



E C O S I G N

Ecodesign of Electronic Devices

UNIT 1: Introduction to Ecodesign of electronic devices



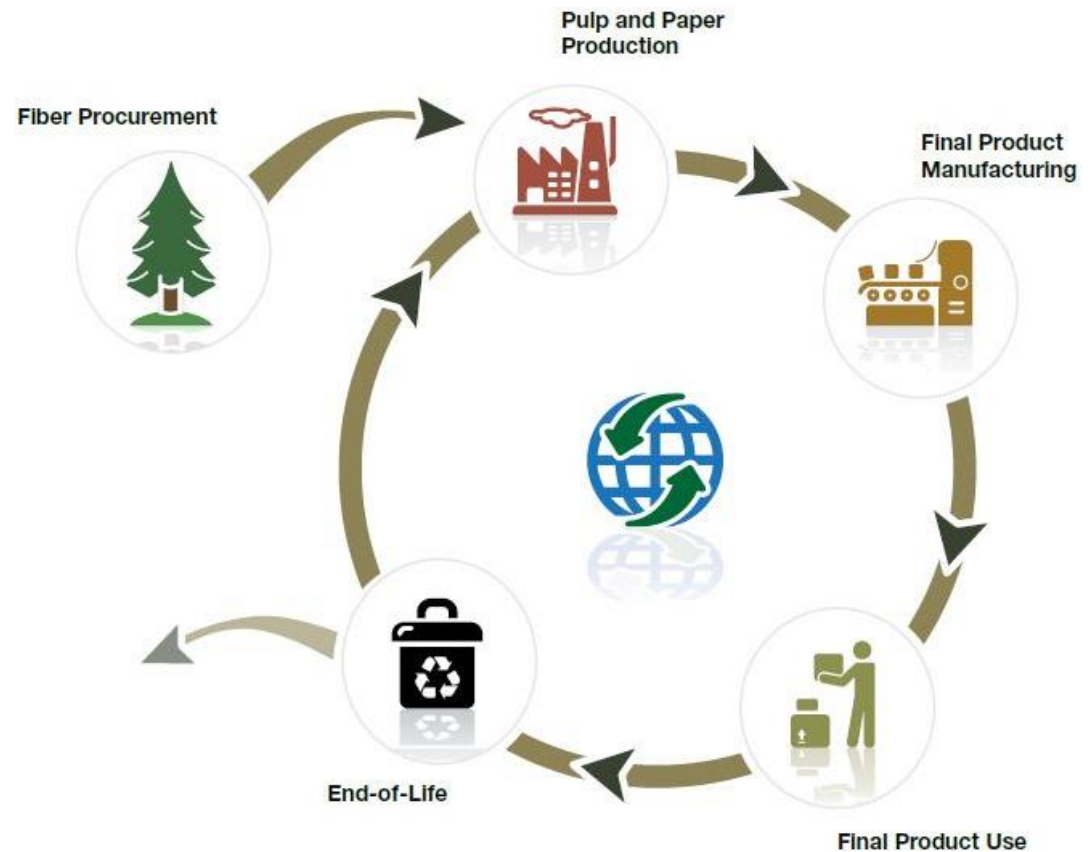
What is an Ecodesign?

- Ecodesign is a concept of designing products that include environmental protection, as well as achieving higher business results in accordance with environmental protection rules and directives.
- Ecological design means a pragmatic design approach that perceives, predicts, and involves key ecological factors in the process of development, with the aim of minimizing environmental impact.
- Inclusion of Life Cycle Assessment (LCA) tools means that in the design of a particular device from an ecological point of view it extends to all product life-cycle segments from production to recycling.

What is an Ecodesign?

- Life cycle assessment method:

Thinking through product life cycle, the designer acquires an insight into the environmental impacts at all stages of design, thus gaining a wider view of possible environmental improvements to the product. Conceptual life-cycle analysis means preventing and reducing pollution at the source itself, which could easily be summarized as a minimum amount of waste, hazardous materials and consumption with a minimum input of energy and raw materials.



Ref: <https://twosidesus.files.wordpress.com/2013/10/lca.jpg>

Key points of the ecological design of electronic devices?

