

Economic and legal challenges of the transition towards a sustainable wood-based bioeconomy

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Increasing the sustainability of economic processes and products as well as the use of sustainable resource inputs require a transition from the hitherto predominant fossil-based “throughput economy” towards a circular flow economy based on renewable resources. These complex economic and societal transition processes face significant uncertainties such as climate change, technological and economic development, sustainability risks, dynamic consumption patterns and policies and governance structures. Based on a three-step analysis of the legal and socio-economic challenges of a wood-based bioeconomy in Germany, we present recommendations for the design of future policies.

First, in a scenario analysis the key influencing factors are identified and their systemic roles for the future development of the wood-based bioeconomy in Germany are specified. Four scenarios were set-up to describe possible futures of the wood-based bioeconomy in Germany in 2050, allowing to adjust business strategies and policy instruments.

Second, the legal framework has to progressively support the advantages of the bioeconomy and simultaneously it has to avoid sustainability risks. Our analysis shows that a range of policies exist for the bioeconomy but that the overall effect is insufficient to initiate a path transition.

Third, in order to foster a sustainable future of a wood-based bioeconomy, governance structures are discussed, particularly “bioeconomy policies” that are needed to initiate a transition pathway. Based on the positive analysis of both current bioeconomy policies and policy demand by bioeconomy actors in Germany, we elaborate recommendations how to develop appropriate transition policies.