SLOVENSKI STANDARD
SIST EN ISO 14041:2000

01-april-2000

Ravnanje z okoljem - Ocenjevanje življenjskega cikla - Opredelitev cilja in obsega ter inventarizacija (ISO 14041:1997)

Environmental management - Life cycle assessment - Goal and scope definition and inventory analysis (ISO 14041:1998)

Umweltmanagement - Ökobilanz - Festlegung des Ziels und des Untersuchungsrahmens sowie Sachbilanz (ISO 14041:1998)

Management environnemental - Analyse du cycle de vie - Définition de l'objectif et du champ d'étude et analyse de l'inventaire (ISO 14041:1998)

Ta slovenski standard je istoveten z: **EN ISO 14041:1998**

ICS:

13.020.10	Ravnanje z okoljem	Environmental management
13.020.60	Življenjski ciklusi izdelkov	Product life-cycles

SIST EN ISO 14041:2000 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Descriptors: see ISO document

English version

Environmental management - Life cycle assessment - Goal and scope definition and inventory analysis (ISO 14041:1998)

Management environnemental - Analyse du cycle de vie - Définition de l'objectif et du champ d'étude et analyse de l'inventaire (ISO 14041:1998)

Umweltmanagement - Ökobilanz - Festlegung des Ziels und des Untersuchungsrahmens sowie Sachbilanz (ISO 14041:1998)

This European Standard was approved by CEN on 25 September 1998.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Foreword

The text of the International Standard ISO 14041:1998 has been prepared by Technical Committee ISO/TC 207 "Environmental mangement" in collaboration with CEN/CS.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 1999, and conflicting national standards shall be withdrawn at the latest by April 1999.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 14041:1998 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

Annex ZA (normative)
Normative references to international publications with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

Publication	Year	Title	EN	Year
ISO 14040	1997	Environmental management - Life cycle assessment - Principles and framework	EN ISO 14040	1997

INTERNATIONAL STANDARD

ISO 14041

First edition
1998-10-01

Environmental management — Life cycle assessment — Goal and scope definition and inventory analysis

Management environnemental — Analyse du cycle de vie — Définition de l'objectif et du champ d'étude et analyse de l'inventaire

Reference number
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Contents

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 14041 was prepared by Technical Committee ISO/TC 207, *Environmental management*, Subcommittee SC 5, *Life cycle assessment.*

Annexes A and B of this International Standard are for information only.

Introduction

This International Standard deals with two phases of Life Cycle Assessment (LCA), goal and scope definition and Life Cycle Inventory analysis (LCI), as defined in ISO 14040.

The goal and scope definition phase is important because it determines why an LCA is being conducted (including the intended use of the results) and describes the system to be studied and the data categories to be studied. The purpose, scope and intended use of the study will influence the direction and depth of the study, addressing issues such as the geographic extent and time horizon of the study and the quality of data which will be necessary.

The LCI involves the collection of the data necessary to meet the goals of the defined study. It is essentially an inventory of input/output data with respect to the system being studied.

In the interpretation phase of LCI (see clause 7 of this International Standard), the data are evaluated in light of the goal and scope, the collection of additional data, or both. The interpretation phase also typically results in an improved understanding of the data for reporting purposes. Since LCI is a collection and analysis of input/output data and not an assessment of the environmental impacts associated with those data, the interpretation of LCI results alone cannot be the basis for reaching conclusions about relative environmental impacts.

This International Standard may be used to:

— assist organizations in obtaining a systematic view of interconnected product systems;

— formulate the goal and scope of the study, define and model the systems to be analysed, collect the data and report the results of an LCI;

— establish a baseline of environmental performance for a given product[1] system by quantifying the use of energy flows and raw materials and emissions to air, water and land (environmental input and output data) associated with that system both for the whole system but also broken down by unit process;

— identify those unit processes within a product system where the greatest use of energy flows, raw materials and emissions occur with a view to making targeted improvements;

— provide data for subsequent use to help define ecolabelling criteria;

— help to set policy options, e.g. concerning procurement.

This list is not exclusive, although it does summarize the primary reasons why LCI studies are carried out.

Complementary International Standards ISO 14042 and ISO 14043 concerning further phases of LCA are under preparation (see Bibliography). A Technical Report providing examples of practice in carrying out an LCI as a means of satisfying certain provisions of ISO 14041 is also under preparation.

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1) In this International Standard, the term "product" used alone is synonymous to "product or service".

Environmental management — Life cycle assessment — Goal and scope definition and inventory analysis

1 Scope

This International Standard in addition to ISO 14040 specifies the requirements and the procedures necessary for the compilation and preparation of the definition of goal and scope for a Life Cycle Assessment (LCA), and for performing, interpreting and reporting a Life Cycle Inventory analysis (LCI).

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, this publication do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 14040:1997, *Environmental management — Life cycle assessment — Principles and framework*.

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in ISO 14040 and the following apply.

3.1
ancillary input
material input that is used by the unit process producing the product, but does not constitute a part of the product

EXAMPLE A catalyst.

3.2
coproduct
any of two or more products from the same unit process

3.3
data quality
characteristic of data that bears on their ability to satisfy stated requirements

3.4
energy flow
input to or output from a unit process or product system, quantified in energy units

NOTE Energy flow that is input may be called energy input; energy flow that is output may be called energy output.

3.5
feedstock energy
heat of combustion of raw material inputs, which are not used as an energy source, to a product system

NOTE It is expressed in terms of higher heating value or lower heating value.

