

# TECHNICAL REPORT



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**Guidance on quantifying greenhouse gas emission reductions from the baseline  
for electrical and electronic products and systems**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**GUIDANCE ON QUANTIFYING GREENHOUSE GAS EMISSION REDUCTIONS FROM THE BASELINE FOR ELECTRICAL AND ELECTRONIC PRODUCTS AND SYSTEMS**

FOREWORD

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IEC TR 62726, which is a technical report, has been prepared by IEC technical committee 111: Environmental standardization for electrical and electronic products and systems.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
111/335/DTR	111/345/RVC

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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## INTRODUCTION

Electrical and electronic products and systems (hereinafter referred to as EE products) are widely used in our society, hence raising awareness of their environmental impacts. Consequently customers in the market and other stakeholders are requiring, or requesting that the electronics sector takes action to address the quantification and reduction of environmental impacts through environmental conscious design during the product development phase.

Among those environmental impacts, climate change is an important issue. A number of initiatives at local, national, regional, and international levels are being developed and implemented, aiming to curb the concentration of greenhouse gas (GHG) emissions which is understood to be a major causative factor.

All industry sectors are trying to reduce GHG emissions in order to meet the national, regional and global reduction targets for the future in order to stabilize atmospheric concentration below the level of triggering catastrophic climate change. For the EE sector, developing and supplying new products that achieve GHG reductions in society compared to other products offers significant opportunities for achieving large scale GHG reductions.

Among methodologies to quantify products' impacts on climate change is carbon footprint of products (CFP), which only covers GHG emissions that occur during the life cycle of the product. Although EE products consume energy, the EE industry is enabling other sectors to reduce large amounts of GHG emission. There are different opportunities for GHG reduction when the EE industry provides the same or similar function as existing products in the marketplace but with significantly less GHG emissions. For example, a manufacturer of renewable energy technologies can be interested not only in tracking the emissions and reductions that occur during the life cycle of its products, but also in assessing the reduction in society's GHG emissions as a result of using renewable energy technologies compared to generating electricity by combusting fossil fuels.

Examples of such products and solutions include:

- wind turbines or solar panels, compared to fossil fuel power plants;
- LED bulbs, compared to incandescent bulbs;
- online meeting (including software), compared to business travel.

For assessing this enabling effect, two scenarios are compared: the situation “with the technology” and “without or with old technology”. Because the enabling effect is not included in CFP, quantification of such reductions requires a different methodology. Actually many companies are already quantifying or communicating future environmental contribution by this enabling effect through their businesses with numeric target values, such as “*help society to reduce XX million tons by 2025 through our high energy-efficient products*”. Currently, various quantifications and claims for such GHG reduction are carried out mainly on a voluntary basis. However, there is no internationally recognized methodology to validate such numerical targets specifically for EE products. There is a business value in establishing an internationally recognized methodology at this time.

A basic generic and relevant methodology is provided by ISO 14064-2<sup>1</sup>. This ISO standard also incorporates the idea of “product-related GHG projects” and allows GHG projects to be performed as a result of product development.

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<sup>1</sup> Numbers in square brackets refer to the Bibliography