

WHAT DO YOU MEAN BY 'BIOECONOMY'?

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BACKGROUND: THE DIFFERENT MEANINGS OF BIOECONOMY

In recent years, bioeconomy has emerged as a 'silver bullet' concept to halt deforestation, promote economic growth and reduce poverty in the Amazon. Its use is now central in the discourses of politicians, international organizations, the media, private actors and civil society alike. One of the main triggers behind this intended paradigm shift was the 'Amazon Third Way', which emerged as an alternative to creating protected areas for conservation purposes (the 'first way'), and to the resource-intensive agricultural/livestock and mining development path (the 'second way') (Nobre and Nobre 2018). Bioeconomy plans are now being designed across the Amazon, for example in the states of Amazonas and Pará in Brazil, and governments and NGOs are restructuring their organizations so as to create new bioeconomy-related roles. At the same time, donors have started to include bioeconomy components in their priority funding themes, and consequently, bioeconomy-related initiatives, like entrepreneurship hubs, have started to boom.¹

¹ <https://fas-amazonia.org/hub-bioeconomia-amazonia/>, <https://www.paraterraboia.com/economia/para-planeja-ser-o-maior-hub-de-bioeconomia-do-pais/>, <http://biotecamazonia.com.br>

Despite this enthusiasm, there is little clarity about what exactly 'bioeconomy' means, in particular given the Amazon's vast socioeconomic and cultural diversity, and given the influence of the diverse schools of thought at play. Some critics argue that bioeconomy is just a new slogan for old ideas (Pülzl et al. 2014), while others distinguish at least three different visions (bio-technology, bio-resource and bio-ecology) (Bugge et al. 2016). European-centric concepts, like circular bioeconomy, have also gained traction, particularly those focused on biomass (Stegmann et al. 2020). There is also growing debate around power structures and actors' interests behind the bioeconomy narrative, which raises the question of who wins and who loses from this new paradigm (Böcher et al. 2020).

THE FOUNDATIONS OF A COMMON FRAMEWORK IN THE AMAZON

Motivated by the existence of different, perhaps conflicting, views on bioeconomy in the Amazon context, there are ongoing initiatives to develop common frameworks. One such case is the *Uma Concertação pela Amazônia* initiative, which is developing a framework to better understand the implications of different meanings of bioeconomy for business models, investments and public policies.



	Bioeconomy based on sociobiodiversity	Bioeconomy based on forest stewardship	Bioeconomy based on intensive (biomass) production
Predominant activities	<ul style="list-style-type: none"> • (Neo)extractivism • Subsistence agriculture 	<ul style="list-style-type: none"> • Native forest silviculture 	<ul style="list-style-type: none"> • Planted forests • Commercial agriculture
Degree of anthropization and production volume	<ul style="list-style-type: none"> • Low 	<ul style="list-style-type: none"> • Medium 	<ul style="list-style-type: none"> • High
Relationship with biodiversity	<ul style="list-style-type: none"> • High dependency on biodiversity and high levels of contribution for its maintenance 	<ul style="list-style-type: none"> • Medium dependency on biodiversity 	<ul style="list-style-type: none"> • Low dependency on biodiversity • Plantations based on monoculture contribute little and can even threaten biodiversity if not balanced with careful land/biome management
Relationship with climate change	<ul style="list-style-type: none"> • The mode of production is compatible with the maintenance of the CO₂ stocks • High resilience to the effects of climate change 	<ul style="list-style-type: none"> • The mode of production is compatible with the maintenance of the CO₂ stocks 	<ul style="list-style-type: none"> • Products potentially reduce emissions since they replace fossil-based fuels and materials; however large-scale production exerts pressure for the conversion of forests, as well as on other resources • Low resilience to the effects of climate change

Source: Adapted from the 'Framework for a bioeconomy in the Amazon' proposed by the Bioeconomy Working Group of the Amazon Concertation (*Uma Concertação pela Amazônia*).



