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GUIDE

Securing credible environmentally relevant performance assessment methods in standards

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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SECURING CREDIBLE ENVIRONMENTALLY RELEVANT PERFORMANCE ASSESSMENT METHODS IN STANDARDS

FOREWORD

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IEC Guide 121 has been prepared by the Advisory Committee on Environmental Aspects (ACEA).

The text of this IEC Guide is based on the following documents:

Draft	Report on voting
SMBNC/43/DV	SMBNC/52/RV

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

The language used for the development of this Guide is English.

This publication has been drafted in accordance with the 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/standardsdev/publications.

INTRODUCTION

The IEC has been developing and publishing standards to support industry and other stakeholders for over 100 years, and the last few decades have seen an increase in the importance of standards that address environmental matters. The protection of people from the potential safety hazards of products has always been an important aspect in the portfolio of standards developed by the IEC, and today society at large is also demanding that products do not damage the world in which we live.

Therefore, there is a growing demand for publications that include assessment methods to determine whether a product can cause harm to the Earth's ecosystem. For instance, the quantification of hazardous emissions to the environment (for example, fluorinated or other greenhouse gases) helps to counteract climate change.

The possible harm to the Earth's environment can be caused either directly by a product, for example, through the emission of harmful substances such as greenhouse gases or other toxic pollutants directly to land, water, or air during manufacture, use, or end-of-life phase, or indirectly by the consumption of resources such as energy or water (called "inputs") by a product. These can affect the environment through, for example, emissions coming from the production of such inputs and the depletion of the Earth's resources.

IEC and other international standards are expected to provide commonly agreed, objective and unbiased assessment methods to determine, amongst other things, quantitative properties of a product or system, such as CO_2 emission or energy consumption. The measurement result can then be used to prepare an associated declaration to demonstrate the conformity of the product to specified requirements. Even if IEC standards do not include assessment methods to assess the direct impact of products on the environment, it is possible that they include methods relating to a means to assess (or consider) the indirect impact of that product on the environment, for example, energy consumed to deliver one or more product functions. In this Guide, assessment methods of either the direct or the indirect environmental impact of products are referred to as "environmentally relevant assessment".

Testing for environmental impacts, whether beneficial or detrimental, is not always easy. For instance, such impacts cannot always be readily measured in a consistent and uniform manner. This can lead to ambiguity and debate as to the usefulness of such a test.

When developing an assessment method, it is already general practice to consider classical aspects such as measurement repeatability, reproducibility, and accuracy, as well as the costs of testing. However, these considerations alone do not guarantee that such assessment method is credible (from the environmental performance point of view). For an IEC standard to be credible, it needs to ensure that its environmentally relevant performance assessments are representative of how the product is used, maintained, and disposed of in real-life and to prevent, as far as practicable, circumvention. Representativeness and (anti-)circumvention will be extensively addressed in this Guide.

This Guide is complementary to IEC Guide 109. While IEC Guide 109 describes the general principles of specifying environmental aspects in IEC publications, this Guide provides principles and requirements to ensure that standards writers are made aware of and consider the aspects of credibility described in this Guide.

In this Guide the term "committees" includes "technical committees, TCs", "project committees, PCs", "subcommittees, SCs" and "systems committees, SyCs".

Since environmentally relevant performance assessment methods are present in standards applicable to many committees, this Guide was prepared by ACEA and was circulated to all IEC technical committees, some advisory committees, IEC Conformity Assessment Board and CEN-CLC ECO-CG/TF2 for comments.

The following IEC committees are thanked for their active contribution to the preparation of this Guide: NL NC, KR NC, JP NC, TC 59, TC 100, and TC 111.

SECURING CREDIBLE ENVIRONMENTALLY RELEVANT PERFORMANCE ASSESSMENT METHODS IN STANDARDS

1 Scope

This Guide specifies principles, requirements, and guidance for standards writers to identify whether an assessment method in their standard can be used to obtain an indication of the environmental performance of a product and to ensure that such assessment is credible.

This Guide applies to standards covering environmental performance of new products and as appropriate to standards covering environmental performance of second life products (for example, refurbished or remanufactured).

This Guide is therefore intended to ensure that assessment methods developed by standards writers are credible. The credibility of an environmentally relevant performance assessment method is determined by taking into account all the related principles, namely representativeness, measurement repeatability, measurement reproducibility, measurement accuracy, cost of testing, anti-circumvention, as well as review of standards.

Environmentally relevant performance assessment methods can be present in many IEC standards (for example, standards covering performance aspects of products), and not only those focused on the environment. This Guide will be applicable to those as well.

This Guide is not applicable to standards containing environmentally relevant performance assessment methods that are not assessed by test (for example, assessment by inspection or simulation), nor is it applicable to other aspects not linked to environment, such as electromagnetic compatibility (EMC) and electromagnetic fields (EMF).

This Guide does not include guidance on whether all environmentally relevant aspects are covered by an IEC standard. This Guide also does not give guidance on whether a performance assessment method was successfully identified as environmentally relevant.

NOTE The IEC Standardization Management Board (SMB) has decided that Guides such as this one can have mandatory requirements which shall be followed by all IEC committees developing technical work that falls within the scope of the Guide, as well as guidance which may or may not be followed. The mandatory requirements in this Guide are identified by the use of "shall". Statements that are only for guidance are identified by using the verb "should" (see IEC Directives Supplement Part 1, A1.1).

2 Normative references

There are no normative references in this Guide.