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Circular design for electronics

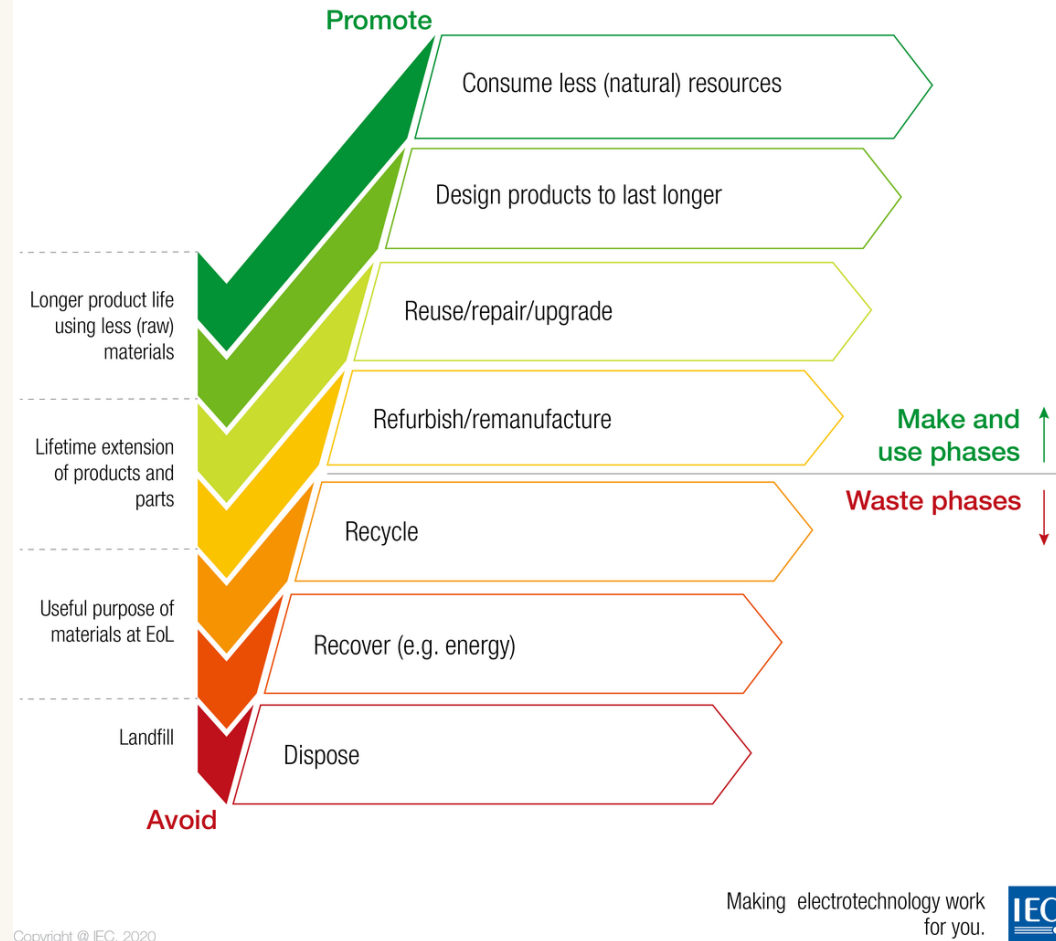
Standardization for circular economy

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	General	Electrotechnical	Telecommunication
Global			
European			
National			

Make, use and waste hierarchy



material circularity

combination of activities aimed at minimizing the use of virgin resources and emission of wastes by generating circular flows of materials, parts or products and extending the lifetime of the flows



material efficiency

ratio or other quantitative relationship between an output of performance, systems, products or service and an input of materials or product parts or products

CEN-CENELEC JTC 10 Material efficiency aspects for products in scope of Ecodesign legislation

EN 4555x series of material efficiency standards

- Developed by CEN-CENELEC JTC 10 in response to the standardization request M/543 of the European Commission.
- Products in scope: Directive 2009/125/EC concerning energy-related products (ErP).
- Covered material efficiency aspects:
 - a) Extending product lifetime
 - b) Ability to reuse components or recycle materials from products at end-of-life
 - c) Use of reused components and/or recycled materials in products

