BS EN 16214-1:2024

BSI Standards Publication

Sustainability and greenhouse gas emission saving criteria for biomass for energy applications — Principles, criteria, indicators and verifiers

Part 1: Terminology

Documents
Document Sharing Hub

Full document details: BS EN 16214-1:2024

National foreword

This British Standard is the UK implementation of EN 16214-1:2024. It supersedes BS EN 16214-1:2012+A1:2019, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PTI/20, Sustainability of bioenergy.

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

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2024
Published by BSI Standards Limited 2024

ISBN 978 0 539 21936 4

ICS 01.040.27; 01.040.75; 27.190; 75.160.20; 75.160.40

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 30 November 2024.

Amendments/corrigenda issued since publication

Date	Text affected

Documents
Document Sharing Hub

Full document details: BS EN 16214-1:2024

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16214-1

November 2024

ICS 01.040.27; 01.040.75; 27.190; 75.160.40

Supersedes EN 16214-1:2012+A1:2019

English Version

Sustainability and greenhouse gas emission saving criteria for biomass for energy applications - Principles, criteria, indicators and verifiers - Part 1: Terminology

Critères de durabilité et de réduction d'émissions de gaz à effet de serre pour la biomasse destinée à des applications énergétiques - Principes, critères, indicateurs et vérificateurs - Partie 1 : Terminologie

Nachhaltigkeitskriterien für die Herstellung von Biokraftstoffen und flüssigen Biobrennstoffen für Energieanwendungen - Grundsätze, Kriterien, Indikatoren und Prüfer - Teil 1: Terminologie

This European Standard was approved by CEN on 21 July 2024.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

© 2024 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. EN 16214-1:2024 E

Documents
Document Sharing Hub

Full document details: BS EN 16214-1:2024

Contents

Page

European foreword 3
Introduction 4
1 Scope 5
2 Normative references 5
3 Terms and definitions 5
Annex A (normative) Guidance on the identification of residues to use 27
Annex B (informative) Decision tree 28
Annex C (informative) A-deviations 30
Bibliography 32

Documents
Document Sharing Hub
Full document details: BS EN 16214-1:2024

European foreword

This document (EN 16214-1:2024) has been prepared by Technical Committee CEN/TC 383 "Sustainably produced biomass for energy applications", the secretariat of which is held by SFS.

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 2025, and conflicting national standards shall be withdrawn at the latest by May 2025.

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

This document supersedes EN 16214-1:2012+A1:2019.

EN 16214-1:2024 includes the following significant technical changes with respect to EN 16214-1:2012+A1:2019:

— The document has been updated to be in accordance with the current edition of the sustainability criteria of the European Commission Directive 2018/EU/2001, the recast of the Renewable Energy Directive (RED II). In particular, the RED II introduces sustainability criteria for forest biomass and the directive has also been extended to include solid biomass.

At the time of publication of this document, Part 1 and Part 3 of the standard series have been updated in accordance with RED II, while Part 2 and Part 4 have not been updated and thus follow European Commission Directive 2009/28/EC (RED).

This European Standard comprises the following parts:

— EN 16214-1, *Sustainability and greenhouse gas emission saving criteria for biomass for energy applications — Principles, criteria, indicators and verifiers — Part 1: Terminology*;

— CEN/TS 16214-2, *Sustainability criteria for the production of biofuels and bioliquids for energy applications — Principles, criteria, indicators and verifiers — Part 2: Conformity assessment including chain of custody and mass balance*;

— EN 16214-3, *Sustainability and greenhouse gas emission saving criteria for biomass for energy applications — Principles, criteria, indicators and verifiers — Part 3: Sustainability criteria related to environmental aspects*;

— EN 16214-4, *Sustainability criteria for the production of biofuels and bioliquids for energy applications — Principles, criteria, indicators and verifiers — Part 4: Calculation methods of the greenhouse gas emission balance using a life cycle analysis approach*.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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

AVA Documents
Document Sharing Hub

Full document details: BS EN 16214-1:2024

Introduction

In December 2018, the recast Renewable Energy Directive 2018/2001/EU (RED II) entered into force, as part of the Clean energy for all Europeans package, helping the EU to meet its emissions reduction commitments under the Paris Agreement. In RED II, the overall EU target for Renewable Energy Sources consumption by 2030 has been raised to 32 %.

