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Vodilo za reševanje okoljske problematike v standardih za proizvode

Guide for addressing environmental issues in product standards

Guide pour traiter les questions environnementales dans les normes de produit

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GUIDE 64

Guide for addressing environmental issues in product standards

Second edition 2008

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Contents

Page

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

Draft Guides adopted by the responsible Committee or Group are circulated to the member bodies for voting. Publication as a Guide requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO Guide 64 was prepared by Technical Committee ISO/TC 207, *Environmental management*.

This second edition cancels and replaces the first edition (ISO Guide 64:1997), which has been technically revised.

Introduction

Every product has an impact on the environment during all stages of its life-cycle, e.g. extraction of resources, acquisition of raw materials, production, distribution, use (application), reuse, end-of-life treatment, including final disposal. These impacts range from slight to significant; they can be short-term or long-term; and they occur at global, regional or local level. Provisions in product standards have an influence on environmental impacts of products.

The need to reduce the potential adverse impacts on the environment of a product that can occur during all stages of its life is recognized around the world. The potential environmental impacts of products can be reduced by taking into account environmental issues in product standards.

This Guide is intended for use by all those involved in the drafting of product standards, to draw attention to environmental issues in support of sustainable international trade, and is not intended to be used to create non-tariff barriers to trade. Standards writers are not expected to become environmental experts but, by using this Guide, they are encouraged to:

— identify and understand basic environmental aspects and impacts related to the product under consideration, and

— determine when it is possible and when it is not possible to deal with an environmental issue through a product standard.

During the life-cycle of a given product, different environmental aspects can be determined. However, the identification of these aspects and the prediction of their impacts is a complex process. When writing a product standard, it is important to ensure that an evaluation as to how products can affect the environment at different stages of their life-cycle is carried out as early as possible in the process of developing the standard. The results of this evaluation are important for specifying provisions in standards. It is anticipated that product standards writers actively consider compliance with any applicable national, regional or local product related regulation.

This Guide proposes a step-by-step approach, based on the principle of life-cycle thinking (see also 3.2.1), in order to promote a reduction of potential adverse environmental impacts caused by products, as illustrated in Figure 1.

