
**Environmental management
systems — General guidelines on
implementation**

*Systèmes de management environnemental — Lignes directrices
générales pour la mise en application*

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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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 on 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 the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is Technical Committee ISO/TC 207, *Environmental management*, Subcommittee SC 1, *Environmental management systems*.

This third edition cancels and replaces the second edition (ISO 14004:2004), which has been technically revised.

Introduction

Achieving a balance between the environment, society and the economy is considered essential to meet the needs of the present without compromising the ability of future generations to meet their needs. Sustainable development is a goal achieved by balancing the three pillars of sustainability: the environment, society and the economy.

Organizations, whether public or private, large or small, in developed or in emerging economies, have an impact on the environment and can be affected by the environment in return. There is a growing understanding that human development and well-being are contingent on preserving and conserving our natural resources, upon which all human activity and productivity depend. Achieving sound environmental performance requires organizational commitment to a systematic approach and to continual improvement of an environmental management system.

Societal expectations are driving the need for improved management of the resources necessary to support human development, through greater efficiency, transparency and accountability for all organizations. There are growing pressures on the environment, from climate change, over-consumption of resources and the challenges created by degradation of ecosystems and the loss of biodiversity.

The aim of this International Standard is to provide organizations with guidance for a common framework, in order to establish, implement, maintain and continually improve a system to support better environmental management. This environmental management framework should contribute to the long-term success of the organization and to the overall goal of sustainable development. The framework of a robust, credible and reliable environmental management system is shown in [Figure 1](#). It includes:

- understanding the context in which the organization operates;
- determining and understanding the relevant needs and expectations of interested parties, as they relate to the environmental management system of the organization;
- establishing and implementing an environmental policy and environmental objectives;
- top management taking a leading role in improving environmental performance;
- identifying aspects of the organization's activities, products and services that can result in significant environmental impacts;
- identifying the environmental conditions, including events, that can affect the organization;
- considering the organization's risks and opportunities that need to be addressed in relation to its:
 - environmental aspects;
 - compliance obligations;
 - other issues (see [4.1](#)) and requirements (see [4.2](#));
- increasing awareness of the organization's interaction with the environment;
- establishing operational controls, as appropriate, to manage the organization's significant environmental aspects and compliance obligations, and risks and opportunities that need to be addressed;
- evaluating environmental performance and taking actions, as necessary, for its improvement.

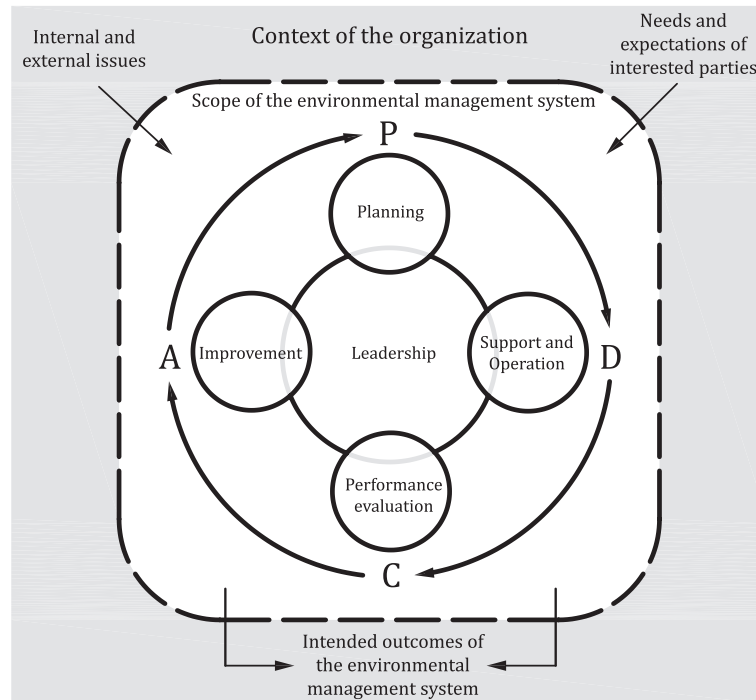


Figure 1 — Environmental management system model for this International Standard

The outcomes of a systematic approach to environmental management can provide top management with quantitative and qualitative data that enables informed business decisions that build long-term success and create options for contributing to sustainable development. The success of the environmental management system depends on commitment from all levels and functions of the organization, led by top management. The opportunities include:

- protecting the environment, including the prevention or reduction of adverse environmental impacts;
- controlling or influencing the way products and services are designed, manufactured, distributed, used and disposed;
- using a life cycle perspective to prevent environmental impacts from being unintentionally shifted elsewhere within the cycle;
- achieving financial and operational benefits that can result from implementing environmentally sound alternatives which strengthen the organization's market position;
- communicating environmental information to relevant interested parties.