The RED II specifies a series of sustainability and greenhouse gas emission savings criteria that biomass for energy applications shall comply with to be eligible for financial support by public authorities. Some of these criteria are the same as in the original RED, while others are new or reformulated. In particular, the RED II introduces sustainability for forestry feedstocks as well as greenhouse gas emission savings criteria for solid and gaseous biomass fuels.

It is widely accepted that sustainability at large encompasses environmental, social and economic aspects. However, this standard series only covers a selection of environmental aspects since the standard series has been developed with the aim to assist EU Member States and economic operators with the implementation of RED II. This standard series is therefore limited to certain aspects relevant for a sustainability assessment of biomass produced for energy applications. This means that compliance with this standard series or parts thereof alone does not substantiate claims of the biomass being produced sustainably.

Documents
Document Sharing Hub
Full document details: BS EN 16214-1:2024

1 Scope

This document specifies the terminology to be used in the field of sustainability and greenhouse gas emission saving criteria for biomass for energy applications. This document specifically considers some relevant terms and definitions used in European Commission Directive 2018/EU/2001, the recast of the Renewable Energy Directive (RED II), and the European Commission Directive 2009/30/EC referred to as Fuel Quality Directive (FQD), or in other related European regulations.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
accreditation
third-party attestation related to a *conformity assessment body* (3.28), conveying formal demonstration of its competence, impartiality and consistent operation in performing specific *conformity assessment* (3.27) activities

[SOURCE: EN ISO/IEC 17000:2020, 7.7]

3.2
accreditation body
authoritative body that performs *accreditation* (3.1)

[SOURCE: EN ISO/IEC 17000:2020, 4.7]

3.3
actual value
greenhouse gas emissions savings (3.56) for some or all of the steps of a specific *biofuel* (3.15), *bioliquid* (3.17) or *biomass fuel* (3.19) production *process* (3.84)

Note 1 to entry: Calculated in accordance with the methodology laid down in Part C of Annex V or Part B of Annex VI of RED II.

[SOURCE: European Commission Directive 2018/EU/2001]

3.4
advanced biofuels
biofuels (3.15) that are produced from the feedstock listed in Part A of Annex IX of RED II

[SOURCE: European Commission Directive 2018/EU/2001]

Documents
Document Sharing Hub
Full document details: BS EN 16214-1:2024

3.5
agricultural, aquaculture, fisheries and forestry residues
residues (3.94) that are directly generated by agriculture, aquaculture, fisheries and forestry and that do not include *residues* from related industries or processing

[SOURCE: European Commission Directive 2018/EU/2001]

3.6
agricultural biomass
biomass (3.18) produced from agriculture

[SOURCE: European Commission Directive 2018/EU/2001]

3.7
agrobiodiversity
component of biodiversity that contributes to food and agriculture production, encompassing within species, species and *ecosystem* (3.41) diversity

3.8
agroforestry
agroforestry systems which include land-use systems where trees are managed together with crops or animal production systems in agricultural settings

[SOURCE: Commission Regulation (EU) 1307/2014 Article 1]

3.9
allocation
partitioning the input or output flows of a *process* (3.84) or a *product* (3.86) system between the *product* system under study and one or more other *product* systems

[SOURCE: EN ISO 14040:2006, 3.17]

3.10
ambient energy
naturally occurring thermal energy and energy accumulated in the environment with constrained boundaries, which can be stored in the ambient air, excluding in exhaust air, or in surface or sewage water

[SOURCE: European Commission Directive 2018/EU/2001]

3.11
area for nature protection purposes
protection area
area designated by law or other equivalent *competent authority* (3.26) for the long-term conservation of nature with associated *ecosystem* (3.41) services and biodiversity values

Note 1 to entry: Within Forest Europe's classification, “long-term” is minimum 20 years for *forests* (3.47) and can be different in other *ecosystems* and regions.

