Regenerating nature - Bioeconomy as a key economic paradigm for tackling climate change, sustainable development, and restoring forests

The Fifth Global Conference

on Strengthening Synergies between the Paris Agreement and the 2030 Agenda for Sustainable Development Building a Just World and a Sustainable Planet

Eduardo do Couto e Silva

Director, Brazilian Biorenewables National Laboratory (LNBr) Brazilian Center for Research in Energy and Materials (CNPEM) September 5th,2024







UNITING AND REBUILDIN

The First Global Conference on Strengthening Synergies between the Paris Agreement and the 2030 Agenda for Sustainable Development, Denmark (2019)

Land Use and Agriculture are Central to Global South Strategies

How to **decouple economic growth and living standards** from environmental degradation and GHG emissions?



Year 2020; Source: Sirene (MCTI); Emissions Database for Global Atmospheric Research (EDGAR)

Synergy Solutions For A World In Crisis: Tackling Climate And SDG Action Together Report On Strengthening The Evidence Base I First Edition 2023





Global Environmental Crisis and Ecological Transition

Adapted froom UNEP Annual Report (2023)

commercial purposes		non-commercial purposes
climate emergency	pollution	ecosystem degradation
decarbonization	circularity	ecosystem balance

Ecological Transition Multifunctional Approach

Restoration of ecosystems (carbon storage)





Synergy and trade-offs are central elements



Agroforestry systems (social equity)



Biomass for biorenewables (fossil substitution)







Padgurschi, M. et al Transforming Degraded Pasturelands: A Multifunctional Landscape Approach to Curb Climate Change and Enhance Biodiversity, Nature Sustainability (2024) – under review

A Framework with Climate Change, Biodiversity and Desertification



Padgurschi, M. et al Transforming Degraded Pasturelands: A Multifunctional Landscape Approach to Curb Climate Change and Enhance Biodiversity, Nature Sustainability (2024) – under review

Ecological Transition

Multifunctional approach for restoration of degraded pasturelands (Mha)



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Padgurschi, M. et al Transforming Degraded Pasturelands: A Multifunctional Landscape Approach to Curb Climate Change and Enhance Biodiversity, Nature Sustainability (2024) - under review

Avoided emissions from LUC fossil substitution & carbon storage $(MtCO_{eq}^2/yr)$

Examples of Potential GHG Mitigation



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Padgurschi, M. et al Transforming Degraded Pasturelands: A Multifunctional Landscape Approach to Curb Climate Change and Enhance Biodiversity, Nature Sustainability (2024) – under review

Discussion Points



Restoration of native vegetation is essential for conservation and maintenance of **biodiversity** and for **compliance with NDCs**

Δ.

Integrated frameworks that incorporate multiple ecosystem services from land use is paramount for sustainable development



Recognition of **synergies and trade-offs** is central to further this agenda



Thank you

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