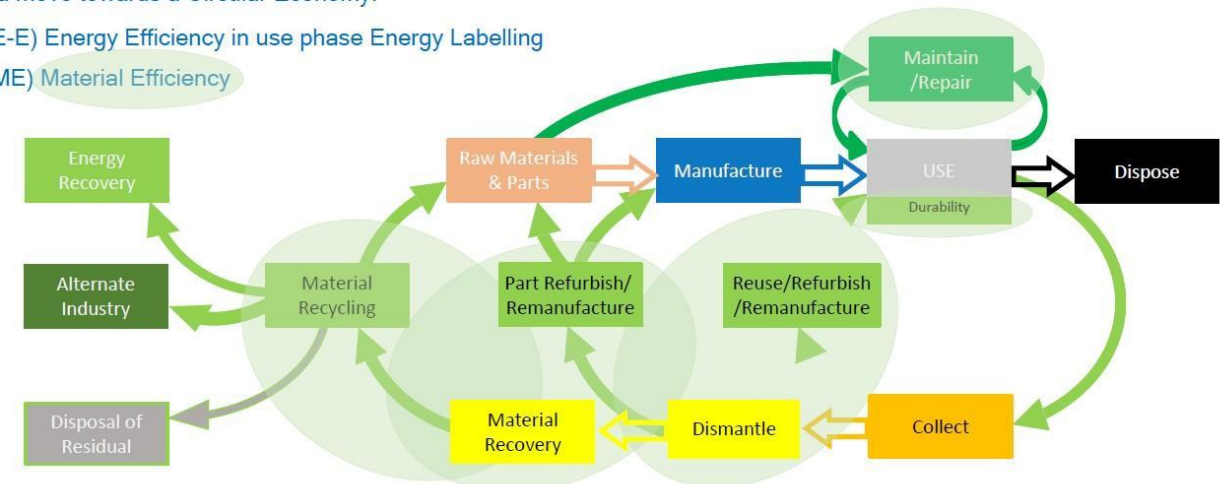
JTC10 – Technical cycle of Circular Economy



- a move towards a Circular Economy.

(E-E) Energy Efficiency in use phase Energy Labelling

(ME) Material Efficiency



CEN-CENELEC JTC 10 material efficiency standards

- CLC/TR 45550:2020 Definitions related to material efficiency
- EN 45552:2020 General method for the assessment of the durability of energy-related products
- EN 45553:2020 General method for the assessment of the ability to remanufacture energy related products
- EN 45554:2020 General methods for the assessment of the ability to repair, reuse and upgrade energy-related products
- EN 45555:2019 General methods for assessing the recyclability and recoverability of energy-related products
- EN 45556:2019 General method for assessing the proportion of reused components in energy-related products
- EN 45557:2020 General method for assessing the proportion of recycled material content in energy-related products
- EN 45558:2019 General method to declare the use of critical raw materials in energy-related products
- EN 45559:2019 Methods for providing information relating to material efficiency aspects of energy-related products



IEC 63333 ED1

CENELEC TC 111X Environment

- WEEE standards (**EN 50625** series: Collection, logistics & Treatment requirements for WEEE)
- **EN 50614:2020** Requirements for the preparing for re-use of waste electrical and electronic equipment

IEC TC 111 Environmental standardization for electrical and electronic products and systems

- IEC 62430:2019 Edition 2.0 (2019-10-22) Environmentally conscious design (ECD) - Principles, requirements and guidance
- IEC TS 63428 ED1 Guidance on material circularity considerations in environmentally conscious design
- IEC 63333 ED1 General method for assessing the proportion of reused components in products



in preparation

Other useful standards for circular economy

- IEC 62309:2004 Dependability of products containing reused parts - Requirements for functionality and tests
- IEC 63338 ED1 General guidance for reuse of secondary cells and batteries in preparation

SAY HELLO

Let's Connect!



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