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Stationary source emissions – Determination of greenhouse gas (GHG) emissions in energy-intensive industries – Part 1: General aspects

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EUROPEAN STANDARD

EN 19694-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2016

ICS 13.040.40

English Version

**Stationary source emissions - Determination of
greenhouse gas (GHG) emissions in energy-intensive
industries - Part 1: General aspects**

Émissions de sources fixes - Détermination des
émissions de gaz à effet de serre (GES) dans les
industries énérgo-intensives - Partie 1: Aspects
généraux

Emissionen aus stationären Quellen - Bestimmung von
Treibhausgasen (THG) aus energieintensiven
Industrien - Teil 1: Allgemeine Grundsätze

This European Standard was approved by CEN on 5 May 2016.

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.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
European foreword.....	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Symbols and abbreviations	10
5 Introduction	10
6 System boundaries	12
6.1 Organizational boundaries	12
6.2 Operational boundaries	13
7 Performance assessment (principle)	15
8 General requirements for identifying, calculating and reporting of GHG emissions	15
8.1 Identification, calculation and reporting of GHG emissions	15
8.2 Content of the monitoring plan	16
9 Determination of GHG emissions: general requirements	16
9.1 General	16
9.2 Mass balanced based method	16
9.3 Stack emission measurement based method	20
10 General requirements for sampling, analyses and laboratory competency	21
10.1 Sampling and analyses: reference to standards or guidelines, methods, frequencies	21
10.2 Competence of laboratories (certification, accreditation, experience)	22
11 General information for the assessment of uncertainties	23
12 Reference factors	23
12.1 Global Warming Potential (GWP) factors	23
12.2 Process emission factors	23
12.3 Electricity emission factors	23
12.4 Fuel emission factors	23
12.5 Biomass fuel emission factors	24
12.6 Mixed biomass containing fuel emission factors	24
13 Consideration of biomass	25
13.1 General	25
13.2 Reference to standards	25
13.3 Biomass	25
13.4 Reporting of emissions from biomass sources	26
13.5 Analysing methods for biomass fractions	26
14 Verification and/or certification	26
Annex A (normative) Minimum content of the monitoring plan	27
Annex B (informative) List of biomass materials	28
Annex C (normative) Requirements for assurance of GHG data	30
Annex D (normative) Values of $k_v(N)$ and $t_{0,95(N-1)}$	31

Annex E (normative) Uncertainty calculation for yearly output determined from stack measurements	32
Bibliography	38

European foreword

This document (EN 19694-1:2016) has been prepared by Technical Committee CEN/TC 264 “Air quality”, the secretariat of which is held by DIN.

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 January 2017, and conflicting national standards shall be withdrawn at the latest by January 2017.

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 M/478 given to CEN by the European Commission and the European Free Trade Association.

EN 19694, *Stationary source emissions — Determination of greenhouse gas (GHG) emissions in energy-intensive industries* is a series of standards that consists of the following parts:

- *Part 1: General aspects*
- *Part 2: Iron and steel industry*
- *Part 3: Cement industry*
- *Part 4: Aluminium industry*
- *Part 5: Lime industry*
- *Part 6: Ferroalloy industry*

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

1 Scope

This European Standard specifies the principles and requirements for the determination of GHG emissions from sector-specific sources as of the steel and iron, cement, aluminium, lime and ferroalloy producing industry.

This European Standard specifies in particular definitions and rules valid to all above enlisted sector-specific standards, provides common methodological issues and defines the details for applying the rules for the harmonized methods, which include:

- a) measuring, testing and quantifying methods for greenhouse gas (GHG) emissions of the above mentioned sector-specific sources in the cited standards;
- b) assessment of the level of GHG emissions performance of production processes over time, at production sites;
- c) establishment and provision of reliable, accurate and quality information for reporting and verification purposes.

The application of this standard to the other sector-specific standards in this series ensures accuracy, precision and reproducibility of the obtained results and is for this reason a normative reference standard, umbrella standard respectively.

