and processes which each constituent organization chooses to include within it;
- activities and processes that are not under the control of any individual constituent organization (e.g. street lighting in an industrial park or corridor lighting in a retail mall).

The EnMG should take into account:

- a) that the scope of each constituent organization should be relevant to its need for energy performance improvement and related external and internal issues common to all constituent organizations;
- b) the person(s) available to establish and maintain the common EnMS.

EXAMPLE 1 In the case of a utility with a large number of small customers which are the constituent organizations, the scope for each customer could be very limited, such as allowing permission for another constituent organization or a third party (which can be the utility) to use its energy consumption data for statistical purposes to track a group EnPI.

EXAMPLE 2 In a common EnMS covering the supply chain for an electronics assembly plant, the scope includes energy used in transporting components or semi-finished goods between the constituent organizations, but excludes transport energy used by them for other purposes.

EXAMPLE 3 In an EnMS covering the supply chain for an automobile assembly plant, part of the supply chain is a facility that produces air conditioners for cars, trucks and railway vehicles. The scope includes the energy used to construct automobile air conditioners but not the other types of air conditioners.

EXAMPLE 4 A real estate company is establishing a common EnMS for its building tenants, who form the constituent organizations. The tenants have no control over the central HVAC system. In this case, each constituent organization's scope could be very limited, such as allowing permission for the real estate company to use its energy consumption data for statistical purposes to track a group EnPI.

4.3.2 Changes to the composition of the energy management group

When a constituent organization leaves or is added to an EnMG, the EnMC should determine any necessary changes to the scope and operation of the common EnMS, considering:

- that the integrity of the EnMS should be maintained, keeping changes to a minimum;
- the terms for joining or leaving the EnMG that may have been set out in an MOU, or otherwise determined by the EnMC;
- any changes to risks and opportunities as a result of the change in the composition (see 6.1).

The EnMC should periodically review whether the current constituent organizations are still appropriate to participate in the EnMG, but the final decision lies with the EnMG.

In some cases (e.g. in a supply chain EnMS when the common customer withdraws), it is sometimes no longer possible to maintain a common EnMS.

4.4 Energy management system

Each constituent organization should commit to implementing, maintaining and continually improving its part of the common EnMS, including the processes needed and their interactions, and continually improve its energy performance. It should also be encouraged to continually improve its own organizational energy performance outside the common EnMS.

EXAMPLE When implementing the common EnMS in an industrial park, an assembly plant changes its compressed air operational schedule to be consistent with optimizing energy performance across the EnMG.

NOTE 1 The processes needed in each constituent organization's EnMS can differ due to:

- its size and its type of activities, processes, products and services;
- the complexity of processes and their interactions;
- the competence of personnel;
- its strategic direction.

NOTE 2 Responsibilities can differ depending on the nature of the constituent organization. For example, if the constituent organization is a large manufacturing organization, it could contribute significant human resources to the common EnMS.

5 Leadership

5.1 Leadership and commitment

5.1.1 Top management of each constituent organization

Top management of each constituent organization should demonstrate leadership and commitment to continually improving energy performance and the effectiveness of the common EnMS. The constituent organizations may enter into a collaboration agreement setting out their roles and responsibilities in respect of the EnMG, which should include agreeing to:

- a) the need to plan for the process of implementing the common EnMS;
- b) the establishment of the EnMC with terms of reference setting out its roles and responsibilities;

NOTE The function of the EnMC can sometimes be carried out by a pre-existing committee within the EnMG.

- c) the rules of the governance of the committee, e.g. decisions on investment;
- d) the rules to enter or to leave the committee;
- e) the allocation of adequate resources from constituent organizations;
- f) a process for sharing information, data and common resources.

The members of the EnMC may consist of top management from the constituent organizations or other appropriately qualified representatives. For EnMGs with a large number of small constituent organizations, the small organizations can be represented as a class by one or more designated committee members.

