

Full Speed Ahead or Floating Around? Dynamics of selected European Bioeconomies

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Abstract

The EU bioeconomy is a complex system of interactions among various actors at regional and national levels. The system is evolving over time, and a plethora of indications have been proposed to monitor either its status quo or changes. Policymakers and industry representatives are typically interested only in subsets of them, which can create a bias in providing a reliable picture of the evolution of the EU bioeconomy. In contrast to that, our framework—based on Markov transition matrices—can handle any number of well-defined quantitative indicators. For practical reasons, we use the UN sustainable development goals and circular economy indicators related to the bioeconomy in ten EU countries between 2006 and 2016 as provided by Eurostat. We identify which indicators improve most over time and what the intra distribution dynamics of the indicators are. We also point to similarities and differences in the development of the ten bioeconomies. Our paper contributes to the current literature by providing a more comprehensive view of where and how fast the bioeconomy in ten EU countries is moving.

Keywords: EU, bioeconomy, Markov chains, Transition matrices
