SLOVENSKI STANDARD
oSIST prEN ISO 14051:2010

01-oktober-2010

Ravnanje z okoljem - Stroškovno računovodstvo materialnega toka - Splošne smernice (ISO/DIS 14051:2010)

Environmental management - Material flow cost accounting - General framework (ISO/DIS 14051:2010)

Umweltmanagement - Materialflusskostenrechnung - Allgemeine Rahmenbedingungen (ISO/DIS 14051:2010)

Management environnemental - Coût d'acheminement des matières - Cadre général (ISO/DIS 14051:2010)

Ta slovenski standard je istoveten z: **prEN ISO 14051**

ICS:

13.020.10	Ravnanje z okoljem	Environmental management

oSIST prEN ISO 14051:2010 **en,fr,de**

EUROPEAN STANDARD

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English Version

Environmental management - Material flow cost accounting - General framework (ISO/DIS 14051:2010)

Management environnemental - Coût d'acheminement des matières - Cadre général (ISO/DIS 14051:2010)

Umweltmanagement - Materialflusskostenrechnung - Allgemeine Rahmenbedingungen (ISO/DIS 14051:2010)

This draft European Standard is submitted to CEN members for parallel enquiry. It has been drawn up by the Technical Committee CEN/SS S26.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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Foreword

This document (prEN ISO 14051:2010) has been prepared by Technical Committee ISO/TC 207 “Environmental management”.

This document is currently submitted to the parallel Enquiry.

Endorsement notice

The text of ISO/DIS 14051:2010 has been approved by CEN as a prEN ISO 14051:2010 without any modification.

DRAFT INTERNATIONAL STANDARD ISO/DIS 14051

ISO/TC **207** Secretariat: **SCC**

Voting begins on: **2010-05-27** Voting terminates on: **2010-10-27**

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Environmental management — Material flow cost accounting — General framework

Management environnemental — Coût d'acheminement des matières — Cadre général

ICS 13.020.10

ISO/CEN PARALLEL PROCESSING

This draft has been developed within the International Organization for Standardization (ISO), and processed under the **ISO-lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five-month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

In accordance with the provisions of Council Resolution 15/1993 this document is circulated in the English language only.

Conformément aux dispositions de la Résolution du Conseil 15/1993, ce document est distribué en version anglaise seulement.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.

Pour accélérer la distribution, le présent document est distribué tel qu'il est parvenu du secrétariat du comité. Le travail de rédaction et de composition de texte sera effectué au Secrétariat central de l'ISO au stade de publication.

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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.

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 of such patent rights.

ISO 14051 was prepared by ISO/TC 207, Environmental management, Working Group 8, Material flow cost accounting.

This is the first edition of ISO 14051.

Introduction

The aim of this international standard (ISO 14051) is to offer a general framework for material flow cost accounting (MFCA). MFCA is a management tool that can assist organizations to better understand the potential environmental and financial consequences of their material and energy use practices, and seek opportunities to achieve both environmental and financial improvements via changes in those practices.

MFCA promotes increased transparency of material use practices via development of a material flow model that traces and quantifies the flows and stocks of materials within an organization in physical units. Energy can be either included under material or quantified separately in MFCA. Any costs that are generated by and/or associated with those material flows are subsequently quantified and assigned to them. In particular, MFCA highlights the comparison of costs associated with products versus costs associated with material losses, e.g., waste, air emissions, wastewater, etc.

Data on the material losses and the associated costs are often difficult to extract from conventional information/accounting systems. Additionally, environmental evaluations do not provide the financial data of the material losses generated by an organization. However, once available via MFCA, these data can be used to seek opportunities to reduce material use and/or material losses, improve efficient uses of material and energy, reduce adverse environmental impacts, and reduce costs. It should be noted that organizations with a strong environmental management expertise should get more from the implementation of MFCA since it can provide information to support systematic performance improvements in operations, as well as information to allow broader analysis across the life-cycle of a target substance. MFCA is applicable to all industries that use materials and energy, including extractive process, manufacturing, service, and other industries. It can be implemented by organizations of any type and scale, with or without environmental management systems (EMS) in place, in developing as well as in developed countries. Examples of MFCA application in various types of industries are provided in Annex C.