EXAMPLE In a retail mall with over 100 constituent organizations implementing a common EnMS, the committee elects eight representatives, chosen to reflect the range of interested parties. These include top management of smaller independent stores, the branch manager of a large supermarket in the mall, and a director of the property company (landlord) that owns the mall.

5.1.2 Energy management committee

The role of the EnMC should be established through negotiation and agreement by the constituent organizations. See [Annex A](#).

Information required by the EnMC about each constituent organization (e.g. energy consumption, relevant variables) may need to be kept confidential. The relevant information should be identified, and the EnMG and its constituent organizations should agree in advance on how to handle confidential information and what may be disclosed.

In the case of very small constituent organizations, the EnMS and representation on the committee may be indirect. Examples of this case are:

- customers of a utility, which could include individual households, where the representation can be a consumer-based non-governmental organization or a government agency with consumer protection responsibilities;
- a small supplier in a supply chain EnMG, who could be represented in the committee by a trade association.

When the EnMC reviews the context of the EnMG, it should consider the following points among others:

- the risks and opportunities common to the group;
- the need for energy performance improvements and related external issues common to the constituent organizations;

- information resources, human resources and expertise, guidelines, success cases and lessons learned, etc. related to energy performance improvement, which can be shared by the constituent organizations;
- the common concept for organizing energy management in the EnMG;
- the importance of demonstrating energy performance improvement by the EnMG and its constituent organizations;
- how the common objective of the group enhances the strategic direction of the participating organizations;
- the extent to which one constituent organization's energy performance improvement could affect the energy performance of another constituent organization or of the group.

The EnMC may set up sub-committees as required and may delegate some of its responsibilities to them. Sub-committees may also be established to address issues that apply to some, but not all, of the constituent organizations.

EXAMPLE An EnMG is set up for tenants of a large shopping mall. Separate energy management sub-committees are established for: 1) general retailers, and 2) restaurants within the mall.

The EnMC's activities should include:

- a) establishing the objectives and energy targets relevant to the EnMG;
- b) setting investment recommendations or operational guidance for the energy performance improvement of energy supply facilities and energy consuming equipment that are used by more than one constituent organization;
- c) determining common information and resources required;
- d) determining the structure and the members of staff who set up the objectives and energy targets under the EnMC;
- e) agreeing with each constituent organization on the department(s) or personnel responsible for implementation in that constituent organization;
- f) understanding the energy performance improvement effects of both the EnMG and each constituent organization, and evaluating these results;
- g) making an action plan for the EnMG, taking into account the action plans (if any) of each constituent organization;
- h) specifying issues related to data such as provision, flow, storage and security;
- i) specifying which organization has access to its own or others' data and for what purpose accessed data can be used.

The common EnMS should be integrated into the business processes and long-term planning of all constituent organizations.

The EnMC should agree on what resources are made available for the common EnMS activities.

The committee's activities may include arranging for the investment needs of one constituent of the group to be met by capital from another constituent, with the funds to be made available on mutually acceptable terms.

The EnMC may appoint a secretary. The EnMC may delegate some of its roles to the secretary but should retain ultimate responsibility for the EnMS. The secretary's roles may include:

- facilitating the establishment, implementation, maintenance and continual improvement of the EnMS;

- co-ordinating with all the committee members to ensure smooth working of the committee;
- communicating responsibilities and authorities in order to facilitate effective energy management across the EnMS group;
- controlling and maintaining the committee records and documents;
- promoting awareness of the common energy policy and objectives at all levels of the constituent organizations;
- organizing and holding the committee meetings at planned intervals.

5.2 Common energy policy

The EnMC should draw up a common energy policy that determines how the constituent organizations can contribute to improve their energy performance and that of the EnMG. Constituent organizations may have additional energy policies of their own.

The EnMC should establish an energy policy that:

- a) is appropriate to the purpose of the EnMG and its constituent organizations;
- b) provides a framework for setting and reviewing objectives and energy targets (see 6.2) and includes guidance and a procedure for allocating these among constituent organizations;
- c) includes a commitment to ensure the availability of information and necessary resources to achieve objectives and energy targets;
- d) includes a commitment to satisfy applicable legal requirements and other requirements;
- e) includes a commitment to continual improvement of the EnMS and of the energy performance of the EnMG.

