



TECHNICAL REPORT



Harmonization of environmental performance criteria for electrical and electronic products – Feasibility study

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 13.020; 19.040

ISBN 978-2-8322-8285-4

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	7
4 Background	7
4.1 Benefits of the use of ecolabels in general.....	7
4.1.1 Ecological benefits	7
4.1.2 Economic benefits	8
4.2 Problem definition and reason to perform this study.....	8
4.3 Benefits from harmonizing environmental performance criteria.....	9
4.3.1 Potential benefits for regulators and ecolabel operators.....	9
4.3.2 Potential benefits for standards development organizations (SDOs) and product technical committees (TCs).....	9
4.3.3 Potential benefits for product users/consumers.....	9
4.3.4 Potential benefits for manufacturers and designers.....	9
4.3.5 Potential benefits for industry	10
5 Selection and review of ecolabel programmes	10
5.1 Structure of the study.....	10
5.2 Ecolabel programmes review	10
5.3 Geographical distribution of the ecolabel programmes	13
6 Outreach and feedback from stakeholders	14
6.1 Background.....	14
6.2 China.....	14
6.3 European Commission (EC).....	14
6.4 France	15
6.5 Japan.....	15
6.6 The Netherlands	15
6.7 USA.....	16
7 Feasibility analysis of the harmonization of criteria of different ecolabel standards	17
7.1 Choice of products and relevant ecolabels	17
7.2 Outcome of the assessment of ecolabels for personal computers.....	17
7.2.1 General	17
7.2.2 Conclusions from the analysis of personal computer standards	22
7.3 Outcome of the assessment of ecolabels for mobile phones	23
7.4 Considerations for criteria harmonization	24
7.4.1 General	24
7.4.2 Example 1 – Reduction of RoHS substances	24
7.4.3 Example 2 – Use of recycled plastic content.....	25
8 Concept proposal for possible international standard.....	26
8.1 Introduction and requirements for the concept proposal	26
8.2 Scope of a possible international standard.....	26
8.3 Requirements for a possible international standard.....	26
8.4 Structure of a possible international standard	26
8.5 Types of environmental performance assessment criteria	27
8.5.1 General	27

8.5.2	Common criteria	27
8.5.3	Criteria that may vary by product type	27
8.5.4	Criteria that are inherently unique to specific product types	28
8.6	Use model for harmonized environmental performance criteria	28
8.7	IEC database for environmental product assessment criteria	29
8.8	Business model for the standard	30
8.9	Potential benefits to stakeholders of the chosen approach	30
9	Conclusion and recommendations	31
	Bibliography	33
	Figure 1 – Use model for environmental criteria	29
	Table 1 – Ecolabel programmes under review and applied evaluation criteria	11
	Table 2 – Specificity of the criteria group per ecolabel scheme	12
	Table 3 – EEE product categories covered by ecolabel programmes under review	13
	Table 4 – Geographical distribution of the ecolabel programmes	13
	Table 5 – Personal computers – Comparison of criteria of different ecolabels – Hazardous substances in products	18
	Table 6 – Personal computers – Comparison of criteria of different ecolabels – Materials in products	19
	Table 7 – Personal computers – Comparison of criteria of different ecolabels – Materials in package	19
	Table 8 – Personal computers – Comparison of criteria of different ecolabels – Materials in manufacturing	20
	Table 9 – Personal computers – Comparison of criteria of different ecolabels – Materials efficiency aspects	20
	Table 10 – Personal computers – Comparison of criteria of different ecolabels – Other product technical requirements	20
	Table 11 – Personal computers – comparison of criteria of different ecolabels – Organization aspects	21
	Table 12 – Personal computers – Summary and conclusions	22
	Table 13 – Mobile phones – Summary and conclusions	23

INTERNATIONAL ELECTROTECHNICAL COMMISSION

HARMONIZATION OF ENVIRONMENTAL PERFORMANCE CRITERIA FOR ELECTRICAL AND ELECTRONIC PRODUCTS – FEASIBILITY STUDY

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

The main task of IEC technical committees is to prepare International Standards. However, a technical committee may propose the publication of a Technical Report when it has collected data of a different kind from that which is normally published as an International Standard, for example "state of the art".

IEC TR 63212, which is a Technical Report, has been prepared by IEC technical committee TC 111: Environmental standardization for electrical and electronic products and systems.

The text of this Technical Report is based on the following documents:

Draft TR	Report on voting
111/537/DTR	111/571/RVDTR

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

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

Environmental issues have become more and more important globally, especially regarding the impact on ecosystems, climate change, energy and natural resource depletion and impact on human health. In the electrotechnical industry specifically, the exponential growth in the use of electronic devices is another key factor in the need to address the environmental issues with these devices.

The users of electrical and electronic equipment (EEE) products are becoming more aware of these emerging issues and the purchasing of products is no longer based only on preference or technical quality. There is a significant growth for governments, institutions and consumers to also base their decision on the environmental performance of such products.

In response to these trends, we are seeing exponential growth of policies and initiatives aiming to provide information to users about one or more aspects of the environmental performance of a product or service. This is often done through the creation of ecolabels that are bound to a certification procedure by the ecolabel operator. The exact meaning of such ecolabels and their criteria are not well understood by the users. Furthermore, the differences in definitions and certification requirements may hinder trans-regional trade.

Ecolabel programmes that cover a broad range of products operate in countries and regions around the world. Today over 80 ecolabels applying to EEE exist, all focusing on similar types of criteria, but often with slight differences in definitions, levels of ambitions associated with the criteria, and ways to show compliance.

This document assesses the feasibility to harmonize the criteria associated with environmental performance of EEE and provides recommendations. It also includes potential hurdles and challenges of such a harmonization.

This document contains the learnings and outcomes (geographical and eco-benefits) from the review of several prominent ecolabel standards. The conclusions and recommendations are also based on perspectives and opinions provided by outreach discussions with internal and external stakeholders, including ecolabel operators, government bodies, national standards development organizations.

It is important to note that a potential future standard on environmental performance criteria is not intended as an ecolabel standard but is intended to harmonize the criteria that are used for creating such an ecolabel standard. As such, the content of the harmonized criteria should be supportive to ecolabel operators (public or private) and product technical committees wishing to develop or revise an environmental performance standard for a specific product or product group, and is not intended to compete with or replace them.

HARMONIZATION OF ENVIRONMENTAL PERFORMANCE CRITERIA FOR ELECTRICAL AND ELECTRONIC PRODUCTS – FEASIBILITY STUDY

1 Scope

This document provides a feasibility assessment to determine if harmonization of environmental performance criteria is possible and would benefit the electrotechnical industry.

This document is intended as a feasibility study report rather than a standard. It reports the possibility/opportunity to harmonize environmental performance criteria and, with it, the feasibility for future development of an international standard on environmental performance criteria. The learnings and recommendations of this document are based on the review of a number of prominent ecolabel standards available worldwide as well as outreach discussions with internal and external stakeholders.

To enable users of this document to visualize and better evaluate what such a future standard could look like, a concept for an international standard on harmonized criteria for environmental performance assessment of electrotechnical products has been proposed in Clause 8. It is not intended as a final proposal but rather a vision of how such a standard would be structured and how it could be implemented to meet the specific requirements that were identified in the study.

Once again, it is important to emphasize that the potential IEC standard on environmental performance criteria is not intended as an ecolabel standard, but it is intended to be a means for harmonization of the criteria (including the verification requirements of them) that are needed for creating such an ecolabel standard.

2 Normative references

There are no normative references in this document.