

Innovative Life Cycle EcoDesign

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This paper describes the strategies HÅG (now part of Scandinavian Business Seating) has used to achieve sustainable innovation and more environmentally friendly products. HÅG started working on environmental management in the early 1990s, beginning with their production facility and progressing on to documenting the environmental performance of their products. Environmental management work led to HÅG's interest in Life Cycle Assessment (LCA). The environmental knowledge of their products provided by the LCA work was used in several ways, both for internal innovation and for innovation and communication with customers and suppliers.

Upstream– Supplier Development and Selection

LCA knowledge for a selection of products enabled HÅG to identify the most significant suppliers, in terms of their contributions to the environmental impacts associated with these products. This information was used in their supplier chain to develop collaboration with suppliers to drive innovation. This active collaboration took the form of meetings to share information and knowledge, brainstorming and evaluation of improvement options together with key suppliers and experts. Some suppliers implemented change in their processes and suppliers in order to realise improvements in their own environmental performance, as well as the environmental performance of HÅG's products, documented in EPDs. An important aspect of sustainable innovation is choosing the right suppliers. Internal cooperation between different departments in HÅG is therefore essential.

Downstream – Creating Demanding Customers

HÅG wanted to communicate the environmental performance of their products and use this as part of their marketing strategy. Norwegian regulations for public procurement also require that the life cycle costs and environmental consequences of purchases are considered. However, these regulations do not specify which environmental aspects should be given priority. This requires that public authority purchasers have comprehensive competence. A buyer driven strategy for considering environmental consequences of purchases could take the form of better guidelines and increasing the competence of buyers. A supplier driven strategy challenges the suppliers to provide the necessary environmental information adapted to the buyers' needs. HÅG chose a supplier driven strategy in collaboration with The Norwegian Association of Local and Regional Authorities (KS). The environmental information developed took the form of Environmental Product Declarations (EPD) based on LCA.

Internal Innovation

The LCA knowledge built up was also used for EcoDesign. HÅG has built up several levels of EcoDesign tools. From a relatively simple list of preferred (good) materials, non-recommended materials (bad) and banned materials and chemicals (ugly), work progressed to the carbon footprint of specific materials. The most recent development has been to combine this with functionality (as is normal in LCA) developing an EcoDesign tool that their designers can actively use to see the carbon footprint of product modules. This EcoDesign tool is used by designers during design of new products and redesign of existing ones. The result is a lighter chair with less steel, aluminium and polyurethane. In order to realize the designers' environmental ambitions, it is also of vital importance that the departments within Scandinavian Business Seating cooperate well and understand the importance of material and supplier choices.

Good communication and collaboration with marketing staff is also essential in order to be able to communicate success stories and reach a broader range of demanding customers. The EcoDesign work has provided decision support for several types of decisions throughout the organization.