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The framework identifies characteristics that distinguish possible “promotion fronts” for bioeconomy, as they relate to different land use approaches and production systems. Rather than endorsing any specific type of bioeconomy, this framework aims to recognize the diversity of interpretations around the concept.

The framework also makes explicit some of the trade-offs and risks of the different types of bioeconomy, like the possible net increase in emissions, or biodiversity loss resulting from the replacement of fossil-based raw materials with the unrestricted cultivation of biomass. Such risks increase the relevance of monitoring direct and indirect impacts. The Science Panel for the Amazon recently acknowledged the lack of consensus around defining bioeconomy and highlighted some guiding principles – especially ethical ones – for promoting it as a concept (Abramovay et al. 2021).

In the same vein, the Forum for Innovation in Investments in the Amazonian Bioeconomy recently held adopted the key principles, namely: biodiversity conservation; expansion of biodiverse and sustainable forested areas; employment of science and technology for the sustainable use of sociobiodiversity; and reduction of social and territorial inequalities (SEDECTI-AM 2021).

Considering that discussions about bioeconomy have unfolded separately from regions in other biomes and even neglecting urban areas in the Amazon, it is crucial to reflect upon how bioeconomy relate to several missing aspects, such as territorial zoning, social inclusion - including gender issues -, industrial policy and regional development in the Pan-Amazonia.

CURRENT QUESTIONS AND CHALLENGES

What does bioeconomy mean for Amazonians?

Are local populations attracted to and represented by existing bioeconomy strategies?

Does the diversity of perceptions and approaches lead to cooperation or conflict?

What type of change will be driven by the different bioeconomy strategies?

OBJECTIVES OF THE SESSION

The objectives of this session are:

- to invite voices from different Amazonian geographies, populations and stakeholders to reflect on bioeconomy
- to contribute to strengthening endogenous development processes and narratives
- to contribute to developing a common understanding of bioeconomy, both for the Amazon and globally
- to provide inputs to feed global discussions on the potential role of bioeconomy for transformational change.

REFERENCES

Abramovay R., Ferreira J. et al. 2021. *The new bioeconomy in the Amazon: Opportunities and challenges for a healthy standing forest and flowing rivers*. Science Panel for the Amazon, Working Group 11. <https://www.theamazonwewant.org/wp-content/uploads/2021/08/SPA-Chapter-30-PC-The-New-Bioeconomy-in-the-Amazon-Opportunities-and-Challenges-for-a-Healthy-Standing-Forest-and-Flowing-Rivers.pdf>.

Amazon Concertation, Bioeconomy Working Group. 9 February 2021. The value of diversity for the bioeconomy. <https://pagina22.com.br/2021/02/09/the-value-of-diversity-for-the-bioeconomy/>.

Böcher M, Töller AE, Perbandt D, Beer K and Vogelpohl T. 2020. Research trends: Bioeconomy politics and governance. *Forest Policy and Economics* 118:102219.

Bugge M M, Hansen T and Klitkou A. 2016. What is the Bioeconomy? A review of the literature. *Sustainability* 8(7).

Nobre I and Nobre CA. 2018. The Amazonia Third Way initiative: The role of technology to unveil the potential of a novel tropical biodiversity-based economy. In Loures LC (ed.), *Land Use - Assessing the Past, Envisioning the Future*. IntechOpen.

Pülzl H, Kleinschmit D and Arts B. 2014. Bioeconomy – an emerging meta-discourse affecting forest discourses? *Scandinavian Journal of Forest Research* 29(4):386-393.

Secretaria de Estado de Desenvolvimento Econômico, Ciência, Tecnologia e Inovação do Amazonas. 2021. *Notas Técnicas: Ciência, Tecnologia e Inovação na Bioeconomia Amazônica. Diretrizes para a Construção Conceitual da Bioeconomia no Amazonas / SEDECTI - AM, Manaus: Governo do Amazonas.*

Stegmann P, Londo M and Junginger M. 2020. The circular bioeconomy: Its elements and role in European bioeconomy clusters. *Resources, Conservation and Recycling X* 6: 100029.



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