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Material flow cost accounting—
General framework**

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Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law.

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Environmental management— Material flow cost accounting— General framework

Introduction

This Japanese Industrial Standard has been prepared based on the first edition of **ISO 14051** published in 2011 without any modifications of technical contents.

The portions with dotted underlines are the matters not given in the corresponding International Standard.

The aim of this Standard 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 and energy 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 either be included as a material or quantified separately in MFCA. Any costs that are generated by and/or associated with the material flows and energy use are subsequently quantified and attributed to them. In particular, MFCA highlights the comparison of costs associated with products and costs associated with material losses, e.g. waste, air emissions, wastewater.

Many organizations are unaware of the full extent of the actual cost of material losses in adequate detail because data on material losses and the associated costs are often difficult to extract from conventional information, accounting and environmental management systems. 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, and reduce adverse environmental impacts and associated costs.

MFCA is applicable to all industries that use materials and energy, including extractive, manufacturing, service, and other industries. It can be implemented by organizations of any type and scale, with or without environmental management systems in place, in emerging economies as well as in industrialized countries. MFCA is one of the major tools of environmental management accounting 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 Standard provides

- common terminologies;
- objective and principles;
- fundamental elements;
- implementation steps.