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 14181:2014, *Stationary source emissions — Quality assurance of automated measuring systems*

EN 15259, *Air quality — Measurement of stationary source emissions — Requirements for measurement sections and sites and for the measurement objective, plan and report*

EN 15267-1, *Air quality — Certification of automated measuring systems — Part 1: General principles*

EN 15267-2, *Air quality — Certification of automated measuring systems — Part 2: Initial assessment of the AMS manufacturer's quality management system and post certification surveillance for the manufacturing process*

EN 15267-3:2007, *Air quality — Certification of automated measuring systems — Part 3: Performance criteria and test procedures for automated measuring systems for monitoring emissions from stationary sources*

EN 15440:2011, *Solid recovered fuels — Methods for the determination of biomass content*

EN 19694 (all parts), *Stationary source emissions — Determination of greenhouse gas (GHG) emissions in energy-intensive industries*

EN ISO 13833, *Stationary source emissions — Determination of the ratio of biomass (biogenic) and fossil-derived carbon dioxide — Radiocarbon sampling and determination (ISO 13833)*

EN ISO 14064-1, *Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (ISO 14064-1)*

EN ISO 14956, *Air quality — Evaluation of the suitability of a measurement procedure by comparison with a required measurement uncertainty (ISO 14956)*

EN ISO 16911-1:2013, *Stationary source emissions — Manual and automatic determination of velocity and volume flow rate in ducts — Part 1: Manual reference method (ISO 16911-1:2013)*

EN ISO 16911-2, *Stationary source emissions — Manual and automatic determination of velocity and volume flow rate in ducts — Part 2: Automated measuring systems (ISO 16911-2)*

3 Terms and definitions

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

3.1 absolute emission

absolute GHG emissions are expressed as a mass stream, for example in tonnes of CO₂e per year (t CO₂e/yr)

3.2 alternative fuel

AF
fuel materials or products used as a source of thermal energy and not classified as traditional fuel. In some industry wastes such as plastics, solvents, waste oil, end-of-life tires, etc. and different types of mixed or pure biomass fuels are used

3.3 base year

historical period specified for the purpose of comparing GHG emissions or other GHG-related information over time

Note 1 to entry: Base-year emissions may be quantified based on a specific period (e.g. a year) or averaged from several periods (e.g. several years).

3.4 biogenic CO₂

CO₂ obtained by the oxidation of biogenic carbon

3.5 biogenic carbon

carbon derived from biomass

3.6 biomass

material of biological origin excluding material embedded in geological formations and material transformed to fossilised material and excluding peat

Note 1 to entry: Biomass includes organic material (both living and dead), e.g. trees, crops, grasses, tree litter, algae, animals and waste of biological origin, e.g. manure.

3.7 carbon dioxide equivalent, CO₂e

unit for comparing the radiative forcing of a GHG to 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.

3.8

direct greenhouse gas emission

emission from greenhouse gas sources that are owned or controlled by the reporting organization

3.9

greenhouse gas emission factor

factor relating activity data to GHG emissions

3.10

energy indirect greenhouse gas emission

GHG emission from the generation of imported electricity, heat or steam consumed by the organization

3.11

equity share

percentage of economic interest in, or benefit derived from, a facility

Note 1 to entry: Under this approach, an organization (corporation, group) or a company consolidates its GHG emissions according to the (*pro rata*) equity share it holds in each operation, i.e. according to ownership. As an exception, no emissions are consolidated for so-called fixed asset investments where a company owns only a small part of the total shares of an operation and exerts neither significant influence nor financial control; other possible exceptions relate to the *economic substance* of a relationship [12].

3.12

facility

single local installation, set of installations or production processes (stationary or mobile), which can be defined within a single geographical boundary, organizational unit or production process

3.13

financial control

the ability of an organization to direct the financial and operating policies of an operation with a view to gaining economic benefits from its activities.

Note 1 to entry: The financial control usually exists if the organization has the right to the majority benefits of the operation, or if it retains the majority risks and rewards of ownership of the operation's assets. Under this approach, companies consolidate 100 % of the emissions of those operations over which they have financial control; as an exception, consolidation according to equity share is required for joint ventures where partners have joint financial control.

3.14

fossil carbon

carbon derived from fossil fuel or other fossil source

3.15

greenhouse gas

GHG

gaseous constituent of the atmosphere, both natural and anthropogenic, that absorbs and emits radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere and clouds

Note 1 to entry: GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆).