TECHNICAL REPORT

ISO/TR 14047

First edition
2003-10-01

Environmental management — Life cycle impact assessment — Examples of application of ISO 14042

Management environnemental — Évaluation de l'impact du cycle de vie — Exemples d'application de l'ISO 14042

Reference number
ISO/TR 14047:2003(E)

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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.

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

The main task of technical committees is to prepare International Standards. 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.

In exceptional circumstances, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide by a simple majority vote of its participating members to publish a Technical Report. A Technical Report is entirely informative in nature and does not have to be reviewed until the data it provides are considered to be no longer valid or useful.

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/TR 14047 was prepared by Technical Committee ISO/TC 207, *Environmental management*, Subcommittee SC 5, *Life cycle assessment*.

Introduction

The heightened awareness of the importance of environmental protection, and the possible environmental significance of a product system[1)], has increased the interest in development of methods to better understand this significance. One of the techniques being developed for this purpose is Life Cycle Assessment (LCA).

Life cycle impact assessment (LCIA) is the third phase of life cycle assessment, and its purpose is to assess a product system's life cycle inventory analysis (LCI) results to better understand its environmental significance. It models selected environmental issues called impact categories and, through the use of category indicators which help condense and explain the LCI results, portrays the aggregate emissions or resources used for each impact category to reflect their potential environment impacts.

This Technical Report provides examples to illustrate the application of ISO 14042, *Environmental management – Life cycle assessment — Life cycle impact assessment*. It uses several examples concerning key areas of ISO 14042 in order to enhance the understanding of its requirements.

1) In this Technical Report the term “product system” also includes service systems.

Environmental management — Life cycle impact assessment — Examples of application of ISO 14042

1 Scope

This Technical Report provides examples to illustrate current practice in carrying out a life cycle impact assessment in accordance with ISO 14042. These are only examples of the total possible "ways" to satisfy the provisions of ISO 14042. They reflect the key elements of the life cycle impact assessment (LCIA) phase of the LCA.

NOTE The examples presented in this Technical Report are not exclusive; other examples exist to illustrate the methodological issues described.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. Members of ISO and IEC maintain registers of currently valid International Standards.

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

ISO 14042:2000, *Environmental management — Life cycle assessment — Life cycle impact assessment*

3 Abbreviated terms

The following is a non-exhaustive list of abbreviated terms found in this Technical Report.

ADI allowable dose intake

AP acidification potential

CFC chlorofluorocarbon

CML Centre of Environmental Science, Leiden University

COD chemical oxygen demand

DALY disability-affected life years

DLY disability life years

E exponent

EBIR equal benefit incremental reactivity

EDIP environmental design of industrial products