CEN European Committee for Standardization
CENELEC European Committee for Electrotechnical Standardization

STANDARDS IN SUPPORT OF TRUSTWORTHY ENVIRONMENTAL CLAIMS

ABOUT

CEN (European Committee for Standardization) and CENELEC (European Committee for Electrotechnical Standardization) are recognized by the European Union (EU) and the European Free Trade Association (EFTA) as European Standardization Organizations responsible for developing standards at European level, as per the EU Regulation 1025/2012. The members of CEN and CENELEC are the National Standardization Bodies and National Electrotechnical Committees of 34 European countries. European Standards (ENs), and other standardization deliverables adopted by CEN and CENELEC, are accepted and recognized in all these countries. European Standards contribute to enhancing safety, improving quality, facilitating cross-border trade and strengthening the European Single Market. They are developed through a process of collaboration among experts nominated by business and industry, research institutes, consumer and environmental organizations, trade unions and other stakeholders. CEN and CENELEC work to promote the international alignment of standards in the framework of technical cooperation agreements with ISO (International Organization for Standardization) and the IEC (International Electrotechnical Commission).

*Number of full Members in December 2024.

The content

1 Introduction 4

2 Benefits of using technical standards when making green claims 6

1. Reference to technical standards in Green Claims Directive and Directive on empowering consumers for the green transition 6
2. Alignment with the European regulatory framework 7
3. Facilitating the activity of auditors and verifiers 9
   - 3.1. Circular Economy Claims 11
   - 3.2. Bio-based & Biodegradability claims 13
   - 3.3. Climate-Related Claims 15
   - 3.4. Agriculture and Animal Welfare Claims 16
   - 3.5. Management Claims 16
   - 3.6. Life Cycle Assessment 18

1 Introduction

Making sense of the abundance of labels proclaiming the environmental performance of products, services and companies alike is a daunting challenge for consumers.

To address this difficulty, in 2023, the European Commission adopted a proposal for a new Directive to make green claims reliable, comparable, and verifiable across the EU.

The proposal (still in a draft stage in early 2025) aims to protect consumers from greenwashing and increase the environmental sustainability of products and companies. Thereby it contributes to creating a circular and green EU economy.

Technical standards facilitate organizations' progress on environmental objectives while enabling them to improve the robustness of their claim.

Many of the standards used by organizations provide support to improve sustainability performance, particularly particularly environmental performance. **Organizations can align with standards to support their own green claims** by building on their organizational experience from complying with standards and using them as reliable sources.

This document provides an indicative compilation of existing environmental standards to encourage organizations to use technical standards for presenting information (on material, product, and management level) based on them.

Additionally it provides several and highlights its elements that support conformity assessment and **its potential benefits for both the organizations making claims and the individuals responsible for verifying the information provided.**

This report does not aim to provide detailed information on each of the standards. The standards presented are generally applicable to all types of organizations, regardless of their size, activity, or nature (private or public).

Technical Standards facilitate organizations' progress on environmental objectives while enabling them to improve the robustness of their claim.

2 Benefits of using technical standards when making green claims

1 Reference to technical standards in Green Claims Directive and Directive on empowering consumers for the green transition

The European Commission published its legislative proposal for the Green Claims Directive on 22 March 2023 as well as the Directive on empowering consumers for the green transition got into force in March 2024. CEN and CENELEC welcome these initiatives, which aim to establish common rules for environmental claims and the labelling of products in the EU.

To achieve more transparency as regards sustainability and environmental footprint of products, environmental claims made by companies shall be verifiable and comprehensible for consumers.

What is it about?

In March 2023, the European Commission proposed the Green Claims Directive, which aims to establish common rules for environmental claims and the labeling of products in the EU. This was followed by the entry into force of the Directive on empowering consumers for the green transition in March 2024.

GOALS

- Contribution to the creation of an **environmentally friendly circular economy** in the EU.
- Efforts to **prevent greenwashing.**
- Preventing and supporting stakeholders and users in **understanding** the **statements** made by companies.

2 Alignment with the European regulatory framework

Technical standards are integrated into the regulatory framework through the New Legislative Framework (NLF). Numerous European Directives and Regulations are complemented by harmonized standards (hENs) that define the technical solutions to the essential requirements established in these regulations.

Some of these standards are developed at the direct request of the European Commission to support these legislative elements. In addition, in its European Standardization Strategy (published in 2022), the European Commission itself reinforces the role of technical standards for a sustainable European market.

The alignment of standards with the European regulatory framework is based on a successful public-private partnership and helps create reliable environmental claims through the use of standards, ultimately leading to a more coherent European regulatory framework.

Standardization is a regulated activity: at the European level it is based on Regulation (EU) 1025/2012.

The open, transparent, and consensus-based process among stakeholders at the basis of standards development ensures high quality technical content that is widely accepted among companies and organizations and generates confidence among users. In addition, the European and international nature of standards allows for global recognition of requirements and guidelines in Many countries.

The periodic review to which standards are subjected at least every 5 years ensures they remain valid over time. Standards constantly evolve to keep pace with innovation, so applying them will help to keep sustainability reports up to date and adaptive to market trends.

For this reason, a multitude of national, regional, and local legislation, as well as public procurement specifications, make use of technical standards for their effective implementation by referring to technical standards in legal texts.

- Standards can include definitions, quantification methods, test procedures, and guidelines. Based on these standards, certification can be carried out by certification and testing bodies.
- Standards can describe the conformity assessment process and the procedure for recognized labels in accordance with the draft of the Directive (ISO 14024, *Ecolabel Type I*) and validation and verification process (EN ISO/IEC 17029, *Conformity assessment — General principles and requirements for validation and verification bodies*).
- New standards are a suitable instrument when there is a lack of evidence for claims. The collaborative approach to standardization involves all interested parties.

Existing and future standardization supports the objective of the Green Claims Directive (GCD) proposal and forms a reliable basis for the verification of green claims. Standardization also offers the possibility to develop standards that are widely used at European and international level, thus strengthening the competitiveness of the European Union.

3 Facilitating the activity of auditors and verifiers

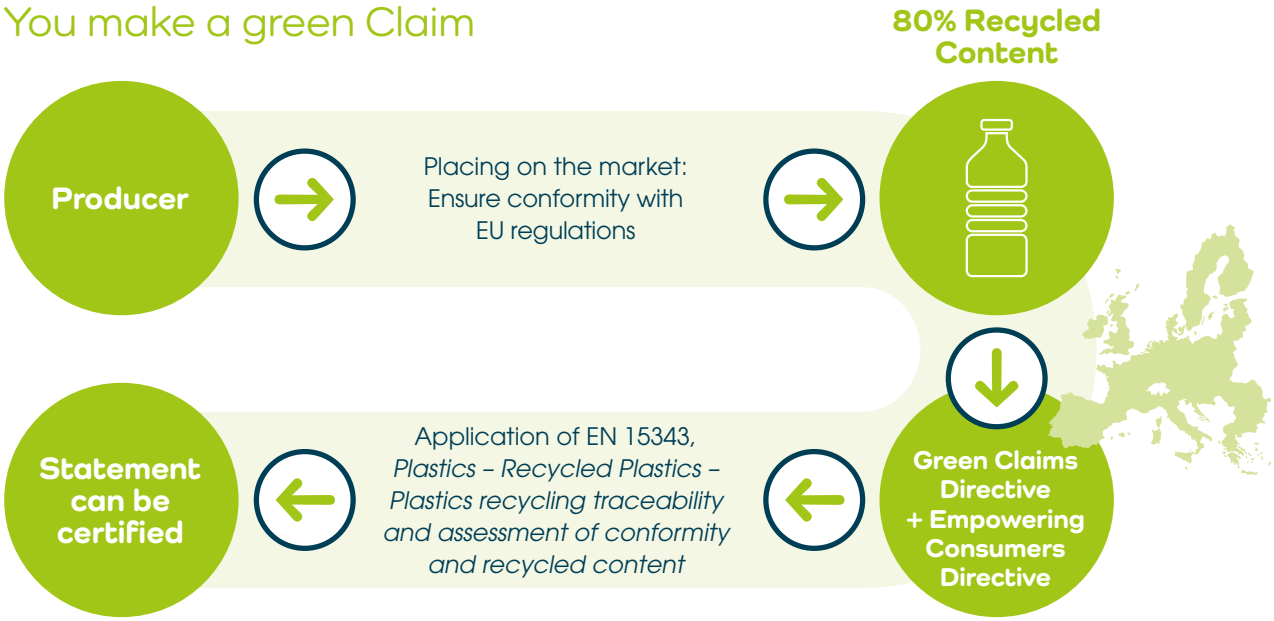
The elements described above help ensure that **green claims based on technical standards are reliable** and can therefore simplify the verification of this information.

The standards-based conformity assessment system is a reliable and well-recognized framework. It serves not only the organizations demonstrating compliance and those conducting of the conformity assessments, but all public and private organizations that rely on the trustworthiness of statements of conformity.

The conformity assessment system can **significantly simplify the verification of sustainability information.** This is a differentiating element of the standardization system.

European standards offer transparency and verifiability by means of technical criteria and proven testing mechanisms. International standards are explicitly mentioned in articles 3 and 5 of the proposal of the GCD. Articles 8 and 10 address certification requirements. This reference lays the groundwork for organizations to rely on technical standards when preparing their claim.

> **"It is essential that explicit environmental claims and environmental labels reflect correctly the environmental characteristics [...] covered by the claim or label, and consider the latest scientific evidence, technical information or international standards."**
>
> [Draft Green Claims Directive; Draft Green Claims Directive, P. 49]



Which standards can I use for my green claims?

This section provides an overview of key international and European standards, such as those for environmental management systems, lifecycle analysis, and product declarations. Understanding and adhering to these standards is essential for companies not only to comply with regulations, but also to build consumer trust and contribute to a more sustainable economy.

The following topics are covered:

Topic	Claims covered by technical standards
1. Circular Economy	• Recyclability • Recyclate content • Reusability • Durability / Long Lasting • Repairability / Easy to repair • Waste prevention, reduction / Design • Energy-efficient / eco-efficiency • Critical raw materials
2. Bio-based & Biodegradability claims	• Biodegradability • Bio-based/nature-based • Toxicity • Natural ingredients
3. Climate-Related Claims	• Climate neutrality • Compensation statements
4. Agri-Related Claims	• Animal welfare
5. Claims on Management Level	• Energy • Social responsibility • Sustainable purchasing • Climate impact adaptation • Environmental performance
6. Life Cycle Assessment	• General • Documentation & Data Quality • Ecodesign • Ecolabel & Greenhouse gases

1. Circular Economy Claims

The circular economy model focuses on reducing waste and maximizing the use of resources by promoting the reuse, refurbishment, and recycling of products and materials. In this chapter, we will explore how businesses can credibly communicate their efforts and achievements in this domain.

Management | Product | Material

	Standard	Title
Recyclability	EN 45555	*General methods for assessing the recyclability and recoverability of ErP*
	EN 45557	*General method for assessing the proportion of recycled material content in ErP*
	EN 45558	*General method to declare the use of critical raw materials in ErP*
	EN 17428	*Packaging - Determination of the degree of disintegration under simulated home composting conditions*
	EN 13432	*Packaging - Requirements for packaging recoverable through composting and biodegradation - Test scheme and evaluation criteria for the final acceptance of packaging*
	ISO 20200	*Plastics - Determination of the degree of disintegration of plastic materials under composting conditions in a laboratory-scale test*
	EN 18120 1-9 (draft)	*Packaging - Design for recycling of plastic packaging*
	EN 50625-1	*Collection, logistics & Treatment requirements for WEEE - Part 1: General treatment requirements*
	EN 50419	*Marking of electrical and electronic equipment (EEE) in respect to separate collection of waste EEE (WEEE)*
	EN IEC 62635 (draft)	*Guidelines for end-of-life information provided by manufacturers and recyclers and for recyclability rate calculation of electrical and electronic equipment*
Recyclate content	EN IEC 63395 (draft)	*Sustainable management of waste electrical and electronic equipment (e-waste) - Proposed horizontal publication*
	EN 15343	*Plastics - Recycled plastics - Traceability in plastics recycling and assessment of conformity and recycled content*

Management Product Material

	Standard	Title
Reusability	EN 45556	*General method for assessing the proportion of reused components in energy-related products*
	EN 13429	*Packaging - Reuse*
	CEN/TR 14520	*Packaging - Reuse - Methods for assessing the performance of a reuse system*
	EN 13432	*Packaging - Requirements for packaging recoverable through composting and biodegradation - Test scheme and evaluation criteria for the final acceptance of packaging*
	IEC 63333	*General method for assessing the proportion of reused components in products*
	IEC TS 63428	*Guidance on material circularity considerations in environmentally conscious design*
	EN 50614	*Requirements for the preparing for re-use of waste electrical and electronic equipment*
Durability / Long Lasting	EN 45552	*General method for the assessment of the durability of energy-related products*
Repairability / Easy to repair	EN 45553	*General method for the assessment of the ability to remanufacture energy-related products*
	EN 45554	*General methods for the assessment of the ability to repair, reuse and upgrade energy-related products*
Waste prevention, reduction / Design	EN IEC 62430	*Environmentally conscious design (ECD) Principles, requirements and guidance*
Energy-efficient / eco-efficiency	EN 45559	*Methods for providing information relating to material efficiency aspects of energy-related products*
	ISO 14045	*Environmental management - Eco-efficiency assessment of product systems - Principles, requirements and guidelines*
Critical raw materials	EN 45558	*General method to declare the use of critical raw materials in energy-related products*

2. Bio-based & Biodegradability Claims

As consumer interest in environmentally friendly products grows, businesses are increasingly highlighting **bio-based and biodegradability** attributes in their products. This chapter focuses on how to make accurate and credible claims accurately on this domain.

Management | Product | Material

	Standard	Title
Biodegradability	ISO 15270-5 (draft)	*Plastics - Guidelines for the recovery and recycling of plastics waste - Part 5: Organic/biological recycling*
	ISO 17088	*Plastics - Organic recycling - Specifications for compostable plastics*
	EN 13432	*Packaging - Requirements for packaging recoverable through composting and biodegradation - Test scheme and evaluation criteria for the final acceptance of packaging*
	EN 50614	*Requirements for the preparing for re-use of waste electrical and electronic equipment*
	EN 14995	*Plastics - Evaluation of compostability - Test scheme and specifications*
	ISO 18606	*Packaging and the environment - Organic recycling*
	ISO 17088	*Plastics - Organic recycling - Specifications for compostable plastics*
	EN 17427	*Packaging - Requirements and test scheme for carrier bags suitable for treatment in well-managed home composting installations*
	EN 17033	*Plastics - Biodegradable mulch films for use in agriculture and horticulture - Requirements and test methods*
	ISO 23517	*Plastics - Soil biodegradable materials for mulch films for use in agriculture and horticulture - Requirements and test methods regarding biodegradation*
	ISO 22403	*Plastics - Assessment of the intrinsic biodegradability of materials exposed to marine inocula under mesophilic aerobic laboratory conditions - Test methods and requirements*

Management Product Material

	Standard	Title
Bio-based / nature-based	EN ISO 5157	*Textiles - Environmental aspects - Vocabulary*
	CEN/TS 16822	*Textiles and textile products - Self-declared environmental claims - Use of the terms*
	ISO/CD 16620 Series	*Plastics - Biobased content*
	EN 17228	*Plastics - Bio-based polymers, plastics, and plastics products - Terminology, characteristics and communication*
	EN 16640 (draft)	*Bio-based products - Bio-based carbon content - Determination of the bio-based carbon content using the radiocarbon method*
	EN 16785-1, -2	*Bio-based products - Bio-based content - Part 1 : Determination of the bio-based content using the radiocarbon analysis and elemental analysis - Part 2 : determination of the bio-based content using the material balance method*
	ISO/DIS 8700	*Plant-based foods and food ingredients - Definitions and technical criteria for labelling and claims*
Toxicity	EN 62321- 1-8	*Determination of certain substances in electrotechnical products*
	CEN/TR 16741	*Textiles and textile products - Guidance on health and environmental issues related to chemical content of textile products intended for clothing, interior textiles and upholstery*
	EN 16453	*Pulp, paper and paperboard - Determination of phthalates in extracts from paper and paperboard*
	EN ISO 16181-1	*Footwear - Critical substances potentially present in footwear and footwear components - Part 1: Determination of phthalate with solvent extraction*
	00462002 (PWI)	*Regulated chemicals in products - Determination of the content of certain Phtalates by gas chromotography in plastic in articles supplied to the general public that come into direct contact with human skin and oral cavity*
	00462003 (PWI)	*Regulated chemicals in products - Screening of substances of very hugh concern (SVHC) - General principles*
Natural ingredients	16128-1, -2	*Cosmetics - Guidelines on technical definitions and criteria for natural and organic cosmetic ingredients - Part 1: Definitions for ingredients -Part 2: Criteria for ingredients and products*
	ISO 34101-1	*Sustainable and traceable cocoa - Part 1: Requirements for cocoa sustainability management systems*

3. Climate-Related Claims

In an era of growing awareness about climate change, climate-related claims have become crucial for businesses striving to highlight their environmental leadership. This chapter examines how companies can use standards to effectively communicate their contributions to various aspects of **climate mitigation,** such as carbon footprint reductions, carbon neutrality, and compensation statements.

Management Product Material

	Standard	Title
Climate neutrality	EN ISO 14064-3	*Greenhouse gases - Part 3: Specification with guidance for the verification and validation of greenhouse gas statements*
	ISO 14068-1	*Climate change management - Transition to net zero - Part 1: Carbon neutrality*
	ISO 14083	*Greenhouse gases - Quantification and reporting of greenhouse gas emissions arising from transport chain operations*
	P EN IEC 63372	*Quantification and communication of GHG emissions and emission reductions/avoided emissions from electric and electronic products, services and system*
	ISO 22526 Series	*Plastics - Carbon and environmental footprint of biobased plastics*
	EN 18027 (draft)	*Bio-based products - Life cycle assessment - Additional requirements and guidelines for comparing the life cycles of bio-based products with their fossil-based equivalents*
	EN 16760	*Bio-based products - Life Cycle Assessment*
	EN ISO 14021	*Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling)*
	DIN EN 17615	*Plastics - Environmental Aspects - Vocabulary*
	DIN EN 19694-1	*Stationary source emissions - Determination of greenhouse gas (GHG) emissions in energy-intensive industries - Part 1: General aspects*
	DIN EN ISO 14044 (+ Amd 1 & 2)	*Environmental management - Life cycle assessment - Requirements and guidelines*
Compensation statements	ISO 14068-1	*Climate change management - Transition to net zero - Part 1: Carbon neutrality*
	ISO/AWI 14060	*Net Zero Aligned Organizations*

4. Agriculture and Animal Welfare Claims

Agriculture plays a central role in our global sustainability efforts. For this reason, agri-related and animal welfare claims are becoming increasingly significant for businesses involved in the sector.

Management | Product | Material

	Standard	Title
Animal welfare	ISO/TS 34700	*Animal welfare management*
	ISO 23781	*Operating procedures of pig slaughtering*
	ISO/DIS 19599	*Operating procedures of chicken slaughtering*
Agriculture	EN 17972	*Food authenticity - Food authenticity and fraud - Concepts, terms, and definitions*

5. Management Claims

Sustainability is not just about products and processes. It is also deeply embedded in the **management practices** and overall strategy of a business. This chapter focuses on how companies can credibly communicate their sustainability commitments at the management level, including policies, corporate responsibility (CR) initiatives, and overall environmental strategies.

Management | Product | Material

	Standard	Title
Energy	EN 16247 Series	*Energy audits*
Social responsibility	EN ISO 26000	*Guidance on social responsibility*
	EN 17161	*Design for All. Accessibility following a Design for All approach in products, goods and services. Extending the range of users*
	ISO/WD 53001	*Management Systems for UN Sustainable development goals - Requirements*
	ISO/PAS 53002	*Guidelines for contributing to the United Nations Sustainable Development Goals*
	ISO/TS 26030	*Social responsibility and sustainable development - Guidance on using ISO 26000:2010 in the food chain*
	ISO/PWI 37011	*Purpose Driven Organisations - Guidance*

