

CONTENTS

FOREWORD	4
INTRODUCTION	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	7
3.1 Terms related to design and development	7
3.2 Terms related to product life cycle	8
3.3 Terms relating to those who control or influence ECD requirements	9
3.4 Terms related to the environment	9
4 Principles of environmentally conscious design (ECD)	10
4.1 General	10
4.2 Life cycle thinking	10
4.3 ECD as a policy of the organization	11
5 Requirements of ECD	11
5.1 General	11
5.1.1 Integrating ECD into the management system of the organization	11
5.1.2 Determining the scope of ECD	11
5.1.3 Elements of ECD	11
5.1.4 Documented information	12
5.2 Analysis of stakeholder environmental requirements	12
5.3 Identification and evaluation of environmental aspects	12
5.4 Incorporation of ECD into design and development	13
5.5 ECD review	13
5.5.1 Process review	13
5.5.2 Design review	14
5.5.3 Documented information of reviews	14
5.6 Information exchange	14
6 Guidance on implementing ECD	14
6.1 General	14
6.1.1 Overview	14
6.1.2 Integrating ECD into the management system of the organization	14
6.1.3 Determining the scope of ECD	15
6.1.4 Elements of ECD	15
6.1.5 Documented information	15
6.2 Analysis of stakeholder requirements	15
6.3 Identification and evaluation of environmental aspects	16
6.4 Incorporation of ECD into design and development	17
6.5 Review	17
6.5.1 Process review	17
6.5.2 Design review	17
6.5.3 Documented information of reviews	18
6.6 Information exchange	18
Annex A (informative) Examples of how to apply ECD	19
A.1 Environmental aspects and impacts	19
A.1.1 Application of ECD to goods and services	19

A.1.2	Inputs and outputs	20
A.1.3	Value proposition creation	21
A.1.4	Design and development	21
A.1.5	Manufacture of goods and preparation of enablers/capabilities to deliver services	21
A.1.6	Delivery/installation of goods and launch/delivery of services	22
A.1.7	Use stage of goods and provisioning of services	23
A.1.8	Maintenance, repair, upgrade, reuse and remanufacture	23
A.1.9	End of life treatment and final disposal	24
A.1.10	Environmental impacts	24
A.2	Examples of ECD strategies	24
A.3	Information exchange	26
Annex B (informative)	ECD methods and tools selection	28
B.1	Overview	28
B.2	Examples of methods and tools	28
B.2.1	General	28
B.2.2	ECD benchmarking	28
B.2.3	ECD checklists and guidelines	29
B.2.4	Environmental quality function deployment	29
B.2.5	LCT based assessment	29
B.2.6	Design and development methods and tools	29
Bibliography		30
Figure A.1	– Inputs and outputs and indicative examples of life cycle stages for goods and services	20
Figure A.2	– Conceptual diagram showing information exchange and collaboration across the value chain	27
Table A.1	– Examples of product-related environmental improvement strategies	25