The energy policy should be:

- communicated within the EnMG and all constituent organizations, and to interested parties, as appropriate;
- periodically reviewed and updated as necessary.

If an EnMG and its constituent organizations agree, each constituent organization may set up its own energy policy as a part of that of the wider group. In this case, the constituent organization should share not only its own energy policy, but also that of the total EnMG, and should pursue both individual and collective approaches toward achieving them.

5.3 Organizational roles, responsibilities and authorities

Top management of each constituent organization should agree to an MOU that assigns the responsibilities and authorities for relevant roles to personnel in each constituent organization, and should communicate these within their organization.

Each constituent organization of the EnMG should be responsible for maintaining its part of the EnMS. Some functions of the EnMS may be delegated to one or more constituent organizations or outsourced to a third party. The EnMC should encourage constituent organizations to conform to ISO 50001.

The EnMC may also be responsible for:

- setting the scope, boundaries, objectives and energy targets of the common EnMS, and monitoring energy performance;
- determining the relationship between constituent organizations;

- managing the relationship between the EnMG and external entities, such as cities, regions or sectors that may also set targets or other requirements.

6 Planning

6.1 Actions to address risks and opportunities

When planning for the EnMS, the EnMC should consider the issues referred to in 4.1, the requirements referred to in 4.2, and the scope and boundaries of the common EnMS to:

- determine the risks and opportunities in constituent organizations that could affect intended outcome(s) of the common EnMS including energy performance improvement;
- plan actions to mitigate risks and take advantage of opportunities for continual improvement of energy performance;
- share the identified risks and opportunities with all constituent organizations.

The EnMC should identify risks and opportunities for activities and processes that are not under the control of any individual constituent organization, and specify whether they arise from common sources and have common or separate consequences.

When the EnMC reviews the risks and opportunities that can affect the objectives, energy targets and energy performance before planned actions are implemented, the EnMC should:

- share the determined risks and opportunities and planned actions with all constituent organizations;
- review whether a planned action by one constituent organization affects energy performance and significant energy uses (SEUs) in other constituent organizations.

6.2 Objectives, energy targets and planning to achieve them

Objectives and energy targets may be developed through an iterative process recognizing the benefits of cooperative action to improve energy performance. The EnMC should establish the objectives and energy targets for the EnMG and each constituent organization should provide the EnMC with its own objectives and energy targets that are consistent with the group objectives and energy targets. The EnMC may need to reconcile the objectives and targets developed for the EnMG and those proposed by the constituent organizations. When establishing or reconciling energy targets, the EnMC should consider factors such as the ability of constituent organizations to measure and share data, and the location of SEUs within the EnMG.

The EnMC should develop an action plan to achieve the energy targets of the EnMG. Constituent organizations may need to develop their own action plans aligned with that of the EnMG.

The EnMC should:

- agree to the procedure to establish common energy planning;
- determine which actions to take when the constituent organizations change, e.g. when organizations join or leave the group, or change business or ownership.

The EnMC should also consider:

- how the common energy targets are shared within the EnMG;
- how the targets for constituent organizations are combined into group targets, where applicable;
- how initial energy targets can change over time, and be modified to accommodate the changed circumstances of constituent organizations;

- how to manage a situation where reduced energy consumption in some constituent organizations directly leads to increased energy consumption in others;

EXAMPLE 1 The EnMC determines that overall energy consumption could be reduced if all components are assembled in a single location. This reduces energy consumption in several sub-component assemblers but increases energy consumption in the common assembly location. It can also increase energy consumption by the haulage company taking the components to the common assembly location.

- how the performance against energy targets will be verified, if only limited information is shared;
- how the EnMG can encourage better performance by constituent organizations whose measured energy performance falls short of the agreed targets.