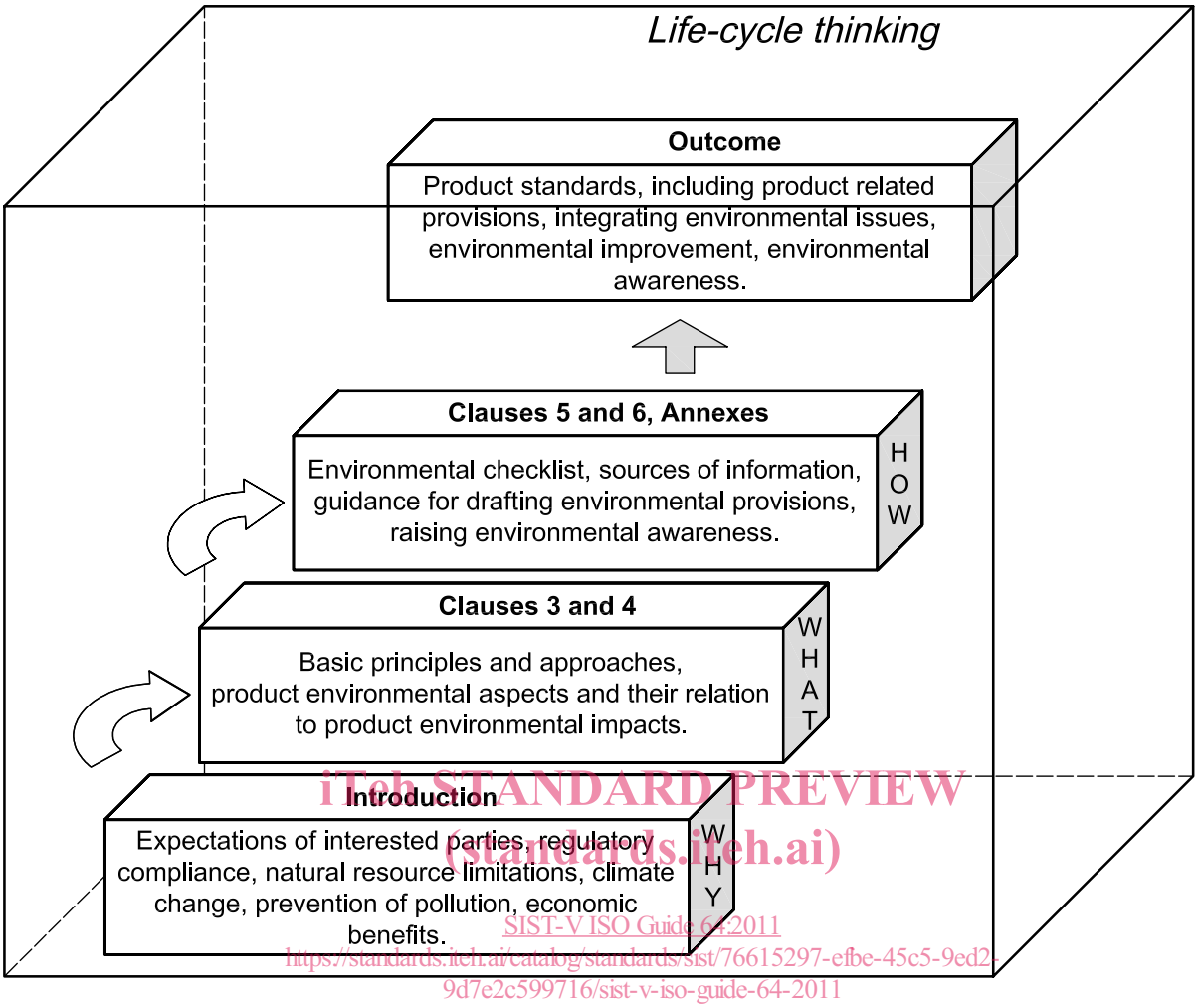


Figure 1 — Step-by-step approach for the inclusion of environmental provisions in product standards based on life-cycle thinking

The approaches outlined in Clause 3 help to make standards writers aware of how it is possible to make an effective contribution to environmental improvement through a product standard, and how to reduce potential adverse environmental impacts of products.

It is necessary to understand how the product interacts with the environment during its life-cycle in order to determine whether it is possible and appropriate to take into account environmental issues in the product standard. These issues are considered in Clause 4, which explains which environmental aspects are relevant for standards writing (“WHAT”).

Through a helpful tool (the environmental checklist), the writer of product standards can assess the relevant product environmental aspects, based on the availability of environmental information, product and environmental knowledge and the application of life-cycle thinking, these are considered in Clauses 5 and 6 which address the techniques of “HOW” to identify environmental aspects and impacts and draft environmental provisions in product standards. Some useful examples taken from existing standards are included in Annex B.

As an outcome, based on this information and additional guidance, environmental provisions can be drafted in product standards.

Guide for addressing environmental issues in product standards

1 Scope

This Guide provides guidance on addressing environmental issues in product standards. It is primarily intended for product standards writers. Its purpose is

— to outline the relationship between the provisions in product standards and the environmental aspects and impacts of the product,

— to assist in drafting or revising provisions in product standards in order to reduce potential adverse environmental impacts at different stages of the entire product life-cycle,

NOTE 1 See Annex B for examples.

— to emphasize that taking into account environmental issues in product standards is a complex process and requires balancing competing priorities,

— to recommend the use of life-cycle thinking when defining environmental provisions for a product for which a standard is being drafted, and

— to promote the future development of relevant sector guides for addressing environmental issues in product standards by standards writers, consistent with the principles and approaches of this Guide.

NOTE 2 See Annex A.

Whenever a new product standard is drafted or an existing product standard is revised or intended to be revised, the project managers and their technical committee chairman/convenors are encouraged to actively promote the application of this Guide. Furthermore, at any stage in the standard development process, experts are encouraged to include environmental issues in their comments.

In order to take account of the diversity of products and their specific environmental impacts, as well as the need for relevant environmental knowledge, it is useful for standards writers to involve environmental experts in the work. The project managers and their technical committee chairman/convenors might wish to take into account other relevant, current sector-specific guidance and environmental provisions identified in related standards.

Unless they are closely related with environmental issues, this Guide does not address issues of occupational health and safety or consumer safety as separate or specific aspects of the product life-cycle. Standards writers can find guidance on these issues in other guides.

NOTE 3 See other guides listed in the Bibliography.

2 Terms and definitions

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

2.1
environment
surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation

NOTE Surroundings in this context extend from within an organization to the global system.