- **Strategy** – the process of introducing the product to the market
- **Research and development** – designing innovative products
- **Health and security** – environmentally friendly production and healthy work environment
- **Production** – with the intent of increasing efficiency
- **Marketing** – use of environmental advantages, green sells better
- **Supervising quality** – ensuring higher product quality

Ecodesign Legal framework

- Environmental directives determine compliant rules on the EU level for improving the environmental efficiency of products, such as household appliances, information and communication technologies and technical appliances. Directives determine minimal mandatory requirements regarding the energy efficiency of products. This is intended to prevent formation of obstacles for trade, improving product quality and environmental protection.
- Energy labeling directive supplements the requirements with the mandatory labeling of devices which are designed by the Ecodesign principles.

Ecodesign Legal framework

■ Regulation of product specifications

- The Ecodesign Directive is implemented through regulation of individual product specifications which are used in EU countries.

■ Coordinated standards

- Regulations on ecological labeling are supplemented with coordinated European standards. Technical specifications require the product to be in compliance with the given requirements and only then can the manufacturer mark the product with a label CE.

■ Market supervision

- National market supervision authorities warrant the products, sold in European Union, to meet the requirements determined by the Ecodesign and energy labeling directives.

■ International perspectives

- Many countries that are not EU members (the USA, Australia, Brasil, China, and Japan) have similar environmental legislation and directives on energy labeling, similar to European Union.

The most common ecological labels for electronic devices

- All devices, which are declared as environmentally friendly acquire different ecological labels. These labels are attributed according to the imposed directives.

CE label



CE label indicated products which are in compliance with the European regulation (CE – European Conformity).

Products, labeled with this label, meet high standards of health and environmental protection. This label also enables fair competitiveness as all companies abide by the same rules. With this label, the manufacturer declares that the product meets all regulatory requirements and that it can be sold within European Economic Area – EEA. CE label is also valid for foreign products sold within EEA. It is coordinated with EU regulation, which is managed by Directorate-general for Internal Market in EU and Directorate-general for Environment.

The most common ecological labels for electronic devices

Ecolabel flower



European ecolabel flower is a label for products which meet the required ecological criteria. European ecolabel is assigned based on European Council and Parliament Directive EC 66/2010/EEC. It is managed by the European Commission in cooperation with other European Union members and other stakeholders.

Energy star



Energy star serves as a benchmark that every environmentally conscious manufacturer wishes to meet. The energy star program was enforced as an agreement between European Union and the USA for coordinated energy labeling of office supplies in 1992.

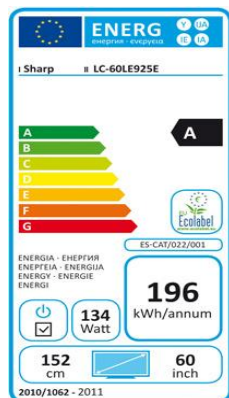
The most common ecological labels for electronic devices

Modri angel



Oznaka Modri angel izvira iz Nemčije in je ena najstarejših oznak za ekološko označevanje elektronskih izdelkov. Z oznako se potrjuje, da se izdelek osredotoča na štiri različna okoljska merila kot so; zdravje, podnebje, vode in viri. Modri angel spodbuja skrbi varstva okolja in varstva potrošnikov. Označevanje je prostovoljno in zajema pretežno belo tehniko in pisarniške naprave.

Evropska energetska izkaznica



Energetska nalepka je ena od oblik označevanja energijske učinkovitosti gospodinjskih aparatov in je od 26. septembra 2015 obvezno za vse gospodinjske aparate. Energetska nalepka je določena z Evropsko direktivo (Council Directive 92/75/EEC). Energetska nalepka razvršča gospodinjske aparate v razrede glede na rabo energije od G do A+++. Nalepka označuje nazivno moč naprave, ter letno porabo energije.

The influences of Ecodesign on economy

- Ecodesign carries many direct and indirect positive influences on the economy and business development.
 - Competitiveness
 - Innovation
 - Quality
 - Reduction of costs
 - Reduced risk
 - Environmental labels
 - Green is selling better
 - Consumer safety
 - Public opinion

The influences of Ecodesign on economy

- Brand
- The ecological approach strengthens the reputation of the brand as well as reduces production costs. Many aware consumers are aware of the environmental impact of production on the environment and are willing to even pay more for products with ecological labels in some cases.
- In many cases, organic products are more effective, reliable, safer and in the long run they are much more paid.
- Designing products for companies means lowering the cost of production in terms of lowering the consumption of materials by minimizing and optimizing products, reducing waste materials with proper development approaches, reducing energy consumption, taking into account the source of raw materials and the source of suppliers.
- A strong brand is a powerful tool for promoting new products on the market