This is a preview of "BS EN ISO 14046:2016". Click here to purchase the full version from the ANSI store.

BS EN ISO 14046:2016

BSI Standards Publication

Environmental management — Water footprint — Principles, requirements and guidelines

bsi.

...making excellence a habit.™

This is a preview of "BS EN ISO 14046:2016". Click here to purchase the full version from the ANSI store.

This British Standard is the UK implementation of EN ISO 14046:2016. It is identical to ISO 14046:2014. It supersedes BS ISO 14046:2014 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee SES/1, Environmental Management.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2016. Published by BSI Standards Limited 2016

ISBN 978 0 580 91358 7

ICS 13.020.60; 13.020.10

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 July 2014.

Amendments/corrigenda issued since publication

Date	Text affected
31 March 2016	This corrigendum renumbers BS ISO 14046:2014 as BS EN ISO 14046:2016.

This is a preview of "BS EN ISO 14046:2016". Click here to purchase the full version from the ANSI store.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 14046

February 2016

ICS 13.020.10; 13.020.60

English Version

Environmental management - Water footprint - Principles, requirements and guidelines (ISO 14046:2014)

Management environnemental - Empreinte eau - Principes, exigences et lignes directrices (ISO 14046:2014)

Umweltmanagement - Wasser-Fußabdruck - Grundsätze, Anforderungen und Leitlinien (ISO 14046:2014)

This European Standard was approved by CEN on 25 January 2016.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

© 2016 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. EN ISO 14046:2016 E

This is a preview of "BS EN ISO 14046:2016". Click here to purchase the full version from the ANSI store.

European foreword

The text of ISO 14046:2014 has been prepared by Technical Committee ISO/TC 207 “Environmental management” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 14046:2016.

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 August 2016, and conflicting national standards shall be withdrawn at the latest by August 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 14046:2014 has been approved by CEN as EN ISO 14046:2016 without any modification.

This is a preview of "BS EN ISO 14046:2016". Click here to purchase the full version from the ANSI store.

Contents

Page

Foreword ... **iv**

Introduction ... **v**

1 Scope ... **1**

2 Normative references ... **1**

3 Terms and definitions ... **1**
3.1 Terms relating to types and classifications of water ... 1
3.2 Terms relating to water ... 3
3.3 Terms relating to life cycle assessment and water footprint assessment ... 3
3.4 Terms relating to interpretation and reporting of water footprint results ... 5
3.5 Terms relating to products, product systems, processes and organizations ... 6
3.6 Terms relating to data and data quality ... 8

4 Principles ... **8**
4.1 General ... 8
4.2 Life cycle perspective ... 8
4.3 Environmental focus ... 9
4.4 Relative approach and functional unit ... 9
4.5 Iterative approach ... 9
4.6 Transparency ... 9
4.7 Relevance ... 9
4.8 Completeness ... 9
4.9 Consistency ... 9
4.10 Accuracy ... 9
4.11 Priority of scientific approach ... 9
4.12 Geographical relevance ... 9
4.13 Comprehensiveness ... 10

5 Methodological framework ... **10**
5.1 General requirements ... 10
5.2 Goal and scope definition ... 11
5.3 Water footprint inventory analysis ... 15
5.4 Water footprint impact assessment ... 20
5.5 Interpretation of the results ... 24
5.6 Limitations of water footprint ... 25

6 Reporting ... **25**
6.1 General ... 25
6.2 Additional requirements and guidance for third-party reports ... 26
6.3 Comparative assertion and comparative studies ... 29

7 Critical review ... **29**
7.1 General ... 29
7.2 Need for critical review ... 30
7.3 Critical review by internal or external expert ... 30
7.4 Critical review by panel of interested parties ... 30

Annex A (normative) **Additional requirements and guidelines for organizations** ... **31**

Bibliography ... **33**

© ISO 2014 – All rights reserved

This is a preview of "BS EN ISO 14046:2016". Click here to purchase the full version from the ANSI store.

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 WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is Technical Committee ISO/TC 207, *Environmental management*, Subcommittee SC 5, *Life cycle assessment*.

 © ISO 2014 – All rights reserved

This is a preview of "BS EN ISO 14046:2016". Click here to purchase the full version from the ANSI store.

Introduction

Water is an essential natural resource.

The issue of water and its management has become increasingly central to the global debate on sustainable development. This interest has been driven by growing water demand, increasing water scarcity in many areas and/or degradation of water quality. This drives the need for a better understanding of water related impacts as a basis for improved water management at local, regional, national and global levels.

