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INTERNATIONAL STANDARD

Quantification and communication of carbon footprint, GHG emission reductions and avoided emissions from electric and electronic products and systems - Principles, methodologies, requirements and guidance

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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IEC 63372 has been prepared by IEC technical committee 111: Environmental standardization for electrical and electronic products and systems. It is an International Standard.

This document has been given the status of a horizontal document in accordance with the ISO/IEC Directives, Part 1.

This first edition of IEC 63372 cancels and replaces IEC TR 62725:2013 and IEC TR 62726:2014, which have been technically revised.

This edition includes the following significant technical changes with respect to the previous edition:

a) updating and enhancing content related to carbon footprint of a product to align with new or updated reference standards;

b) including product and system in quantification of GHG emission reductions;

c) adding the content related to avoided emissions including use cases in Annex D.

The text of this International Standard is based on the following documents:

Draft	Report on voting
111/857/FDIS	111/865/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

INTRODUCTION

There is a broad understanding that greenhouse gas (GHG) emissions must be reduced significantly from current levels in order to keep global warming within acceptable levels. Electrical and electronic (EE) products and systems play an important part in this by enabling a transition to more energy-efficient products and systems. However, even though EE products and systems can contribute to reducing GHG emissions, they lead to GHG emissions.

This document describes methods for quantifying and communicating the GHG emissions related to products. It covers three related topics: carbon footprint of a product (CFP), emission reductions, and avoided emissions.

Many governments and intergovernmental organizations are introducing, for example, carbon taxes or similar carbon pricing to incentivize reducing emissions. In this context, it is important that there is a horizontal standard to guide the calculating, in a consistent way, of the CFP of different kinds of products and systems.

Emission reductions is the difference in emissions between a baseline and a target situation, product, system, or product-related GHG project. The baseline can, for example, be a previous version of the product. In that case, the emission reductions allow the organization to quantify how they are contributing to reaching policy goals.

Avoided emissions, finally, are a special case of emission reductions. Frequently, a product or system produced by one organization can enable another to emit less GHG than it would otherwise have done. Additionally, it is possible that many EE businesses will increase their total emissions as a consequence of them expanding to meet future decarbonization needs (in contrast to, for example, a fossil fuel business that is scaling down and showing reduced emissions), and many new products will be manufactured, creating emissions that did not exist before. The concept of avoided emissions provides a way for an EE business to show that it is still contributing to a net improvement of society, even though the emission reductions occur outside of its organization and its own emissions are increasing.

Furthermore, the organization operating an EE business needs robust and reliable calculation methods to establish the amount of avoided emissions achieved by its products and systems. An important purpose of this document is to define methodologies to assess avoided emissions from the use of new technologies in a reproducible, repeatable, unambiguous, and transparent manner.

Nevertheless, avoided emissions are reported separately from GHG emissions and are not subtracted from the total GHG emissions. Moreover, avoided emissions do not offset the direct and indirect GHG emissions of an organization.

Through the information disclosure based on this document, an EE business can claim that its products and systems can reduce or avoid emissions and contribute to solving climate issues directly or indirectly linked with United Nations Sustainable Development Goal 13 (UN SDG 13): Climate Action.

1 Scope

This document describes principles and methodologies, specifies requirements and provides guidance for quantification and communication of carbon footprint a product (CFP), emission reductions and avoided emissions from electric and electronic (EE) products and systems. This document is also applicable to product-related GHG projects.

The GHG quantification such as CFP is based on life cycle assessment (LCA) methods.

This document is a basic environment horizontal publication focusing on essential requirements and is primarily intended for use by committees in the preparation of publications within the area of environment in accordance with the principles laid down in IEC Guide 123. Wherever applicable, it is the responsibility of committees to make use of environment basic publications in the preparation of their environment group and product publications. Committees can apply this document directly to products when they do not develop a product publication in the area of environment.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 63366:2025, *Product category rules for life cycle assessment of electrical and electronic products and systems*

ISO 14067:2018, *Greenhouse gases - Carbon footprint of products - Requirements and guidelines for quantification*

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IEC TR 62726:2014, *Guidance on quantifying greenhouse gas emission reductions from the baseline for electrical and electronic products and systems*

ISO/IEC/IEEE 24748-1:2024, *Systems and software engineering - Life cycle management - Part 1: Guidelines for life cycle management*

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

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

ISO 14025:2006, *Environmental labels and declarations - Type III environmental declarations - Principles and procedures*

ISO 14026:2017, *Environmental labels and declarations - Principles, requirements and guidelines for communication of footprint information*

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ISO 14064-1:2018, *Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals*

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The Avoided Emissions Framework (AEF): 2020, Mission Innovation

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