



BSI Standards Publication

**Bio-based products —  
Guidelines for Life Cycle  
Inventory (LCI) for the  
End-of-life phase**

**National foreword**

This Published Document is the UK implementation of CEN/TR 16957:2016.

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

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TECHNICAL REPORT

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September 2016

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English Version

## Bio-based products - Guidelines for Life Cycle Inventory (LCI) for the End-of-life phase

Produits biosourcés - Lignes directrices relatives à  
l'inventaire du cycle de vie (ICV) pour la phase de fin  
de vie

Biobasierte Produkte - Leitlinien für die  
Sachbilanzierung von Produkten in der  
Nachnutzungsphase

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## Contents

Page

European foreword.....	3
Introduction .....	4
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions .....	6
4 Modelling end-of-life options for bio-based products.....	6
4.1 General.....	6
4.2 Documentation requirements.....	8
4.3 Reuse and/or preparation for reuse.....	8
4.4 Recycling .....	9
4.4.1 Mechanical recycling.....	9
4.4.2 Organic recycling.....	10
4.5 Recovery .....	13
4.5.1 Chemical recovery .....	13
4.5.2 Energy recovery.....	14
4.6 Incineration.....	14
4.6.1 General.....	14
4.6.2 Parameters specific for bio-based waste.....	15
4.6.3 Parameters specific for incineration models.....	15
4.6.4 Documentation requirements.....	16
4.7 Landfill .....	16
4.7.1 General.....	16
4.7.2 Parameters specific for bio-based waste.....	16
4.7.3 Parameters specific for landfill models.....	16
4.7.4 Documentation requirements.....	19
4.8 Wastewater treatment (WWT) .....	19
4.8.1 Wastewater aerobic treatment.....	19
4.8.2 Parameters specific for aerobic WWT models.....	20
4.8.3 Product specific parameters.....	20
4.8.4 Anaerobic primary sludge treatment.....	20
4.9 Release of bio-based products in nature .....	21
Annex A (informative) Examples of pathways.....	22
Bibliography.....	24

## European foreword

This document (CEN/TR 16957:2016) has been prepared by Technical Committee CEN/TC 411 "Bio-based products", the secretariat of which is held by NEN.

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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/492, 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.

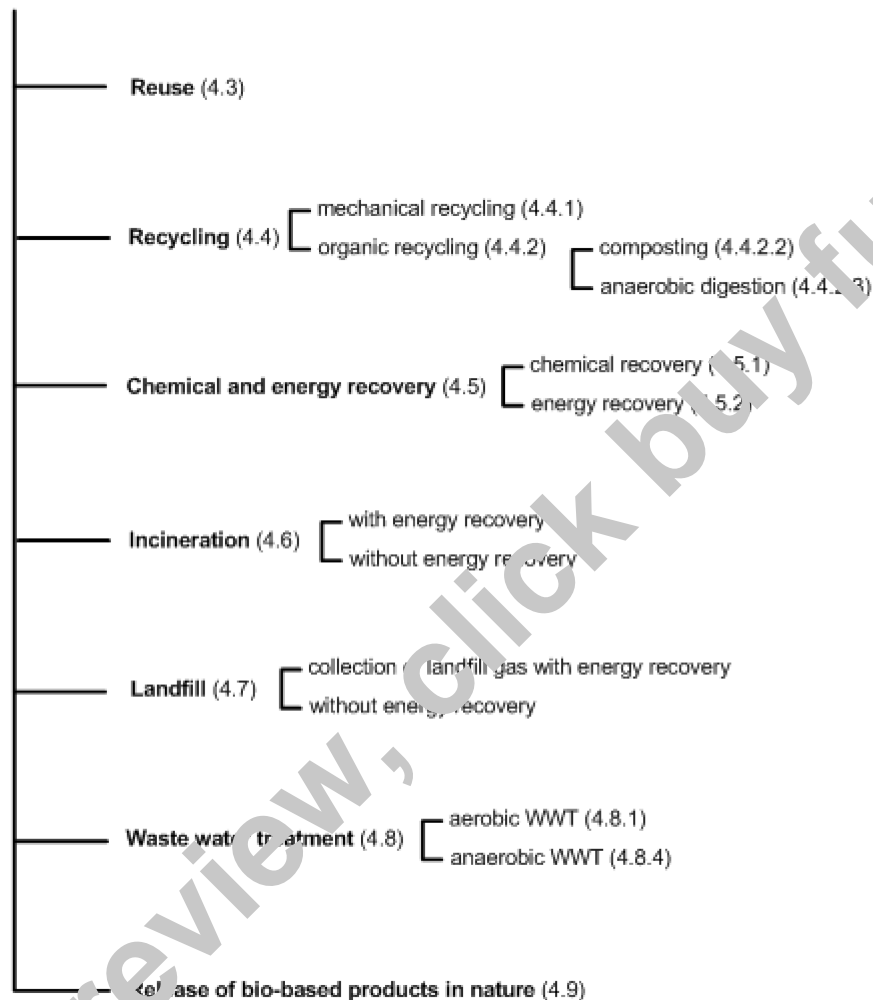
It is important to understand what the term bio-based product covers and how it is being used. The term 'bio-based' means 'derived from biomass'. Bio-based products (bottles, insulation materials, wood and wood products, paper, solvents, chemical intermediates, composite materials, etc.) are products 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.

## 1 Scope

This Technical Report provides guidance on how to compile an inventory for the end-of-life phase in LCA of bio-based products. All the end-of-life treatments here addressed are shown in Figure 1.

### End-of-life



**Figure 1 — End-of-life treatments addressed in this TR and related clauses**

NOTE The order of the end-of-life options indicated in Figure 1 respect the Directive 2008/98/EC on waste. This list is not exhaustive, but illustrates the content of this Technical Report.

## 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 16760, *Bio-based products - Life Cycle Assessment*