[ISO 14050:—[1)], definition 3.1]

2.2
environmental issue
any concern for environmental aspects and impacts

2.3
environmental provision
any requirement, recommendation or statement in a standard that addresses environmental issues

2.4
interested party
person or group concerned with or affected by the environmental performance of an organization

[ISO 14001:2004, definition 3.13]

2.5
life-cycle
consecutive and interlinked stages of a product system, from raw material acquisition or generation of natural resources to final disposal

[ISO 14050:—[1)], definition 7.1]

NOTE The term “product system” is defined and further explained in ISO 14040.

2.6
life-cycle thinking
LCT
consideration of all relevant environmental aspects (of a product) during the entire (product) life-cycle

[IEC Guide 109:2003, definition 3.10]

2.7
prevention of pollution
use of processes, 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** (2.10)

NOTE 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 and treatment.

[ISO 14050:—[1)], definition 3.11]

2.8
product
any goods or service

[ISO 14050:—[1)], definition 6.2]

1) To be published. (Revision of ISO 14050:2002.)

2.9
product environmental aspect
element of a product that, during its life-cycle, can interact with the environment

2.10
product environmental impact
any change to the environment, wholly or partly resulting from a product environmental aspect

2.11
product standard
standard that specifies requirements to be fulfilled by a product or group of products, to establish its fitness for purpose

NOTE 1 A product standard may include in addition to the fitness for purpose requirements, directly or by reference, aspects such as terminology, sampling, testing, packaging and labelling and, sometimes, processing requirements.

NOTE 2 A product standard can either be complete or not, according to whether it specifies all or only a part of the necessary requirements. In this respect, one may differentiate between standards such as dimensional, material, and technical delivery standards.

[ISO/IEC Guide 2:2004, definition 5.4]

2.12
standards writer
any person taking part in the preparation of standards

3 Basic principles and approaches

3.1 General

This clause contains basic principles and approaches that should be considered by standards writers.

3.2 Principles

3.2.1 Life-cycle thinking

3.2.1.1 Principle

Standards writers should consider relevant environmental aspects and impacts at all stages of the product life-cycle (see Figure 2).

3.2.1.2 Explanation

Figure 2 illustrates four major (but not exclusive) stages of the product life-cycle:

— (material) acquisition;

— production;

— use;

— end-of-life.

Processes such as transport, energy supply and other services are located in the centre of the diagram, since they do not belong to a specific stage of the product life-cycle; rather, they are commonly incorporated between the stages. Inputs and outputs can potentially be relevant to all of those stages and processes.

"Life-cycle thinking" means consideration for all environmental aspects of a product at all stages of its life-cycle. Particular improvements targeted at a specific life-cycle stage can adversely affect environmental impacts at other stages of the product life cycle. Standards writers should ensure that considerations for the environmental impact of a single stage should not adversely alter or influence:

— the overall burden of environmental impacts related to a product;