In addition to enhanced environmental performance, the potential benefits associated with an effective environmental management system include:

- assuring customers of the organization's commitment to demonstrable environmental management;
- maintaining good public and community relations;
- satisfying investor criteria and improving access to capital;
- enhancing image and market share;
- improving cost control;
- preventing incidents that result in liability;

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- conserving input materials and energy;
- designing more environmental friendly products;
- facilitating the attainment of permits and authorizations and meeting their requirements;
- promoting environmental awareness among external providers and all persons doing work under the organization's control;
- improving relations between industry and government.

It is possible for an organization to operate an integrated management system that can align with requirements from quality, occupational health and safety and environmental management systems, for example. This approach provides opportunities to reduce duplication and builds in efficiencies.

Examples and approaches are presented throughout this International Standard for illustrative purposes. They are not intended to represent the only possibilities, nor are they necessarily suitable for every organization. In designing and implementing, or improving an environmental management system, organizations should select approaches that are appropriate to their own circumstances. Practical Help Boxes are intended to provide additional information to support the guidance contained within this International Standard.

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Environmental management systems — General guidelines on implementation

1 Scope

This International Standard provides guidance for an organization on the establishment, implementation, maintenance and improvement of a robust, credible and reliable environmental management system. The guidance provided is intended for an organization seeking to manage its environmental responsibilities in a systematic manner that contributes to the environmental pillar of sustainability.

This International Standard helps an organization achieve the intended outcomes of its environmental management system, which provides value for the environment, the organization itself and interested parties. Consistent with the organization's environmental policy, the intended outcomes of an environmental management system include:

- enhancement of environmental performance;
- fulfilment of compliance obligations;
- achievement of environmental objectives.

The guidance in this International Standard can help an organization to enhance its environmental performance, and enables the elements of the environmental management system to be integrated into its core business process.

NOTE While the environmental management system is not intended to manage occupational health and safety issues, these can be included when an organization seeks to implement an integrated environmental and occupational health and safety management system.

This International Standard is applicable to any organization, regardless of size, type and nature, and applies to the environmental aspects of its activities, products and services that the organization determines it can either control or influence, considering a life cycle perspective.

The guidance in this International Standard can be used in whole or in part to systematically improve environmental management. It serves to provide additional explanation of the concepts and requirements.

While the guidance in this International Standard is consistent with the ISO 14001 environmental management system model, it is not intended to provide interpretations of the requirements of ISO 14001.

2 Normative references

There are no normative references.

3 Terms and definitions

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

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* (3.3.5) to achieve those objectives

Note 1 to entry: A management system can address a single discipline or several disciplines (e.g. quality, environment, 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 of the organization, specific and identified sections of the organization, or one or more functions across a group of organizations.

3.1.2

environmental management system

part of the *management system* (3.1.1) used to manage *environmental aspects* (3.2.2), fulfil *compliance obligations* (3.2.9), and address *risks and opportunities* (3.2.11)

3.1.3

environmental policy

intentions and direction of an *organization* (3.1.4) related to *environmental performance* (3.4.11), as formally expressed by its *top management* (3.1.5)

3.1.4

organization

person or group of people that has its own functions 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.

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.

3.1.6

interested party

person or *organization* (3.1.4) that can affect, be affected by, or perceive itself to be affected by a decision or activity

EXAMPLE Customers, communities, suppliers, regulators, non-governmental organizations, investors and employees.

Note 1 to entry: To “perceive itself to be affected” means the perception has been made known to the organization.

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, 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.

3.2.2

environmental aspect

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

Note 1 to entry: An environmental aspect can cause (an) *environmental impact(s)* (3.2.4). A significant environmental aspect is one that has or can have one or more significant environmental impact(s).

Note 2 to entry: Significant environmental aspects are determined by the organization applying one or more criteria.

3.2.3

environmental condition

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

3.2.4

environmental impact

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

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, service and *process* (3.3.5)).

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).

3.2.6

environmental objective

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

3.2.7

prevention of pollution

use of *processes* (3.3.5), practices, techniques, materials, products, services 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)

Note 1 to entry: Prevention of pollution can include source reduction or elimination; process, product or service changes; efficient use of resources; material and energy substitution; reuse; recovery; recycling, reclamation; or treatment.

**3.2.8
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* (3.1.6) 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* (3.3.2).

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

**3.2.9
compliance obligations** (preferred term)
legal requirements and other requirements (admitted term)
legal *requirements* (3.2.8) 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.

**3.2.10
risk**
effect of uncertainty

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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.

**3.2.11
risks and opportunities**
potential adverse effects (threats) and potential beneficial effects (opportunities)

3.3 Terms related to support and operation

**3.3.1
competence**
ability to apply knowledge and skills to achieve intended results

**3.3.2
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* (3.3.5);
- 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).

