The influence of policy intervention in biorefinery system planning

A biorefinery is a facility or a group of facilities which transforms biomass into energy (biofuels, power…) and different kind of marketable products (chemicals, materials…), as well as food and feed. Their developers aim at optimizing all resources used in the process to reduce waste production and create new high added value by-products. They may either work with other industries and apply industrial ecology principles, or internally diversify their technical skills.

This logic doesn’t only result from an economic imperative but also from a public constraint, as the first generation of biorefineries wasn’t considered as ecologically and socially efficient.

Depending on the context, the local culture, the intensity of the relationships between local and regional stakeholders, biorefineries are more or less anchored in their territory. Moreover, according to the shape of the facility and the size of the firm which leads the project, they differently resort to endogenous strengths, external resources and synergies with other firms.

However, a common point seems particularly important to analyze: the policy intervention (Mabee, 2007; Karltorp, 2011). As a matter of fact, at a national level, the financial aids to develop new technologies, the incentives to promote cooperation between firms, academics and local governments, the particular regulations to enhance the use of bio-products stimulate innovation and synergies. At a local level, the interactions between local governments and developers can facilitate innovative projects. Together they can improve the local competitiveness and struggle against industrial and farming difficulties in peripheral areas. Nevertheless they have to share a common vision of the local future.

Thanks to the comparison of different biorefinery complexes in the European Union, we can have a better understanding of the influence of policy intervention in biorefinery systems. Referring to the neo-institutional and advocacy coalition frameworks (Pierson, 2001; Sabatier, 2003), we were able to enlighten how public actors can favor industrial synergies and knowledge sharing.