EXAMPLE 2 Organizations based in an industrial park are implementing a common EnMS. As all the organizations use electricity and gas in their processes, the objective and energy target for the group covers only these two types of energy. However, some constituent organizations also maintain a fleet of delivery vehicles that use diesel. They have their own additional objectives and energy targets designed to improve the energy performance of transportation and to reduce the consumption of diesel.

Energy targets should be determined based on the energy performance improvement opportunities found in energy reviews but may also consider SEUs and the past achievements of each constituent organization. Accordingly, different energy targets can be set depending on the maturity of energy management in each constituent organization.

EXAMPLE 3 In a shopping mall, there are two stores. One has operated its own EnMS for many years; the other is new to energy management. As a result, the EnMC has set an energy savings target of 2,5 % for the first store, but 10 % for the other store.

Where large constituent organizations affect the overall energy performance improvement for the EnMG, results should be weighted or directly summed in a way which ensures that overall energy performance improvement of the EnMG is accurately represented.

Constituent organizations may agree to share the risks. For example, if one constituent organization has been unable to achieve its energy target, the energy performance improvement of the other constituent organizations may make up for the shortfall.

EXAMPLE 4 In a food court, there are several restaurants and the fried chicken store and the pizzeria are owned by a single company. Although the EnMC initially set all restaurants a target of saving 5 % of energy consumption, this company negotiates a change that allows it to make all its savings in the pizza restaurant by investing in new ovens. In subsequent years, it could decide to invest in the fried chicken store to achieve its energy targets, or to improve the lighting in both its restaurants.

6.3 Energy review

The EnMC should develop and conduct an energy review. To develop the energy review, the EnMC should analyse energy consumption of the constituent organizations in the EnMG and identify SEUs in each constituent organization. For each SEU, it should determine relevant variables and identify the person(s) that influence or affect the SEUs. Energy consumption which is not significant in any constituent organization can be significant at the EnMG level.

The energy review should include any energy uses that are not under the control of any individual organization but are within the scope of the common EnMS.

Data from the energy review should be used to establish EnPI(s) for the EnMG. Unexpected or unusual variations in energy consumption between constituent organizations should be identified and investigated.

The EnMC should determine and prioritize opportunities for improving energy performance. It is important to find opportunities by focusing on the energy and materials that flow across the boundaries of each constituent organization. This type of opportunity cannot be found in a single organization. The energy review should explore energy performance improvement opportunities that depend on the cooperation of constituent organizations.

Subject to the requirements of confidentiality, constituent organizations can find it valuable to undertake a peer review, with personnel from one constituent organization reviewing the results of the energy review carried out by another constituent organization.

Energy performance benchmarking with a focus on the identification of best practices and their replication can be used to compare energy consumption in constituent organizations under equivalent conditions.

EXAMPLE A shopping mall has several stores selling clothing. These stores agree to share data, through the EnMC, to enable benchmarking in terms of total energy consumption and energy consumption used in lighting, in both cases measured per square metre of floor space.

The EnMC may use common methods and criteria for developing and conducting the energy review in each constituent organization, which should be documented.

If expertise to develop and conduct an energy review needs to be outsourced, the EnMC may agree on joint procurement to reduce costs.

6.4 Energy performance indicators

The EnMC should establish group EnPIs for the common EnMS. Each constituent organization should ensure that, where appropriate, EnPIs that it has established are compatible with the group EnPIs. These should be consistent with the EnMG's objectives and energy targets. An energy target of a constituent organization may employ a different EnPI or set of EnPIs from that of the EnMG.

Group EnPIs should be representative of the energy performance of the EnMG, taking into account differences in the energy consumption and activities undertaken by constituent organizations, and how the energy performance of members of the group interacts. Where there are significant differences in the organizations or their EnPIs, these can be combined in various ways. EnPIs may be determined to allow users to use weighting factors for comparing different types of energy. These factors should be the same for all constituent organizations and for the common EnMS.

EXAMPLE 1 Weighting factors can be used for:

- accounting for losses in the energy conversion process;
- comparing the consumption of the same type of energy at different times of the day or year;
- accounting for primary energy, environmental or other societal aspects of energy consumption.

