



# ECO DESIGN

The focus is a designer/engineer that is guided through the consequences in the environment, all throughout the decision-making for the designs. At the same time, he takes into consideration all the phases of the life cycle, from extraction of raw materials, up to the moment of removing of the product. Through the implementation of eco-design, he can limit the influence of the product on the environment, for the whole life cycle of the product.

Many eco friendly construction designs also focus on reduction of water consumption as population growth puts an increased pressure on water supplies which, by the way, are not unlimited. For that reason many green building options emphasize methods and technologies that help reduce water consumption, most often by reuse of waste water for toilet flushing for instance, and collection of rain water for similar uses.

An eco design approach involves the organization that extracts materials as well as manufacturing. All the people and structures involved along the rest of a product's lifecycle, such as retailers or consumers, are also included. And all the processes along a product's value-chain are covered too.





Some goals and principles are specifically about:

- Using fewer materials and resources for manufacturing products
- Using materials and resources obtained with a minimum environmental impact
- Producing the least waste and pollution possible
- Reducing the ecological impacts of distribution
- Making reusing and recycling easier by intelligent design that makes disassembly easy



In fact, eco-design is based on the defined component in which there are certain innovations, products and services fit in, and they ensure improvements (mainly) on an ecological level for the product and services. This concept is considered to be a sustainable design one or a design for sustainability (D4S-Design for Sustainability) when during the process of designing, special attention is also given to the social and ethical aspects.



The companies that have incorporated this in their long-term strategies for innovations of products, are aiming to subside and soften the negative influences over the environment, the social and economical influences over the chain of supply of a product, and through its lifecycle of production too. The innovation of products is of crucial importance for the economical growth. The successful innovations are the main drive of the competition advantage, and, together with the sustainability, they form the core of eco design.

**Sustainable product design** must include concepts for environmentally friendly services, such as the use of related products, environment leasing and sharing, and should not neglect the ethical and social issues that arise in the sustainable design process. When planning and combining long-term sustainable development, then it should be in line with the needs of production and consumption, on the one hand, and a favorable environment for life protection, on the other hand.

**This philosophy** also marks the transition from preventive techniques and methods. The entire economic activity of an organization reflects on the environment, but through eco-conscious management can manage activities that have or may have an impact on the environment. Its goal is to protect natural resources, reduce pollution and environmental risks and preserve the health of employees and the surrounding population. Recognition of opportunities for application of materials / resources / technologies that are more environmentally friendly.



#### References:

- <https://elemental.green/11-eco-friendly-house-building-materials-based-waste/>
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- [https://ecologic.mk/wp-content/uploads/2021/04/Manual\\_MKD.pdf](https://ecologic.mk/wp-content/uploads/2021/04/Manual_MKD.pdf)