
**Environmental management —
Environmental performance
evaluation — Guidelines**

*Management environnemental — Évaluation de la performance
environnementale — Lignes directrices*

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Published in Switzerland

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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 207, *Environmental management*, Subcommittee SC 4, *Environmental performance evaluation*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/SS S26, *Environmental management*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 14031:2013), of which it constitutes a minor revision. The changes compared to the previous edition are as follows:

- terminological entries have been added and updated from ISO 14001 and ISO 14050;
- terms such as “condition of the environment” have been revised to “environmental condition” in accordance with ISO 14001;
- the references have been updated.

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

Many organizations are seeking ways to understand, demonstrate and improve their environmental performance. This can be achieved by effectively managing those elements of their activities, products and services that can significantly impact the environment.

This document sets out a process called environmental performance evaluation (EPE) which enables organizations to measure, evaluate and communicate their environmental performance using key performance indicators (KPIs), based on reliable and verifiable information.

EPE is equally applicable to small and large enterprises and may be used to support an environmental management system (EMS) or used independently. An organization with an EMS in place should assess its environmental performance against its environmental policy, objectives, targets and other environmental performance objectives.

Data and information generated by EPE can be used by an organization to implement other environmental management tools and techniques in a coherent, transparent and cost-effective way, e.g. in the ISO 14000 family of standards such as:

- EMS (see ISO 14001 and guidance in ISO 14004, ISO 14005 and ISO 14006);
- environmental declarations (see ISO 14025);
- environmental labelling (see ISO 14024);
- life cycle assessment (LCA) (see ISO 14040 and ISO 14044).

This document may also be used independently.

EPE and environmental audits are complementary tools that can be used to assess environmental performance and identify areas for improvement. The key aspects, and differences, of these tools are:

- EPE is an ongoing process of collection and assessment of data and information to provide a current evaluation of performance, as well as performance trends over time;
- environmental audits may be used to gather such data and information, either as part of EPE or as part of an EMS, to verify whether objectives and targets are being met;
- EMS audits are conducted periodically to verify conformity with specifications and compliance with legal and other requirements. Guidance on auditing management system standards (MSS) is provided in ISO 19011.

Environmental management — Environmental performance evaluation — Guidelines

1 Scope

This document gives guidelines for the design and use of environmental performance evaluation (EPE) within an organization. It is applicable to all organizations, regardless of type, size, location and complexity.

This document does not establish environmental performance levels. It is not intended for use for the establishment of any other environmental management system (EMS) conformity requirements.

The guidance in this document can be used to support an organization's own approach to EPE including its commitments to compliance with legal and other requirements, the prevention of pollution and continual improvement, among others.

NOTE This document is a generic standard and does not include guidance on specific methods for valuing or weighting different kinds of impacts in different kinds of sectors, disciplines, etc. Depending on the nature of the organization's activities, there is often a need to also go to other sources for additional information and guidance on sector-specific topics, different subject matters or different scientific disciplines.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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 and leadership

3.1.1 management system

set of interrelated or interacting elements of an *organization* (3.1.4) to establish policies and *objectives* (3.2.5) and *processes* (3.3.2) to achieve those objectives

Note 1 to entry: A management system can address a single discipline or several disciplines (e.g. quality, *environment* (3.2.1), occupational health and safety, energy, financial management).

Note 2 to entry: The system elements include the organization's structure, roles and responsibilities, planning and operation, performance evaluation and improvement.

Note 3 to entry: The scope of a management system can include the whole of the organization, specific and identified *functions* (3.3.3) of the organization, specific and identified sections of the organization, or one or more functions across a group of organizations.

[SOURCE: ISO 14001:2015, 3.1.1]

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3.1.2 environmental management system EMS

part of the *management system* (3.1.1) used to manage *environmental aspects* (3.2.2), fulfil *compliance obligations* (3.2.12), and address *risks and opportunities* (3.2.9)

[SOURCE: ISO 14050:2020, 3.3.1]

3.1.3 environmental policy

intentions and direction of an *organization* (3.1.4) related to its *environmental performance* (3.4.10) as formally expressed by *top management* (3.1.5)

[SOURCE: ISO 14001:2015, 3.1.3]

3.1.4 organization

person or group of people that has its own *functions* (3.3.3) with responsibilities, authorities and relationships to achieve its *objectives* (3.2.5)

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.