Constituent organizations may need to modify previously selected EnPIs when energy use within one or more organizations is affected by energy use by other organizations within the EnMG.

EXAMPLE 2 Company A takes over the distribution of goods for Company B. Both companies previously used energy consumed per unit delivered as their EnPI. Because Company A is now collecting goods from two locations, the energy consumed per unit delivered by Company A has increased, but total energy consumed across the two companies has fallen, as Company B previously had a less-efficient distribution network. This is reflected by normalizing Company A's EnPI to include distance as well as the number of units delivered.

If, for reasons of confidentiality, one constituent organization is unable to share its data with the EnMC, the constituent organization should inform the EnMC and provide it with other relevant indicators (or an index) which have been calculated using the confidential information and which meet the needs of the EnMC in determining the energy performance of the EnMG.

NOTE Confidential records are sometimes required to be made available for both internal and external EnMS audits.

EXAMPLE 3 Energy consumption data are confidential for constituent organizations that can confer with the EnMC, which lets them provide it with a normalized EnPI(s) calculated by using energy consumption and quantities of their products (the relevant variables) in order to calculate EnPIs for the total EnMG.

EXAMPLE 4 An EnMG requires constituent organizations to report by an agreed method, either by their energy consumption or by the value of their EnPI or their energy savings, and combines the totals for the EnMG.

EXAMPLE 5 An EnMG lets a third party aggregate data on energy consumption without attributing individual numbers to a given constituent organization.

As the various constituent organizations can use a wide variety of types of energy, including some generated onsite, it can be necessary to convert their energy consumption to a single energy equivalent. This can be done by methods including calculating the delivered energy across the boundary of each constituent organization, or by conversion to a common primary energy equivalent. More detail on energy accounting (and how to determine energy savings from different types of energy) can be found in ISO 50047:2016. Other approaches may be used and should be documented.

6.5 Energy baseline

The EnMC should set the baseline periods to be used by the group.

As the availability of data can vary between the constituent organizations, it is not always possible to use a common baseline period. In this case, consideration should be given to how the baseline is selected and normalized, and whether there is a need for revision (e.g. for changes to the EnMS scope or boundaries). Partial revisions to baselines may also be needed where there are significant changes in activities of some, but not all, constituent organizations.

EXAMPLE In a shopping mall, a shop that was selling shoes in the baseline year (with a fairly low energy consumption) has now been converted into a coffee shop, with a much higher energy consumption.

The energy baselines (EnBs) to determine group energy performance should be chosen by the EnMC and normalized, as appropriate, in consultation with the members of the EnMG. ISO 50006 describes the methods for determining EnBs.

EnBs may need to be developed for individual constituent organizations where the relevant variables are different. EnBs may be based on a different time period for different constituent organizations provided that the EnBs are appropriately normalized for changes in conditions.

Consideration should also be given to cases where organizations join or leave an EnMG after the initial baseline period. This can occur in malls or industrial parks where some units remain or become unoccupied.

6.6 Planning for collection of energy data

Collection of energy data and measurement should be planned, taking account of:

- characteristics of the way energy is used within the EnMG by the constituent organizations;
- any special characteristics of a specific type of energy used, such as the dependence of photovoltaics on the availability of solar radiation or the maintenance requirement of different types of batteries;
- the need to make data available to the various members of the group;
- how confidential data will be treated.

7 Support

7.1 Resources

The constituent organizations should provide the EnMC with the resources necessary for the establishment, implementation, maintenance and continual improvement of energy performance of the group and the common EnMS. Additionally, some constituent organizations may agree to provide resources such as staff time, finance, expertise and management advice to other constituent organizations in the EnMG. Further, the constituent organizations should consider whether the EnMG could access external resources, e.g. grants or partnerships with academic, research or other organizations.

The EnMC may encourage personnel in constituent organizations with substantial energy management experience in a particular type of energy use to share their experience with other members of the EnMG.