Management Product Material

	Standard	Title
Sustainable purchasing	ISO 20400	*Sustainable procurement – Guidance*
Climate impact adaptation	EN ISO 14090	*Adaptation to climate change - Principles, requirements and guidelines*
	EN ISO 14091	*Adaptation to climate change - Guidelines on vulnerability, impacts and risk assessment*
	ISO/TS 14092	*Adaptation to climate change - Requirements and guidance on adaptation planning for local governments and communities*
	ISO/NP 14094	*Adaptation to climate change - Requirement and guidance for monitoring and evaluation*
	EN ISO 37101	*Sustainable development in communities - Management system for sustainable development - Requirements with guidance for use*
Environmental performance	ISO 14030 Series	*Environmental performance evaluation - Green debt instruments*
	EN ISO 14001	*Environmental management systems - Requirements with guidance for use*
	EN ISO 14006	*Environmental management systems - Guidelines for incorporating ecodesign*
	EN ISO 14008	*Monetary valuation of environmental impacts and related environmental aspects*
	EN ISO 14009	*Environmental management systems - Guidelines for incorporating material circulation in design and development*
	EN ISO 14015	*Environmental management - Guidelines for environmental due diligence assessment*
	ISO 14045	*Environmental management - Eco-efficiency assessment of product systems - Principles, requirements and guidelines*
	EN ISO 14046	*Environmental management - Water footprint - Principles, requirements and guidelines*
	EN ISO 14063	*Environmental management - Environmental communication - Guidelines and examples*
	EN ISO 14019-1, -2, -4 (draft)	*Sustainability information - Part 1: General principles and requirements for validation and verification - Part 2: Principles and requirements for verification processes - Part 4: Principles and requirements for bodies validating and verifying sustainability information*

6. Life Cycle Assessment

Life Cycle Assessment (LCA) is a key tool for understanding the environmental impact of a product or service throughout its entire life cycle, from raw material extraction to end-of-life disposal. This chapter delves into the importance of LCA in forming substantiated environmental claims and guiding sustainable decision-making. By aligning with these standards, businesses of all sizes can ensure their environmental assessments are comprehensive, transparent, and credible, thereby enhancing the authenticity of their sustainability claims and fostering greater consumer trust.

Management **Product** **Material**

	Standard	Title
General	EN ISO 14040	*Environmental management - Life cycle assessment - Principles and framework (ISO 14040:2006)*
	EN ISO 14044	*Environmental management - Life cycle assessment - Requirements and guidelines*
	ISO/DIS 14071	*Environmental management - Life cycle assessment - Critical review processes and reviewer competencies: Additional requirements and guidelines to ISO 14044:2006*
	ISO/DIS 14072	*Environmental management - Life cycle assessment - Requirements and guidelines for organizational life cycle assessment*
Documentation & Date Quality	ISO/TS 14048	*Environmental management - Life cycle assessment - Data documentation format*
	ISO 14033	*Environmental management - Quantitative environmental information - Guidelines and examples*
Ecodesign	ISO 14006	*Environmental management systems - Guidelines for incorporating ecodesign*
	EN IEC 62430	*Environmentally conscious design (ECD) - Principles, requirements and guidance*
Ecolabel & Greenhouse gases	ISO 14024	*Environmental labels and declarations Type I environmental labelling - Principles and procedures*
	ISO 14021	*Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling)*
	ISO 14025	*Environmental labels and declarations - Type III environmental declarations - Principles and procedures*
	CEN ISO/TS 14027	*Environmental labels and declarations - Development of product category rules*
	ISO 14026	*Environmental labels and declarations - Principles, requirements and guidelines for communication of footprint information*

Management Product Material

	Standard	Title
Ecolabel & Greenhouse gases	EN IEC 62474	*Material declaration for products of and for the electrotechnical industry*
	EN 50693	*Product category rules for life cycle assessments of electronic and electrical products and systems*
	IEC 63366 ED1	*Product category rules for life cycle assessment of electrical and electronic products and systems*
	EN ISO 14046	*Environmental management - Water footprint - Principles, requirements and guidelines*
	EN ISO 14067	*Greenhouse gases - Carbon footprint of products - Requirements and guidelines for quantification*
	EN ISO 14064-1, -2, -3	*Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals - Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements - Part 3: Carbon footprint of products - Requirements and guidelines for quantification*
	ISO 14065	*General principles and requirements for bodies validating and verifying environmental information*
	ISO 14097	*Greenhouse gas management and related activities - Framework including principles and requirements for assessing and reporting investments and financing activities related to climate change*

CEN European Committee for Standardization
CENELEC European Committee for Electrotechnical Standardization

STANDARDS IN SUPPORT OF TRUSTWORTHY ENVIRONMENTAL CLAIMS

Publisher: Giovanni Collot - © CEN and CENELEC

CEN – European Committee for Standardization
CENELEC – European Committee for Electrotechnical Standardization

www.cencenelec.eu