[SOURCE: ISO 14001:2015, 3.1.4]

3.1.5 top management

person or group of people who directs and controls an *organization* (3.1.4) at the highest level

Note 1 to entry: Top management has the power to delegate authority and provide resources within the organization.

Note 2 to entry: If the scope of the *management system* (3.1.1) covers only part of an organization, then top management refers to those who direct and control that part of the organization.

[SOURCE: ISO 14001:2015, 3.1.5]

3.2 Terms related to planning

3.2.1 environment

surroundings in which an *organization* (3.1.4) operates, including air, water, land, *natural resources* (3.2.10), flora, fauna, humans and their interrelationships

Note 1 to entry: Surroundings can extend from within an organization to the local, regional and global system.

Note 2 to entry: Surroundings can be described in terms of biodiversity, ecosystems, climate or other characteristics.

[SOURCE: ISO 14001:2015, 3.2.1]

3.2.2 environmental aspect

element of an *organization's* (3.1.4) activities or *products* (3.5.1) that interacts or can interact with the *environment* (3.2.1)

Note 1 to entry: Significant environmental aspects are determined by the organization applying one or more criteria.

[SOURCE: ISO 14001:2015, 3.2.2, modified — “or services” has been deleted from the definition. Note 1 to entry has been deleted and Note 2 to entry has been renumbered.]

3.2.3**environmental condition**

state or characteristic of the *environment* (3.2.1) as determined at a certain point in time

[SOURCE: ISO 14001:2015, 3.2.3]

3.2.4**environmental impact**

change to the *environment* (3.2.1), whether adverse or beneficial, including possible consequences, wholly or partially resulting from an *organization's* (3.1.4) *environmental aspects* (3.2.2)

[SOURCE: ISO 14050:2020, 3.2.22]

3.2.5**objective**

result to be achieved

Note 1 to entry: An objective can be strategic, tactical, or operational.

Note 2 to entry: Objectives can relate to different disciplines (such as financial, health and safety, and environmental goals) and can apply at different levels (such as strategic, organization-wide, project, *product* (3.5.1), service and *process* (3.3.2)).

Note 3 to entry: An objective can be expressed in other ways, e.g. as an intended outcome, a purpose, an operational criterion, as an *environmental objective* (3.2.6), or by the use of other words with similar meaning (e.g. aim, goal, or target).

[SOURCE: ISO 14001:2015, 3.2.5]

3.2.6**environmental objective**

objective (3.2.5) set by the *organization* (3.1.4) consistent with the *environmental policy* (3.1.3)

[SOURCE: ISO 14001:2015, 3.2.6]

3.2.7**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* (3.1.4) and interested parties 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* (3.3.4).

Note 3 to entry: Requirements other than legal requirements become obligatory when the organization decides to comply with them.

[SOURCE: ISO 14001:2015, 3.2.8]

3.2.8**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 73:2009, 3.5.1.3) and "consequences" (as defined in ISO Guide 73:2009, 3.6.1.3), 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 73:2009, 3.6.1.1) of occurrence.

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[SOURCE: ISO 14001:2015, 3.2.10]

3.2.9

risks and opportunities

potential adverse effects (threats) and potential beneficial effects (opportunities)

[SOURCE: ISO 14001:2015, 3.2.11]

3.2.10

natural resource

part of nature which provides benefits to humans or underpins human well-being

[SOURCE: ISO 14050:2020, 3.2.5]

3.2.11

prevention of pollution

use of *processes* (3.3.2), practices, techniques, materials, *products* (3.5.1), or energy to avoid, reduce or control (separately or in combination) the creation, emission or discharge of any type of pollutant or waste, in order to reduce adverse *environmental impacts* (3.2.4)

[SOURCE: ISO 14050:2020, 3.2.10]

3.2.12

compliance obligations (preferred term)

legal requirements and other requirements (admitted term)

legal *requirements* (3.2.7) that an *organization* (3.1.4) has to comply with and other requirements that an organization has to or chooses to comply with

Note 1 to entry: Compliance obligations are related to the *environmental management system* (3.1.2).

Note 2 to entry: Compliance obligations can arise from mandatory requirements, such as applicable laws and regulations, or voluntary commitments, such as organizational and industry standards, contractual relationships, codes of practice and agreements with community groups or non-governmental organizations.

[SOURCE: ISO 14001:2015, 3.2.9]

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<https://standards.iteh.ai/catalog/standards/iso/0990790c-4bc0-4417-8081-16065197cf4d/iso-14031-2021>

3.3 Terms related to support and operation

3.3.1

outsource, verb

make an arrangement where an external *organization* (3.1.4) performs part of an organization's *function* (3.3.3) or *process* (3.3.2)

Note 1 to entry: An external organization is outside the scope of the *management system* (3.1.1), although the outsourced function or process is within the scope.

[SOURCE: ISO 14001:2015, 3.3.4]

3.3.2

process

set of interrelated or interacting activities which transforms inputs into outputs

Note 1 to entry: A process can be documented or not.

[SOURCE: ISO 14001:2015, 3.3.5]

3.3.3

function

combination of *processes* (3.3.2), *products* (3.5.1) or services that achieve a specific, predetermined end, usually on a repetitive basis

3.3.4**documented information**

information required to be controlled and maintained by an *organization* (3.1.4) 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 *environmental management system* (3.1.2), including related *processes* (3.3.2);
- information created in order for the organization to operate (can be referred to as documentation);
- evidence of results achieved (can be referred to as records).

[SOURCE: ISO 14001:2015, 3.3.2]

3.4 Terms related to performance evaluation and improvement**3.4.1****indicator**

quantitative, qualitative or binary variable that can be measured or described, representing the status of operations, management, conditions or impacts

[SOURCE: ISO 14050:2020, 3.2.24]

3.4.2**key performance indicator****KPI**

indicator (3.4.1) of *performance* (3.4.9) deemed by an *organization* (3.1.4) to be significant and giving prominence and attention to certain aspects of operations, management, conditions or impacts

[SOURCE: ISO 14050:2020, 3.2.25]

3.4.3**combined indicator**

indicator (3.4.1) that includes information on more than one aspect of operations, management conditions or impacts

Note 1 to entry: A combined indicator may also be referred to as a composite indicator.

[SOURCE: ISO 14050:2020, 3.2.26, modified — Note 1 to entry has been added.]

3.4.4**environmental condition indicator****ECI**

indicator (3.4.1) that provides information about the local, regional, national or global *environmental condition* (3.2.3)

Note 1 to entry: “Regional” may refer to a state, a province, or a group of states within a country, or it may refer to a group of countries or a continent, depending on the scale of the environmental conditions that the *organization* (3.1.4) chooses to consider.

[SOURCE: ISO 14050:2020, 3.2.32, modified — The abbreviated term and Note 1 to entry has been added.]

3.4.5**environmental performance indicator****EPI**

indicator (3.4.1) that provides information about an *organization's* (3.1.4) *environmental performance* (3.4.10)

3.4.6
management performance indicator
MPI

environmental performance indicator (3.4.5) that provides information about the management efforts to influence an *organization's* (3.1.4) *environmental performance* (3.4.10)

[SOURCE: ISO 14050:2020, 3.2.30]

3.4.7
operational performance indicator
OPI

environmental performance indicator (3.4.5) that provides information about the *environmental performance* (3.4.10) of an *organization's* (3.1.4) operation

[SOURCE: ISO 14050:2020, 3.2.31]

3.4.8
benchmark

reference point against which comparisons can be made

Note 1 to entry: Benchmarking is the *process* (3.3.2) for making a comparison.

[SOURCE: ISO/IEC 29155-1:2017, 3.2, modified — Note 1 to entry has been replaced.]

3.4.9
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* (3.3.2), *products* (3.5.1) (including services), systems or *organizations* (3.1.4).

[SOURCE: ISO 14001:2015, 3.4.10]

3.4.10
environmental performance
performance (3.4.9) related to the management of *environmental aspects* (3.2.2)

Note 1 to entry: For an *environmental management system* (3.1.2), results can be measured against the *organization's* (3.1.4) *environmental policy* (3.1.3), *environmental objectives* (3.2.6) or other criteria, using *indicators* (3.4.1).

[SOURCE: ISO 14001:2015; 3.4.11]

3.4.11
environmental performance evaluation
EPE

process (3.3.2) to facilitate management decisions regarding an *organization's* (3.1.4) *environmental performance* (3.4.10) by selecting *indicators* (3.4.1), collecting and analysing data, assessing information against environmental performance criteria, reporting and communicating, and periodically reviewing and improving this process

[SOURCE: ISO 14050:2020, 3.2.28]

3.4.12
audit

systematic, independent and documented *process* (3.3.2) for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled

Note 1 to entry: An internal audit is conducted by the *organization* (3.1.4) itself, or by an external party on its behalf.

Note 2 to entry: An audit can be a combined audit (combining two or more disciplines).

Note 3 to entry: Independence can be demonstrated by the freedom from responsibility for the activity being audited or freedom from bias and conflict of interest.

Note 4 to entry: “Audit evidence” consists of records, statements of fact or other information which are relevant to the audit criteria and are verifiable; and “audit criteria” are the set of policies, procedures or *requirements* (3.2.7) used as a reference against which audit evidence is compared, as defined in ISO 14050:2020, 3.4.44 and 3.4.45 respectively.

[SOURCE: ISO 14001:2015, 3.4.1, modified — “as defined in ISO 14050:2020, 3.4.44 and 3.4.45” has replaced “as defined in ISO 19011:2011, 3.3 and 3.2” in Note 4 to entry.]

3.4.13 conformity

fulfilment of a *requirement* (3.2.7)

[SOURCE: ISO 14001:2015, 3.4.2]

3.4.14 nonconformity

non-fulfilment of a *requirement* (3.2.7)

[SOURCE: ISO 14001:2015, 3.4.3, modified — Note 1 to entry has been deleted.]

3.4.15 corrective action

action to eliminate the cause of a *nonconformity* (3.4.14) and to prevent recurrence

Note 1 to entry: There can be more than one cause for a nonconformity.

[SOURCE: ISO 14001:2015, 3.4.4]

3.4.16 continual improvement

recurring activity to enhance *performance* (3.4.9)

Note 1 to entry: Enhancing performance relates to the use of the *environmental management system* (3.1.2) to enhance *environmental performance* (3.4.10) consistent with the *organization's* (3.1.4) *environmental policy* (3.1.3).

Note 2 to entry: The activity need not take place in all areas simultaneously, or without interruption.

[SOURCE: ISO 14001:2015, 3.4.5]

3.4.17 monitoring

determining the status of a system, a *process* (3.3.2) or an activity

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

[SOURCE: ISO 14001:2015, 3.4.8]

3.4.18 measurement

process (3.3.2) to determine a value

[SOURCE: ISO 14001:2015, 3.4.9]

3.5 Terms relating to product system

3.5.1

product

any goods or service

Note 1 to entry: In some *environmental management system* (3.1.2) standards, e.g. ISO 14001:2015, the term “product” does not include service.

Note 2 to entry: When using the term “product” to not include service, this needs to be expressed explicitly.

[SOURCE: ISO 14050:2020, 3.5.12, modified — Notes 1 and 2 to entry have been added.]

3.5.2

product system

collection of *unit processes* (3.6.4) with *elementary flows* (3.6.5) and *product flows* (3.5.3), performing one or more defined *functions* (3.3.3) and which models the *life cycle* (3.6.1) of a *product* (3.5.1)

[SOURCE: ISO 14050:2020, 3.5.1]

3.5.3

product flow

products (3.5.1) entering from or leaving to another *product system* (3.5.2)

[SOURCE: ISO 14050:2020, 3.5.3]

3.5.4

raw material

primary or secondary material that is used to produce a *product* (3.5.1)

[SOURCE: ISO 14050:2020, 3.5.18]

3.6 Terms relating to life cycle assessment

3.6.1

life cycle

consecutive and interlinked stages related to a *product system* (3.5.2), from *raw material* (3.5.4) acquisition or generation from *natural resources* (3.2.10) to end-of-life treatment

[SOURCE: ISO 14050:2020, 3.6.1]

3.6.2

life cycle assessment

LCA

compilation and assessment of the inputs, outputs and the potential *environmental impacts* (3.2.4) of a *product system* (3.5.2) throughout its *life cycle* (3.6.1)

[SOURCE: ISO 14050:2020, 3.6.2]

3.6.3

life cycle inventory analysis

phase of *life cycle assessment* (3.6.2) involving the compilation and quantification of inputs and outputs for a *product* (3.5.1) throughout its *life cycle* (3.6.1)

[SOURCE: ISO 14050:2020, 3.6.3]

3.6.4

unit process

smallest element considered in the *life cycle inventory analysis* (3.6.3) for which input and output data are quantified

[SOURCE: ISO 14050:2020, 3.6.9]