NOTE 1 A large organization whose group consists of its supply chain, and whose constituent organizations are much smaller, could provide technical, managerial and financial assistance to the smaller organizations.

A utility or government may offer training and technical assistance, as well as financial aid.

NOTE 2 Activities such as training and procurement are good candidates for cooperation.

7.2 Competence

The EnMC should ensure that person(s) (including its own staff, relevant staff within constituent organizations and those employed by third parties) are competent to implement the common EnMS and deliver improved energy performance. Where necessary, the EnMC should take actions to enable these person(s) to acquire the necessary competence and should evaluate the effectiveness of actions taken. This may include establishing a training and energy awareness programme(s) specific to an energy use(s) in group activities.

NOTE Costs can be reduced for constituent organizations by collectively paying for common consulting services or training.

7.3 Awareness

The EnMC and constituent organizations should:

- develop an energy culture that is meaningful and useful to the EnMG and its constituent organizations;
- promote awareness of how activities or behaviour of personnel in each constituent organization can impact the energy performance of the EnMG;
- consider the implications of not conforming to the requirements of the common EnMS.

7.4 Communication

The EnMC should determine the internal and external communications of the EnMG relevant to the common EnMS, considering any potential conflict with individual constituent organizations, including:

- what to communicate;
- when to communicate;
- with whom to communicate;
- how to communicate;
- who will communicate.

7.5 Documented information

The EnMC should create and update documented information needed to operate the common EnMS.

The EnMC should determine whether documented information is controlled centrally by the EnMC, or whether responsibility is devolved to the constituent organizations, or some combination of the two. In making this decision, it should consider the need for confidentiality as well as the benefits of having a single location for all relevant information. It may consider to whom and under what circumstances access to data is allowed and whether to require the use of specific data formats for some or all of the data.

8 Operation

8.1 Operational planning and control

The EnMC should:

- plan, implement and control the processes related to the SEUs under its direct responsibility;
- require all constituent organizations to control the processes related to the SEUs that are under their responsibility;
- control (or influence) the outsourced processes.

The EnMC should seek to ensure that good practices are shared within the EnMG.

8.2 Design

The EnMC should ensure that constituent organizations consider energy performance improvement when designing new, modified or renovated facilities and energy-using processes. When one constituent organization introduces a plan, policy, design or specification that represents best practice, it should share this with the EnMC and other organizations in the EnMG, subject to confidentiality and competition considerations.

EXAMPLE Appropriately sized combined heat and power (CHP) systems have a higher energy efficiency. If some of the constituent organizations collectively install a single CHP plant, the energy performance of the group could be improved.

8.3 Procurement

The energy performance of the EnMG can often be improved by group procurement of energy services, products and facilities management. Additionally, a larger order could allow the procurement of products or energy services at a lower cost.

9 Performance evaluation

9.1 Monitoring, measurement, analysis and evaluation of energy performance and the EnMS

9.1.1 General

The effectiveness of the common EnMS should be evaluated at planned intervals in terms of how well it is achieving its objectives, both on its own merits and compared to a case where each constituent organization acted on its own with an individual EnMS.

The EnMC, in consultation with the constituent organizations, should implement the monitoring and measurement plan described in 6.6 and, in addition, should monitor the EnMG's energy performance and the effectiveness of the common EnMS. The results should provide information on key characteristics such as:

- EnPIs of the EnMG;
- operation of the EnMG's SEUs;
- operation of the common EnMS;
- the effectiveness of the actions in achieving the EnMG's energy targets.

The EnMC should evaluate the EnMG's energy performance by comparing its EnPI value, normalized if necessary, with its corresponding EnB.

The EnMC should:

- ensure that all instruments used for monitoring and measurement provide data which are accurate and repeatable;
- analyse the data from monitoring and measurement to evaluate whether expected results have been achieved, including energy performance improvement;
- investigate and respond to significant deviations in energy performance;

NOTE The significance criteria for deviations can be identical for the EnMG as a whole (e.g. a percentage value) or different for constituent organizations.