3.3.3**life cycle**

consecutive and interlinked stages of a product (or service) system, from raw material acquisition or generation from natural resources to final disposal

Note 1 to entry: The life cycle stages include acquisition of raw materials, design, production, transportation/delivery, use, end-of-life treatment and final disposal.

[SOURCE: ISO 14044:2006, 3.1, modified — The words “(or service)” have been added to the definition and Note 1 to entry has been added.]

3.3.4**outsource** (verb)

make an arrangement where an external *organization* (3.1.4) performs part of an organization's function or *process* (3.3.5)

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.

3.3.5**process**

set of interrelated or interacting activities which transforms inputs into outputs

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

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

systematic, independent and documented *process* (3.3.5) 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* (3.2.8) used as a reference against which audit evidence is compared, as defined in ISO 19011:2011, 3.3 and 3.2 respectively.

3.4.2**conformity**

fulfilment of a *requirement* (3.2.8)

3.4.3**nonconformity**

non-fulfilment of a *requirement* (3.2.8)

Note 1 to entry: Nonconformity relates to requirements in ISO 14001:2015 and additional *environmental management system* (3.1.2) requirements that an *organization* (3.1.4) establishes for itself.

3.4.4**corrective action**

action to eliminate the cause of a *nonconformity* (3.4.3) and to prevent recurrence

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

**3.4.5
continual improvement**

recurring activity to enhance *performance* (3.4.10)

Note 1 to entry: Enhancing performance relates to the use of the *environmental management system* (3.1.2) to enhance *environmental performance* (3.4.11) 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.

**3.4.6
effectiveness**

extent to which planned activities are realized and planned results achieved

**3.4.7
indicator**

measurable representation of the condition or status of operations, management or conditions

[SOURCE: ISO 14031:2013, 3.15]

**3.4.8
monitoring**

determining the status of a system, a *process* (3.3.5) or an activity

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

**3.4.9
measurement**

process (3.3.5) to determine a value

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**3.4.10
performance**

measurable result

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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* (3.3.5), products (including services), systems or *organizations* (3.1.4).

**3.4.11
environmental performance**

performance (3.4.10) 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* (3.4.7).

4 Context of the organization

4.1 Understanding the organization and its context

In order for an organization to establish, implement, maintain and continually improve an environmental management system, it should determine the context within which it operates. The context includes the external and internal issues, including environmental conditions, relevant to its purpose and that affect its ability to achieve the intended outcomes of the environmental management system. The organization's purpose is reflected in its vision and mission.

The term "intended outcome" means what the organization intends to achieve by implementing its environmental management system. Intended outcomes include enhancement of environmental performance, fulfilment of compliance obligations and achievement of environmental objectives. These are the minimal, core outcomes. However, the organization can set additional intended outcomes, such

as going beyond the environmental management system requirements. For example, the organization can benefit from adopting social and environmental principles to support a broader sustainability initiative.

Understanding the context is important, as organizations do not operate in isolation but are influenced by external and internal issues, such as the availability of resources and the involvement of their employees. The context of the organization can include the organization's complexity, structure, activities and geographical locations of its functional units for the entire organization, as well as at a local level.

The context of the organization includes the natural environment in which it operates. The natural environment can create conditions and events, which affect the organization's activities, products and services. Conditions can be existing or subject to gradual change, whereas an event can involve a sudden change, which is typically explained by an extreme situation. Preparing for, and managing the consequences of, such conditions and events supports business continuity.

Issues are important topics for the organization, problems for debate and discussion, or changing circumstances that affect the organization's ability to achieve the intended outcomes it sets for its environmental management system.

To understand which issues are important, the organization can consider those that:

- are key drivers and trends, for example, in relation to environmental conditions or interested party concerns;
- can present problems for the environment or the organization;
- can be leveraged for beneficial effect, including innovation leading to improved environmental performance;
- offer competitive advantage, including cost reduction, value for customers, or improvement of the organization's reputation and image.

An organization implementing or improving its environmental management system or integrating its environmental management system within its existing business processes should review its context in order to gain knowledge of the relevant issues that can affect the environmental management system. This review can benefit from taking a life cycle perspective and cross-functional involvement, including procurement, finance, human resources, engineering, design and sales and marketing. The review can include the following key areas:

- a) identification of the relevant external and internal issues, including environmental conditions, and events, which relate to the organization's activities, products and services;
- b) consideration of how these issues can affect the organization's purpose and ability to achieve the intended outcomes of its environmental management system;
- c) understanding of how a) and b) can be addressed in planning (see [6.1.1](#));
- d) identification of opportunities to improve its environmental performance (see [10.3](#)).

A life cycle perspective involves consideration of the control and influence the organization has over the stages of its product and service life cycle. This approach enables the organization to identify those areas where, considering its scope, it can minimize its impact on the environment while adding value to the organization.

Practical Help Boxes 1 to 3 provide examples of considerations for determining external issues, environmental conditions, including events, and internal issues.