Methodology and framework for Ecodesign and LCA in NeoGiANT production

Within a holistic view of sustainability (i.e. taking into account the environmental, economic and social pillars), the ecodesign approach is used to guide the conception phase of the production process in relation to the different solutions developed within the NeoGiANT project. The first step is to assess the environmental burdens of products using Life Cycle Assessment (LCA) methodology. This consists of estimating the potential impacts throughout the life cycle of products (i.e. from raw material extraction to end-of-life, through the manufacturing, distribution and use phases). In addition, economic and social evaluation should also be taken into consideration with a life cycle approach. To do this, social LCA (S-LCA) and Life Cycle Costing (LCC) are performed. These three evaluations are then represented through indicators such as climate change, levelized cost of production or job creation potential for the LCA, LCC and S-LCA, respectively. The integration of the three studies under a life cycle approach is commonly known as Life Cycl Sustainability Assessment (LCSA).

In this sense, the goal of ecodesign is to reconcile the three aspects of sustainability and provide an optimized solution. This methodology is carried out in parallel to the product design to support the decision-making process with sustainable recommendations for the ongoing scale-up production process and help to select the best alternatives.



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