3.6
final product
product which requires no additional transformation prior to its use

3.7
fugitive emission
uncontrolled emission to air, water or land

EXAMPLE Material released from a pipeline coupling.

3.8
intermediate product
input to or output from a unit process which requires further transformation

3.9
process energy
energy input required for a unit process to operate the process or equipment within the process excluding energy inputs for production and delivery of this energy

3.10
reference flow
measure of the needed outputs from processes in a given product system required to fulfill the function expressed by the functional unit

3.11
sensitivity analysis
systematic procedure for estimating the effects on the outcome of a study of the chosen methods and data

3.12
uncertainty analysis
systematic procedure to ascertain and quantify the uncertainty introduced into the results of a life cycle inventory analysis due to the cumulative effects of input uncertainty and data variability

NOTE Either ranges or probability distributions are used to determine the uncertainty in the results.

4 LCI components

4.1 General

This clause outlines the key terminology and components of a life cycle inventory analysis.

4.2 Product system

A product system is a collection of unit processes connected by flows of intermediate products which perform one or more defined functions. Figure 1 shows an example of a product system. A product system description includes unit processes, elementary flows, and product flows across the system boundaries (either into the system or out of the system), and intermediate product flows within the system.

The essential property of a product system is characterized by its function, and cannot be defined solely in terms of the final products.

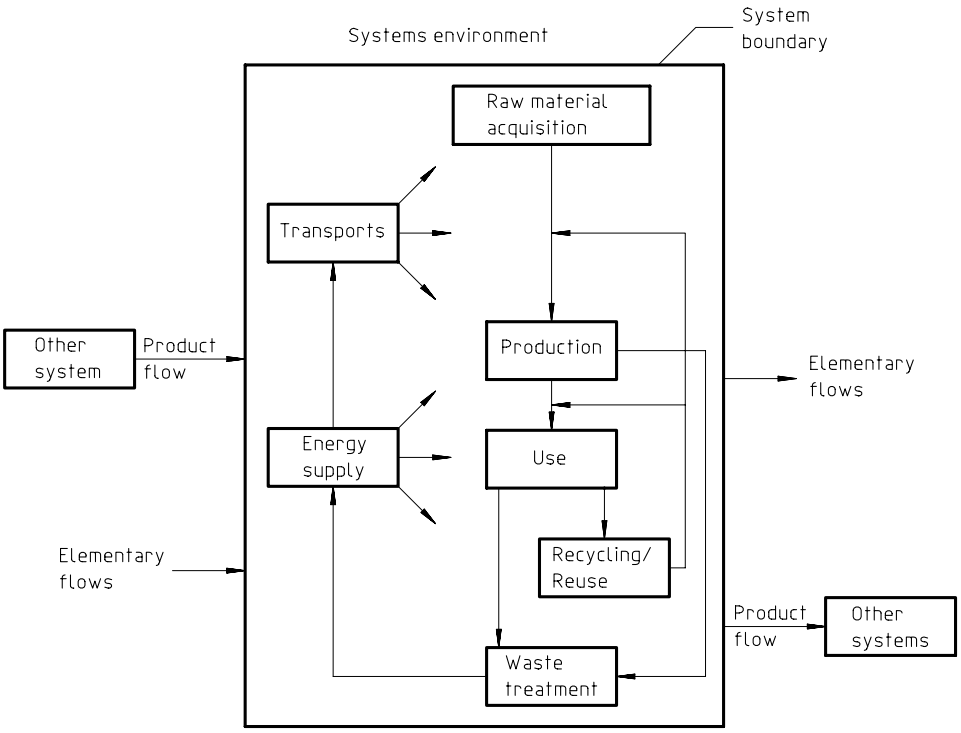

Figure 1 — Example of a product system for life cycle inventory analysis

4.3 Unit process

Product systems are subdivided into a set of unit processes (see Figure 2). Unit processes are linked to one another by flows of intermediate products and/or waste for treatment, to other product systems by product flows, and to the environment by elementary flows.

Examples of elementary flows entering the unit process are crude oil in ground and solar radiation. Examples of elementary flows leaving the unit process are emissions to air, emissions to water and radiation. Examples of intermediate product flows are basic materials and subassemblies.

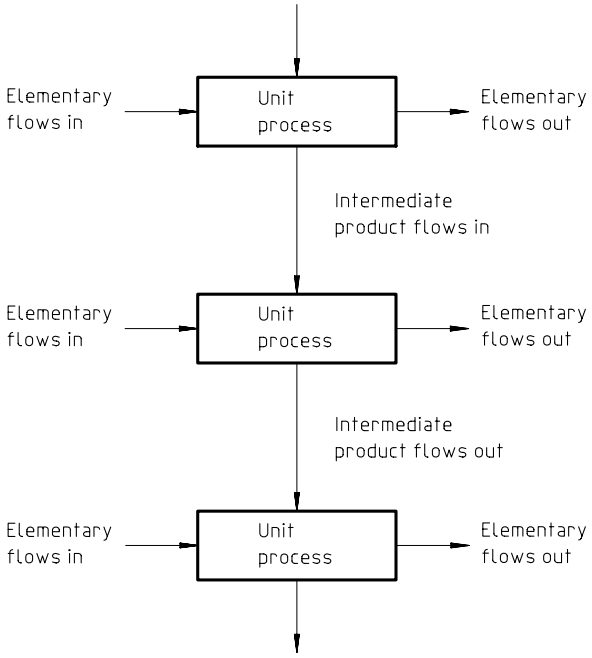

Figure 2 — Example of a set of unit processes within a product system