It is therefore desirable to have appropriate assessment techniques that can be used in an internationally consistent manner.

One of the techniques being developed for this purpose is the water footprint assessment.

There is a growing demand for assessing and reporting water footprints. Various methodologies exist to do so and currently these methodologies emphasise different aspects related to water. There is therefore a need to ensure consistency in assessing and reporting water footprints.

This International Standard is expected to benefit organizations, governments and other interested parties worldwide by providing transparency, consistency, reproducibility and credibility for assessing and reporting the water footprint of products, processes or organizations.

A water footprint assessment conducted according to this International Standard:

— is based on a life cycle assessment (according to ISO 14044);

— is modular (i.e. the water footprint of different life cycle stages can be summed to represent the water footprint);

— identifies potential environmental impacts related to water;

— includes relevant geographical and temporal dimensions;

— identifies quantity of water use and changes in water quality;

— utilizes hydrological knowledge.

A water footprint assessment can assist in:

a) assessing the magnitude of potential environmental impacts related to water;

b) identifying opportunities to reduce water related potential environmental impacts associated with products at various stages in their life cycle as well as processes and organizations;

c) strategic risk management related to water;

d) facilitating water efficiency and optimization of water management at product, process and organizational levels;

e) informing decision-makers in industry, government or non-governmental organizations of their potential environmental impacts related to water (e.g. for the purpose of strategic planning, priority setting, product or process design or redesign, decisions about investment of resources);

f) providing consistent and reliable information, based on scientific evidence for reporting water footprint results.

A water footprint assessment alone is insufficient to be used to describe the overall potential environmental impacts of products, processes or organizations.

The water footprint assessment according to this International Standard can be conducted and reported as a stand-alone assessment, where only impacts related to water are assessed, or as part of a life cycle

© ISO 2014 – All rights reserved

This is a preview of "BS EN ISO 14046:2016". Click here to purchase the full version from the ANSI store.

assessment, where consideration is given to a comprehensive set of environmental impacts and not only impacts related to water.

In this International Standard, the term “water footprint” is only used when it is the result of an impact assessment.

The specific scope of the water footprint assessment is defined by the users of this International Standard in accordance with its requirements.

NOTE 1 In this International Standard, the term “product” includes services.

NOTE 2 In this International Standard, the term “environmental impacts” includes categories generally found in impact models used in life cycle assessment, such as impacts on ecosystems, on human health and on resources.

NOTE 3 Reporting is different from communication. Requirements and guidelines for reporting are included in this International Standard, but requirements and guidelines for communication, such as environmental labels or declarations, are outside the scope of this International Standard.

 © ISO 2014 – All rights reserved

This is a preview of "BS EN ISO 14046:2016". Click here to purchase the full version from the ANSI store.

Environmental management — Water footprint — Principles, requirements and guidelines

1 Scope

This International Standard specifies principles, requirements and guidelines related to water footprint assessment of products, processes and organizations based on life cycle assessment (LCA).

This International Standard provides principles, requirements and guidelines for conducting and reporting a water footprint assessment as a stand-alone assessment, or as part of a more comprehensive environmental assessment.

Only air and soil emissions that impact water quality are included in the assessment, and not all air and soil emissions are included.

The result of a water footprint assessment is a single value or a profile of impact indicator results.

Whereas reporting is within the scope of this International Standard, communication of water footprint results, for example in the form of labels or declarations, is outside the scope of this International Standard.

NOTE Specific requirements and guidelines for organizations are given in Annex A.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 14044:2006, *Environmental management — Life cycle assessment — Requirements and guidelines*

3 Terms and definitions

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

3.1 Terms relating to types and classifications of water

3.1.1
freshwater
water having a low concentration of dissolved solids

Note 1 to entry: Freshwater typically contains less than 1 000 mg/l of dissolved solids and is generally accepted as suitable for withdrawal and conventional treatment to produce potable water.

Note 2 to entry: The concentration of total dissolved solids can vary considerably over space and/or time.

3.1.2
brackish water
water containing dissolved solids at a concentration less than that of *seawater* (3.1.4), but in amounts that exceed normally acceptable standards for municipal, domestic and irrigation uses

Note 1 to entry: The concentration of total dissolved solids in brackish water can vary from 1 000 mg/l to 30 000 mg/l.

© ISO 2014 – All rights reserved