

## **Test beds and Business Models to develop a Circular Economy related to the Wood Building Industry**

Test beds are often seen as a vehicle to develop something new and innovative, often to develop products and processes but how are business models developed, what creates value, how is value captured and how is it reported in a Circular Economy related to the wood building industry. That was a couple of the questions that partners in the project Circular Economy – A Game Changer for the Wood Building Industry, an Interreg, Botnia-Atlantica project, had in mind in meetings and during the study visits at seven different Circular Economy (CE)-initiatives/test beds in the Netherlands and Denmark.

It was perhaps specifically one visit, to two different projects, that addressed this issue, that is how to develop business models related to a circular economy. It was a visit to Skive, in Denmark, to the Circularity City project and to the GreenLab project. The first project deals with building cooperation platforms to develop and implement circular economy at a local level. In this project five business models were successfully employed to different degree: (i) circular supply – to replace virgin raw materials with materials that are renewable or bio-degradable, (ii) through resource recovery – recover discarded products or by-products to recycle or upcycle the materials, (iii) through life extension – to extend the life cycle of a product, or parts of a product, while preserving the original function, (iv) with the help of sharing platforms – to increase the use of a products through new models for sharing, accessibility, and ownership, and (v) by product as service – to optimize productivity of a resources or product while maintaining ownership of the product. The study visit provided a number of insights for example the need for different models and combinations of models to accommodate various scenarios and over time.

The other project, located in the vicinity of the above-mentioned project, is the GreenLab project. It relates correspondingly to the question of how to develop business models, creating, capturing and reporting value. The project is a full-scale business park and platform for integrated energy, intelligent grid and sustainable production. It is an ambitious project and certainly integrated with its surrounding, including projects related to analytics, artificial intelligence, internet of things, green products, energy storage etc. This visit proved the importance and need of scaling up projects, to identify concerns that may not show until projects reach a certain size, and letting professionals interact in real scenarios. The governance issue also turned out to be an interesting aspect. Perhaps, not directly related to the business models but still it provides much of the context in which the business model will operate. In this case it was specifically a question of choosing form and organization of business and understanding the difficulties surrounding it.

Thus, test beds may function well for developing products and process but developing business models, aiming at creating value, capturing value and finally reporting it requires a lot more for example an understanding of context, attitudes, and adaption of time.

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