

Project summary

Sustainability governance of BioAssemblages: A trifold perspective on bioeconomy clusters in the making

Moritz Albrecht

The post-doctoral research project is focused on two tightly interlinked topics; 1) the development of bio-resource based economic and political processes in specific localities which can be defined as emerging local bioeconomies and; 2) the definitions of sustainability employed within these processes. The aim of the project is to evaluate the processes, frameworks and ideas that reproduce three different regional bioeconomy clusters in the making (Finland, Germany, UK) and critically scrutinize the underlying role and definitions attributed to sustainability within these developments in order to portray (un-)sustainable governance processes, pathways, pitfalls and alternatives.

Bioeconomies materialize as assemblages of transnational and national bioeconomy policy/strategies, policy transfer and a complex array of local framework conditions in the places where these strategies come to “rest” and are transformed by local rationalities. Following, bioeconomy clusters are treated as *BioAssemblages* from a conceptual perspective. BioAssemblages are evaluated following two interwoven objectives. The **first objective** of the research work is to evaluate how varying (trans)national and regional preconditions frame the local materialization of bioeconomy strategies. The study scrutinizes the impacts of this preconditions on the targets, pathways and enrolled stakeholders of bioeconomy cluster development processes. The **second objective** is based on scientific claims on the various shades of green employed or the neglect of a thorough sustainability component within bioeconomy approaches. The project objectives are to critically display the role that sustainability plays within bioeconomy framed practices and to understand the definitions of sustainability that underly the work of different BioAssemblages. This includes a thorough focus on sustainable rhetoric and issues of (un-)sustainable governance.

Research focus is on three different emerging regional Bioeconomy clusters in Finland, Germany and the United Kingdom. The decision on the third cluster (currently UK) and its location is not yet definite.

- The *Äänekoski Bioproduct Mill* in Äänekoski, Finland is Finland’s largest bioeconomy framed investment so far. Run by *Metsä Group* it is aimed to transform the location from its legacy as a basic pulp and paper producing factory into a next-generation hub of wood based bioproduct production and development, nevertheless based on a pulp and paper focus. Targeting global markets, particularly Asia, it is supposed to generate a business environment that attracts further bioeconomy companies to its locality. It further should generate regional employment, diversify the Finnish forest sector, benefit the Finnish economy and improve the position of Finland as a bioeconomy nation. It aims to significantly increase the use of wood in Finland for these purposes and the investment has been strongly supported by Finnish politics.
- The *BioEconomy Cluster Central Germany* based in Halle aims to create a model bioeconomy region for Germany and Europe. Located at the Leuna chemical site (former East German Leuna Werke) it portrays the transformation from chemical industries and research into a partnership that promote a bio-based economy linking chemistry, energy, forestry and material sciences. By using the existing pool of chemistry based expertise, attract new bioeconomy based companies and networking with research experts it aims to improve regional competitiveness and establish the world’s first bioeconomy on a regional scale. The Cluster has

received strong state support and has been named a Leading Edge Cluster by German Ministry of Education and Research.

- *BioVale* based in York, UK is a non-profit bio-based industry steered and supported company that guides the development towards an internationally renowned bioeconomy cluster in the Yorkshire and Humber region. It aims to transform a former steel and coal region into an innovative bioeconomy cluster with a focus on agricultural based biomass and bio-waste. For this purpose, it combines a large number of innovative companies in the fields of biotech, renewable energy and is further closely linked with regional research institutions and has received financial state and EU support.