Note 2 to entry: Some clauses or elements of classification schemes might fall out under this definition, for example IUCN scheme.

Documents
Document Sharing Hub
Full document details: BS EN 16214-1:2024

3.12
audit
systematic, independent and documented *process* (3.84) for obtaining objective evidence and evaluating it objectively to determine the extent to which the audit *criteria* (3.33) are fulfilled

Note 1 to entry: Internal audits, sometimes called first party audits, are conducted by, or on behalf of, the *organization* (3.78) itself.

Note 2 to entry: External audits include those generally called second and third party audits. Second party audits are conducted by parties having an interest in the *organization*, such as customers, or by other individuals on their behalf. Third party audits are conducted by independent auditing *organizations*, such as those providing certification/registration of conformity or governmental agencies.

[SOURCE: EN ISO 19011:2018, 3.1]

3.13
bioenergy producer
organization (3.78) or unit responsible for the *bioenergy production* (3.14)

Note 1 to entry: The bioenergy producer can be responsible for any operation with the purpose of changing the *biofuel*, *bioliquid* or *biomass fuel* properties.

Note 2 to entry: The bioenergy producer can also be the supplier of the *biofuel*, *bioliquid* or *biomass fuel*.

3.14
bioenergy production
transformation of *biomass* (3.18) or of an intermediate *product* (3.86) derived from *biomass* into a *biofuel* (3.15), *bioliquid* (3.17), or *biomass fuel* (3.19)

3.15
biofuel
liquid fuel for transport produced from *biomass* (3.18)

[SOURCE: European Commission Directive 2018/EU/2001]

3.16
biogas
gaseous fuel produced from *biomass* (3.18)

[SOURCE: European Commission Directive 2018/EU/2001]

3.17
bioliquid
liquid fuel for energy purposes other than for transport, including electricity and heating and cooling, produced from *biomass* (3.18)

[SOURCE: European Commission Directive 2018/EU/2001]

AVA Documents
Document Sharing Hub

Full document details: BS EN 16214-1:2024

3.18
biomass
biodegradable fraction of *products* (3.86), *waste* (3.115) and *residues* (3.94) from biological origin from agriculture, including vegetal and animal substances, from forestry and related industries, including fisheries and aquaculture, as well as the biodegradable fraction of *waste*, including industrial and municipal *waste* of biological origin

[SOURCE: European Commission Directive 2018/EU/2001]

3.19
biomass fuel
gaseous or solid fuel produced from *biomass* (3.18)

[SOURCE: European Commission Directive 2018/EU/2001]

3.20
biowaste
biodegradable garden and park *waste* (3.115), food and kitchen *waste* from households, restaurants, caterers and retail premises and comparable *waste* from food processing plants

[SOURCE: European Commission Directive 2008/98/EC]

3.21
blending
process (3.84) of defined intentional mixing of a *biofuel* (3.15) or a *bioliquid* (3.17) or a *biomass fuel* (3.19) or a *fossil fuel* (3.50) or a combination with each other

Note 1 to entry: See also *mixture* (3.75).

3.22
certificate
conformity statement by a certification body within the framework of a *voluntary scheme* (3.114), certifying that an *economic operator* (3.40) complies with the requirements of RED II

[SOURCE: Commission Implementing Regulation (EU) 2022/996]

3.23
chain of custody
process (3.84) by which inputs and outputs and associated information are transferred, monitored and controlled as they move through each step in the relevant *supply chain* (3.107)

[SOURCE: ISO 22095:2020, 3.1.1]

3.24
CO_2 equivalent
CO_2eq
unit for comparing the radiative forcing of a *GHG* (3.54) to that of carbon dioxide

Note 1 to entry: The carbon dioxide equivalent is calculated using the mass of a given *GHG* multiplied by its *global warming potential* (3.52).

