
Visions, hopes and contradictions of the bioeconomy: a critical analysis of EU Policy Narratives and stakeholder responses

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Abstract

The bioeconomy is a central part of the European Union's strategy to transition away from fossil-based economies, promising solutions that balance economic growth, environmental protection, and energy independence. However, the concept remains contested, encompassing diverse and sometimes conflicting visions. This study conducts a narrative analysis of the EU's bioeconomy in the European Bioeconomy Strategy (2018) and its Progress Report (2022). The analysis is complemented by 27 semi-structured interviews and a deliberation workshop with EU policymakers, researchers, and other stakeholders, which offer additional insider-insights into the promises and tensions of these narratives.

The analysis identifies nine distinct narratives about the bioeconomy. Some focus on the shift from fossil fuels to bio-based alternatives, emphasizing technological innovation, bioenergy, and circularity. Others stress ecological boundaries and the need to align economic activities with nature's limits. While these narratives collectively promote the bioeconomy as a solution to climate change and energy dependence, they also reveal underlying conflicts. For example, narratives advocating technological fixes for fossil fuel substitution often clash with those prioritizing agroecology or planetary boundaries, highlighting trade-offs between economic expansion and ecological sustainability.

This research underscores how win-win narratives-offering solutions that promise environmental and economic benefits without trade-offs-dominate EU discourse on the bioeconomy. However, such narratives risk oversimplifying complex policy challenges. For instance, reliance on bioenergy as a fossil fuel substitute raises concerns about land-use conflicts, resource depletion, and environmental integrity. Similarly, the assumption that innovation alone can drive decarbonization often overlooks the systemic changes needed to achieve sustainability within planetary limits.

By analyzing these narratives and integrating stakeholder perspectives, this study sheds light on the discursive dimensions of the EU bioeconomy and their implications for climate and energy policies. It calls for a more nuanced and critical approach to bioeconomy strategies, one that openly addresses trade-offs and prioritizes coherence between environmental, social, and economic goals. This is essential to ensure that the bioeconomy contributes meaningfully to decarbonizing fossil fuel economies and advancing a just and sustainable transition.

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