

# **CREATING A KNOWLEDGE-BASED BIO-ECONOMY THAT INCREASES WELL-BEING IN RURAL AREAS: THE NEED FOR A TRANSDISCIPLINARY RESEARCH APPROACH**

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The background for this contribution is the increasing depletion of natural resources, the distributional issues that this provokes, new challenges such as climate change, and, above all, the increasing uncertainty about future livelihoods in agriculture and rural areas. The bio-based economy has been suggested as a smart way to address these issues and to make production systems more sustainable. Bio-materials and bio-energy production might well help to address the major societal impasse created by the massive demands on the planet's resources imposed by an ever more industrialised society. The ambition is to create an economy based on renewable, recyclable and upcyclable raw materials. The potential business opportunities in doing this are enormous, and there is pressure from industry to go along this route. However, there is a very substantial risk that the related changes will lead to a further concentration of power in up- and downstream industries and an agricultural sector that is more dependent on these than it is now. This contribution calls for a more differentiated analysis based on the premise of creating a bio-economy that is beneficial in social, economic and environmental terms. I contrast alternative understandings, and architectures, of a knowledge-based bioeconomy and explore how these different architectures relate to the multiple mechanisms that can promote rural prosperity, sustainability and resilience. Based on concrete examples of bio-based value chains, I will argue that the simple logic of 'innovation-is-progress' – i.e. that technological innovation fosters economic development and growth and contributes to overall well-being – does not always apply. In my conclusions, I focus on the implications for (agricultural) research funders, agricultural research and knowledge systems, and the further development of the agricultural European Innovation Partnership (EIP-AGRI).