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Bio-based products - Life Cycle Assessment

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

Bio-based products - Life Cycle Assessment

Produits biosourcés - Analyse du cycle de vie

Biobasierte Produkte - Ökobilanzen

This European Standard was approved by CEN on 17 October 2015.

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European foreword

This document (EN 16760:2015) has been prepared by Technical Committee CEN/TC 411 “Bio-based products”, the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by May 2016, and conflicting national standards shall be withdrawn at the latest by May 2016.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.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

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Introduction

Bio-based products from forestry and agriculture have a long history of application, such as paper, board and various chemicals and materials. The last decades have seen the emergence of new bio-based products in the market. Some of the reasons for the increased interest lie in the bio-based products' benefits in relation to the depletion of fossil resources and climate change. Bio-based products may also provide additional product functionalities. This has triggered a wave of innovation with the development of knowledge and technologies allowing new transformation processes and product development.

Acknowledging the need for common standards for bio-based products, the European Commission issued mandate M/492¹, resulting in a series of standards developed by CEN/TC 411, with a focus on bio-based products other than food, feed and biomass for energy applications.

The standards of CEN/TC 411 "Bio-based products" provide a common basis on the following aspects:

- Common terminology;
- Bio-based content determination;
- Life Cycle Assessment (LCA);
- Sustainability aspects;
- Declaration tools.

It is important to understand what the term bio-based product covers and how it is being used. The term 'bio-based' means 'derived from biomass'. Bio-based products (bottles, insulation materials, wood and wood products, paper, solvents, chemical intermediates, composite materials, et cetera) are products which are wholly or partly derived from biomass. It is essential to characterize the amount of biomass contained in the product by for instance its bio-based content or bio-based carbon content.

The bio-based content of a product does not provide information on its environmental impact or sustainability, which may be assessed through LCA and sustainability criteria. In addition, transparent and unambiguous communication within bio-based value chains is facilitated by a harmonized framework for certification and declaration.

This European Standard aims to provide specific life cycle assessment requirements and guidance for bio-based products, based on EN ISO 14040 *Environmental management — Life cycle assessment — Principles and framework* and EN ISO 14044 *Environmental management — Life cycle assessment — Requirements and guidelines*.

Though the scope of CEN/TC 411 excludes food, feed and energy, life cycle assessment of biomass and bio-based products should follow the same principles irrespective of their use.

This European Standard informs and guides life cycle assessment and applications including for example Product Category Rules (PCR). An LCA assessment carried out according to this standard can be used as a basis to assess certain criteria as laid down in prEN 16751.

¹ A Mandate is a standardization task embedded in European trade laws. M/492 Mandate is addressed to the European Standardization bodies, CEN, CENELEC and ETSI, for the development of horizontal European Standards for bio-based products.

1 Scope

This European Standard provides specific life cycle assessment (LCA) requirements and guidance for bio-based products, excluding food, feed and energy, based on EN ISO 14040 and EN ISO 14044.

This European Standard covers bio-based products, derived wholly or partly from biomass.

This European Standard provides guidance and requirements to assess impact over the life cycle of bio-based products with the focus on how to handle the specificities of the bio-based part of the product.

The applications of LCA as such are outside the scope of this European Standard. Clarifications, considerations, practices, simplifications and options for the different applications, are also beyond the scope of this European Standard. In addition, this European Standard may be applied in studies that do not cover the whole life cycle, with justification e.g. in the case of business-to-business information, such as cradle-to-gate studies, gate-to-gate studies, and specific parts of the life cycle (e.g. waste management, components of a product).

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.

EN 16575, *Bio-based products - Vocabulary*

EN ISO 14025, *Environmental labels and declarations - Type III environmental declarations - Principles and procedures (ISO 14025)*

EN ISO 14040:2006, *Environmental management - Life cycle assessment - Principles and framework (ISO 14040:2006)*

EN ISO 14044:2006, *Environmental management - Life cycle assessment - Requirements and guidelines (ISO 14044:2006)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 16575, EN ISO 14040 and EN ISO 14044 apply.

4 Methodology for LCA of bio-based products

4.1 General description of an LCA

The general description of life cycle assessment is defined in EN ISO 14040:2006, Clause 4, with 4.1 *Principles of LCA*, 4.2 *Phases of an LCA*, 4.3 *Key features of an LCA*, 4.4 *Product system*.

4.2 General aspects of LCA for bio-based products

The LCA of a bio-based product shall cover the whole product, not only its bio-based part, see Figure 1. However, the focus of this European Standard is on how to handle the specificities of the bio-based part of the product.