MFCA is one of the major tools of environmental management accounting (EMA) and is primarily designed for use within a single facility or organization. However, MFCA can be extended to multiple organizations within a supply chain, to help them develop an integrated approach to more efficient use of materials and energy.

This International Standard provides:

— Common terminologies;

— Objective and principles;

— Fundamental elements; and

— Implementation steps.

In addition, annexes illustrate difference between MFCA and conventional cost accounting, cost evaluation methods, and case examples of MFCA application from different sectors and a supply chain.

Environmental management — Material flow cost accounting — General framework

1 Scope

This International Standard provides a general framework for material flow cost accounting (MFCA). Under MFCA, the flows and stocks of materials within an organization are traced and quantified in physical units (e.g., mass, volume) and the costs associated with those material flows are also evaluated. The resulting information can act as a motivator for organizations and managers to seek opportunities to simultaneously generate financial benefits and reduce adverse environmental impacts. MFCA is applicable to any organization that uses materials and energy, regardless of their products, size, structure, location, and existing management and accounting systems.

MFCA can be extended to other organizations in the supply chain, both upstream and downstream, thus helping to develop an integrated approach to improve material efficiency in the supply chain. This extension can be beneficial because waste in an organization often is driven by the nature of materials provided by a supplier or the specification of the product requested by a customer.

By definition, general management accounting and environmental management accounting (EMA) focus on providing organizations with information for internal decision-making. MFCA, one of the major tools of EMA, also focuses on information for internal decision-making, and is intended to complement existing environmental management and management accounting practices. Thus, MFCA, as is the case with EMA and general management accounting, focuses on internal costs. Although an organization can choose to include external costs in an MFCA analysis, external costs are out of the scope of this International Standard.

The MFCA framework presented in this International Standard includes common terminologies, objective, principles, fundamental elements, and implementation steps. However, detailed calculation procedures or information on techniques for improving material or energy efficiency are out of the scope of this International Standard.

In addition, this International Standard is not intended for the purpose of third party certification.

2 Terms and definitions

For the purpose of this document, the terms and definitions given in ISO 14050 and the following terms and definitions apply.

2.1
cost accounting
branch of accounting dealing with the classification, recording, allocation and reporting of expense

2.2
cost allocation
cost assignment to a particular object

NOTE In this International Standard, the object includes processes, quantity centres, products, and material losses.

2.3
energy cost
expense for the energy used to enable operations

NOTE Energy costs can be either included under material costs or estimated separately, at the discretion of the organization

2.4
energy loss
all consumed energy except energy incorporated into intended products

NOTE Energy loss can be either included under material loss or estimated separately, at the discretion of the organization.

2.5
environmental management accounting
EMA

identification, collection, analysis and use of two types of information for internal decision-making; 1) physical information on the use, flows and destinations of energy, water, and materials (including wastes) and; 2) monetary information on environment-related costs, earnings and savings

[IFAC, 2005]

2.6
input
material or energy flow that enters a quantity centre

2.7
inventory
stock of materials, intermediate products, products in process, and finished products

2.8
material
substance that enters and/or leaves a quantity centre

NOTE 1 Materials can be divided into two categories:

- Materials that are intended to become part of products such as raw materials, auxiliary materials, intermediate products; and

- Materials that do not become part of products delivered to a customer, such as cleaning solvents and chemical catalysts, which often are referred to as operating materials.

NOTE 2 Some types of materials can be assigned to both categories, depending on their use. Water is one such example. In some cases, water can become part of a product (e.g., bottled water), while in other cases it can be used as an operating material (e.g., water used in an equipment washing process).

2.9
material balance
comparison of physical quantities of inputs, outputs and inventory changes in a quantity centre over a specified time period

2.10
material distribution percentage
proportion of the material inputs that flow into products versus material losses

2.11
material cost
expense for the materials that are used and/or consumed in a quantity centre