[SOURCE: EN ISO 14064-1:2019, 3.1.13, modified: term changed to "CO_2 equivalent" and alternative term changed to "CO_2eq" in order to be in line with the terminology used in RED II]

Documents
Document Sharing Hub
Full document details: BS EN 16214-1:2024

3.25
combined heat and power
CHP
cogeneration
simultaneous generation in one *process* (3.84) of thermal energy and electrical and/or mechanical energy

[SOURCE: European Commission Directive 2004/8/EC]

3.26
competent authority
regulatory body, authority or *organization* (3.78) which implement the requirements of legislation and has the legally delegated (or invested) authority, capacity, or power to perform a designated function

3.27
conformity assessment
demonstration that specified requirements are fulfilled

Note 1 to entry: The *process* (3.84) of conformity assessment as described in the functional approach in Annex A of EN ISO/IEC 17000:2020 can have a negative outcome, i.e. demonstrating that the specified requirements are not fulfilled.

Note 2 to entry: Conformity assessment includes activities defined elsewhere in this document, such as but not limited to testing, inspection, validation, verification, certification, and *accreditation* (3.1).

Note 3 to entry: Conformity assessment is explained in Annex A of EN ISO/IEC 17000:2020 as a series of functions. Activities contributing to any of these functions can be described as conformity assessment activities.

Note 4 to entry: This document does not include a definition of "conformity". "Conformity" does not feature in the definition of "conformity assessment". Nor does this document address the concept of compliance.

[SOURCE: EN ISO/IEC 17000:2020, 4.1]

3.28
conformity assessment body
body that performs *conformity assessment* (3.27) activities, excluding *accreditation* (3.1)

[SOURCE: EN ISO/IEC 17000:2020, 4.6]

3.29
consignment
quantity of unfinished or finished *product* (3.86), consisting of one or more batches of the same sustainability characteristics, which is transferred from one *economic operator* (3.40) to another one at the same time

Note 1 to entry: Transfer from/to two *economic operators* involves two consignments.

3.30
continuously forested area
forest (3.47) with a canopy cover of more than 30 %

[SOURCE: European Commission Directive 2018/EU/2001]

Documents
Document Sharing Hub
Full document details: BS EN 16214-1:2024

3.31
co-processing
simultaneous conversion of feedstocks and/or materials of different origins in one *process* (3.84), e.g. *biomass* (3.18) and fossil feedstocks

3.32
co-product
substance or object resulting from a production *process* (3.84) not being a *product* (3.86), *residue* (3.94) or *waste* (3.115)

3.33
criterion
requirement that describes what is to be assessed

Note 1 to entry: A criterion adds meaning and operability to a *principle* (3.83) without itself being a direct measure of performance.

Note 2 to entry: A criterion is characterized by a set of related *indicators* (3.64).

[SOURCE: ISO 13065:2015, 3.11]

3.34
default value
value derived from a *typical value* (3.111) by the application of pre-determined factors and that may, in circumstances specified in RED II, be used in place of an *actual value* (3.3)

[SOURCE: European Commission Directive 2018/EU/2001]

3.35
degraded
<in relation to biodiversity status of land> characterised by long-term loss of biodiversity due to for instance overgrazing, mechanical damage to the vegetation, soil erosion or loss of *soil quality* (3.101)

Note 1 to entry: The term "degraded" is applied in the context of the high biodiverse value status of an area, namely for *highly biodiverse forest and other wooded land* (3.60) and for *highly biodiverse non-natural grassland* (3.62) and *forest* (3.47).

Note 2 to entry: The term "degraded" defined here is not related to the term "severely degraded land" used in the methodology for *greenhouse gas emissions* (3.55) calculation (see Annex C 9. of RED II).

[SOURCE: COMMISSION REGULATION (EU) No 1307/2014, Art 1, (4) (b), modified to fit the structure of a definition in a European Standard, subject field added, Notes 1 and 2 to entry added]

3.36
disaggregated default value
greenhouse gas emission (3.55) for a specific part of the *supply chain* (3.107) derived from a *default value* (3.34)

Note 1 to entry: See also *actual value* (3.3), *default value*, and *typical value* (3.111).

3.37
distribution
set of operations or activities to supply *biofuels* (3.15) or *bioliquids* (3.17) or *biomass fuel* (3.19) or their blends from their delivery to the *fuel supplier* (3.51) and up to the final customer

Documents
Document Sharing Hub
Full document details: BS EN 16214-1:2024