TO DEVELOP MATERIAL FOR MORE SUSTAINABLE PRODUCTS: LEARNING FOR ACTION

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Since companies have to develop more sustainable products to continue operation in the long term, there is a demand for ways to guide and compare the sustainability already in material or product development. This has been studied through action research in a material development project that aims to develop wood-based materials to replace petroleum-based materials while ensuring a more sustainable product.

More sustainable future societies might put very different demands on products compared to the strictest requirements of today. To develop more sustainable products therefore requires future oriented assessment parameters already in early stages of material or product development - where choices determining many of the sustainability burdens of a product are made. Furthermore, the whole life cycle of products needs to be envisaged in order for sustainability to be defined. There is thus, for example, little point in talking about 'sustainable materials' since the sustainability of their use may be strongly affected by the rest of the life cycle, after material manufacturing, thus, the materials need to be seen in a context. A description of important sustainability considerations must be made in relation to the challenges that become visible when looking at a whole product system and in relation to its surrounding world which to complicate this further, are also changing over time, and therefore an appropriate time perspective must be applied. Relevant product sustainability aspects and parameters must be identified and described. Approaches for handling this complex situation has not been found in literature and therefore a team learning approach that deal with these issues has been developed.

The proposed approach is aimed for material or product development. It has a specific focus on facilitating innovation towards more sustainable products by translating and integrating significant product sustainability characteristics into each team member's specific area of expertise and everyday work. The material and product development team members are largely affecting the sustainability performance of the finished product. The approach is an iterative process which should continue until the material or product is available for sale and thus the product sustainability parameters will be modified during the process to include new knowledge. Hence, the assessments will be more exact with time.