

Solar Transitions and Bioeconomy in the Amazon: A Biophysical Framework for Energy Justice

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Why Energy Justice Matters in the Amazon

This study explores the role of solar energy in the context of protected areas in the Brazilian Amazon, combining a biophysical perspective with the principles of ecological economics.



Rather than focusing only on infrastructure, the research emphasizes social, environmental, and symbolic dimensions of energy access.



It frames energy as a right and a tool for autonomy, especially for traditional communities living in socio-biodiverse territories.



A Biophysical Framework for Just Energy Transitions

-  The project integrates concepts from Georgescu-Roegen's entropy law, ecological footprint analysis, and decentralized energy systems. It proposes a methodology to assess the efficiency and sustainability of solar energy in Amazonian production chains, comparing it to diesel-based systems. The approach connects energy policy with ecological limits, social equity, and the bioeconomy in forest territories.

Solar Energy, Bioeconomy, and Local Autonomy



The research supports the development of a technical guide for implementing solar energy in remote communities and production chains.

It contributes to energy sovereignty and climate mitigation, respecting the ecological thresholds of the region.

By aligning renewable energy strategies with local realities, the study advocates for energy transitions that are not only clean, but also fair and context-sensitive.



Thank you!



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