AS/NZS ISO 14042:2001
ISO 14042:2000

Australian/New Zealand Standard™

Environmental management—
Life cycle assessment—
Life cycle impact assessment

Standards Australia

STANDARDS NEW ZEALAND
Paerewa Aotearoa

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EV-005, Life Cycle Analysis—Environmental. It was approved on behalf of the Council of Standards Australia on 29 September 2000 and on behalf of the Council of Standards New Zealand on 12 January 2001. It was published on 16 February 2001.

The following interests are represented on Committee EV-005:

Australian Chamber of Commerce and Industry
Australian Chemical Specialties Manufacturers Association
Australian Industry Group
Australian and New Zealand Environment and Conservation Council
Consumers Federation of Australia
Institution of Engineers Australia
Nature Conservation Council of N.S.W.
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Australian/New Zealand Standard™

Environmental management—Life cycle assessment—Life cycle impact assessment

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EV/5, Life Cycle Analysis—Environmental.

This Standard is identical with and has been reproduced from ISO 14042:2000, *Environmental management—Life cycle assessment—Life cycle impact assessment.*

The objective of this Standard is to describe and give guidance on a general framework for the life cycle impact assessment (LCIA) phase of life cycle assessment (LCA), and the key features and inherent limitations of LCIA. It specifies requirements for conducting the LCIA phase and the relationship of LCIA to the other LCA phases.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text 'this International Standard' should read 'this Australian/New Zealand Standard'.

(c) A full point should be substituted for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to equivalent Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
ISO		AS/NZS ISO	
14001	Environmental management systems—Specification with guidance for use	14001	Environmental management systems—Specification with guidance for use
14040	Environmental management—Life cycle assessment—Principles and framework	14040	Environmental management—Life cycle assessment—Principles and framework
14041	Environmental management—Life cycle assessment—Goal and scope definition and life cycle inventory analysis	14041	Environmental management—Life cycle assessment—Goal and scope definition and life cycle inventory analysis
14043	Environmental management—Life cycle assessment—Life cycle interpretation	14043	Environmental management—Life cycle assessment—Life cycle interpretation
		AS ISO	
14050	Environmental management—Vocabulary	14050	Environmental management—Vocabulary

The term 'normative' has been used in this Standard to define the application of the annex to which it applies. A 'normative' annex is an integral part of a Standard.

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INTRODUCTION

Life cycle impact assessment, LCIA, is the third phase of life cycle assessment described in ISO 14040. The purpose of LCIA is to assess a product system's[1)] life cycle inventory analysis (LCI) results to better understand their environmental significance. The LCIA phase models selected environmental issues, called impact categories, and uses category indicators[2)] to condense and explain the LCI results. Category indicators are intended to reflect the aggregate emissions or resource use for each impact category. These category indicators represent the "potential environmental impacts"[3)] discussed in ISO 14040. In addition, LCIA prepares for the life cycle interpretation phase.

LCIA as part of an overall LCA can, for example, be used to

— identify product system improvement opportunities and assist the prioritization of them,

— characterize or benchmark a product system and its unit processes over time,

— make relative comparisons among product systems based on selected category indicators, or

— indicate environmental issues for which other techniques can provide complementary environmental data and information useful to decision-makers.

While LCIA can assist in these applications, parties should recognize that an extensive assessment of a product system is difficult and may require the use of several different environmental assessment techniques.

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1) In this International Standard, the term "product system" also includes service systems.

2) The full expression for this term is "life cycle impact category indicator".

3) The "potential environmental impacts" referred to in ISO 14040 are a subset of the "environmental impacts" referred to in ISO 14001 resulting from the use of the functional unit calculation. The "potential environmental impacts" are relative expressions, as they are related to the functional unit of a product system.

AUSTRALIAN/NEW ZEALAND STANDARD

Environmental management — Life cycle assessment — Life cycle impact assessment

1 Scope

This International Standard describes and gives guidance on a general framework for the life cycle impact assessment (LCIA) phase of life cycle assessment (LCA), and the key features and inherent limitations of LCIA. It specifies requirements for conducting the LCIA phase and the relationship of LCIA to the other LCA phases.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents 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 14001:1996, *Environmental management systems — Specification with guidance for use*.

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

ISO 14041:1998, *Environmental management — Life cycle assessment — Goal and scope definition and life cycle inventory analysis.*

ISO 14043:2000, *Environmental management — Life cycle assessment — Life cycle interpretation.*

ISO 14050:1998, *Environmental management – Vocabulary.*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this International Standard, the following terms and definitions given in ISO 14001, ISO 14040, ISO 14041, ISO 14050 and the following apply.

3.1.1
life cycle inventory analysis result
LCI result
outcome of a life cycle inventory analysis that includes the flows crossing the system boundary and provides the starting point for life cycle impact assessment

3.1.2
impact category
class representing environmental issues of concern to which LCI results may be assigned