- maintain documented information of the methods used for monitoring, measurement, analysis and evaluation;
- retain documented information of the results from these activities.

These activities may also include data from monitoring and measurement provided by constituent organizations.

9.1.2 Actions to improve energy performance by constituent organizations

If a constituent organization fails to meet its responsibilities under the collaboration agreement or MOU (if one exists), or to provide necessary data on a timely basis or to improve its energy performance, the EnMC may, as appropriate:

- investigate the reasons for the under-performance, including reviewing the selection of EnBs and EnPIs;
- consider whether more resources need to be applied to that organization, either internally or by providing more support from the EnMC;
- issue a formal nonconformity with recommendations for improvements;
- remove the organization from the EnMG;
- take other actions as provided under the MOU.

9.1.3 Evaluation of compliance with legal requirements and other requirements

At planned intervals, the EnMC should ensure the evaluation of compliance with legal and other requirements (see 4.2.2) related to the EnMG's energy efficiency, energy use, energy consumption and the common EnMS. This evaluation may be carried out by the EnMC or by a combination of the EnMC and some or all constituent organizations.

The EnMC should retain documented information on the results of the evaluation of compliance and any actions taken.

9.2 Internal audit

The EnMC should facilitate the conducting of internal audits at planned intervals, as well as selecting competent auditors to ensure objectivity and the impartiality of the audit process. It is good practice to engage auditors from one constituent organization for internal audits in other constituent organizations. The scope of internal audit should be agreed within the EnMC. In an EnMG with many or very small constituent organizations, it may be desirable to audit those organizations on a sample basis, taking into account energy use, energy targets and energy consumption data. The EnMC should plan a programme to ensure that, over an agreed period of years, all constituent organizations are eventually subjected to an EnMC audit.

9.3 Management review

The EnMC should review the common EnMS at planned intervals to ensure its continuing suitability, adequacy, effectiveness and its continual improvement.

The EnMC should report the results of the management review to the top management of the constituent organizations within the EnMG, with the purpose of:

- keeping the EnMG informed on the status of the common EnMS, such as its effectiveness and changes;
- identifying opportunities to improve energy performance;
- requesting the allocation of resources from constituent organizations.

The management review can include results of energy performance benchmarking between constituent organizations.

The EnMG should have a process to identify the value of including new constituent organizations into the group, and also evaluate whether current participants are still appropriate for the group.

EXAMPLE 1 If the EnMG is the supply chain of a single organization, that organization can require its new suppliers to join the EnMG.

EXAMPLE 2 If a constituent organization in a supply chain chooses to outsource production of one of its components to a new organization, the new organization can be required or invited to be a constituent organization of the EnMG.

10 Improvement

10.1 Nonconformity and corrective action

During audits or during the routine operation of the common EnMS, the constituent organizations and the EnMC can identify nonconformities within the scope of the common EnMS.

The EnMC should agree on which of these nonconformities are to be addressed by the EnMC rather than the constituent organizations. The constituent organization addressing the nonconformity or the EnMC should provide a plan to the EnMC on how the nonconformity will be addressed.

EXAMPLE 1 Nonconformities involving a shared cogeneration system can be addressed by the EnMC.

EXAMPLE 2 In a chain of franchised convenience stores, it is the responsibility of the individual stores to take corrective actions on a nonconformity involving the operation of lighting.

When nonconformities are found in one constituent organization, investigation should be made to determine whether they are applicable to any other constituent organizations.

EXAMPLE 3 In a chain of franchised convenience stores, if it is found that one store has a nonconformity involving the control of air-conditioning, it is likely that a similar nonconformity could be found in other stores.

Corrective actions should be appropriate to the effects of the encountered nonconformities.

The EnMC should retain documented information of:

- the nature of the nonconformities and subsequent actions taken, whether by the EnMC or the constituent organization(s) concerned;
- the results of any corrective action.

10.2 Continual improvement by constituent organizations

The EnMG and each constituent organization should continually improve their energy performance.