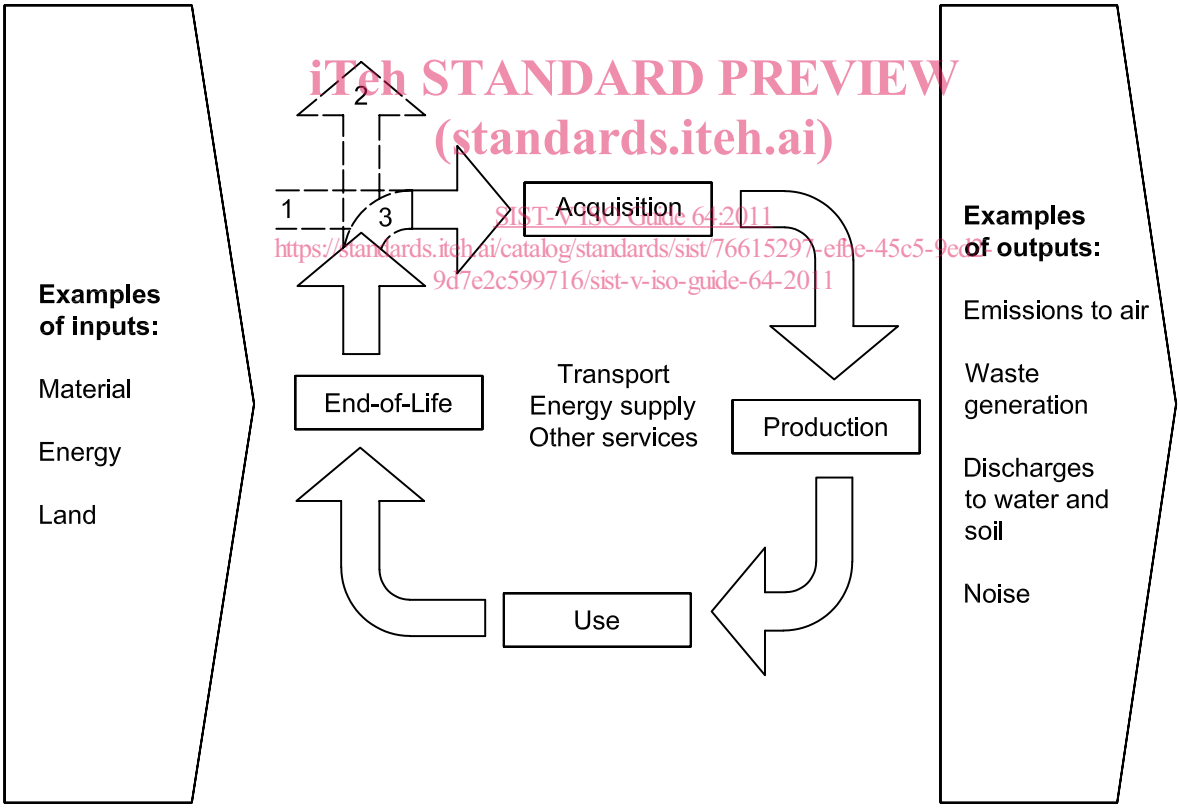
— other aspects of the local, regional or global environment.

EXAMPLE The replacement of solvent cleaning by hot water and air blowing processes has resulted in increased energy use at the stage of production.

This is especially relevant in cases where the scope of the product standard is limited and makes only certain stages applicable.

By applying life-cycle thinking, the significant stages and significant environmental aspects of a product can be identified. These should be covered by environmental provisions in a standard and strongly depend on the nature of the product.

Consideration for including environmental provisions should occur early in the process of developing a product standard.



Key

1 raw material
2 disposal of final residue
3 reuse or recovery

Figure 2 — Life-cycle thinking

3.2.2 Efficient use of natural resources

3.2.2.1 Principle

In drafting provisions in product standards, standards writers should make efforts to reduce the depletion of natural resources, with particular consideration for their scarcity.

3.2.2.2 Explanation

This principle means improving the effective and efficient use of resources during all stages of the product life-cycle. This includes, for example, the selection and use of raw materials, the use of water, energy and land, as well as the utilization of other materials and energy recovered from waste.

Besides the environmental impacts associated with resource acquisition and use, the depletion of non-renewable resources, typically mineral deposits and fossil fuels is unsustainable. Resource depletion also applies to renewable resources depleted at higher rates than they can regenerate.

Human activity can affect biological diversity and the rate of replenishment of biological populations, possibly leading to serious declines in or the ultimate extinction of species.

When environmentally beneficial, preferences should be given by the standards writer to renewable resources, as well as for the different options for end-of-life treatment.

There are also several considerations associated with energy. Among these are the conversion efficiency of a selected source and the efficient use of energy.

3.2.3 Prevention of pollution

3.2.3.1 Principle

Standards writers should take into account the need for preventing pollution at all stages of the life-cycle.

3.2.3.2 Explanation

Provisions in product standards can help to prevent pollution. Prevention of pollution can take many forms and can be incorporated in all stages of the product life-cycle. For example, hazardous, toxic or otherwise harmful substances and materials prescribed in product standards should be substituted by other less harmful substances and materials, whenever possible and feasible.

It also includes the promotion of the hierarchical approach to the prevention of pollution, which means giving preference to preventing pollution at its source, arriving at a waste and emission-free production by source reduction or elimination (including environmentally sound design and development, material substitution, changes in process, product or technology and efficient use or conservation of energy and material resources).

Additionally, the following options for prevention of pollution should be considered:

— internal reuse or recycling (reuse or recycling of materials within the process or facility);

— external reuse or recycling (transfer of materials offsite for reuse or recycling); or

— recovery and treatment (energy recovery from waste streams on or offsite, treatment of emissions, and releases of wastes on- or offsite to reduce their environmental impacts).