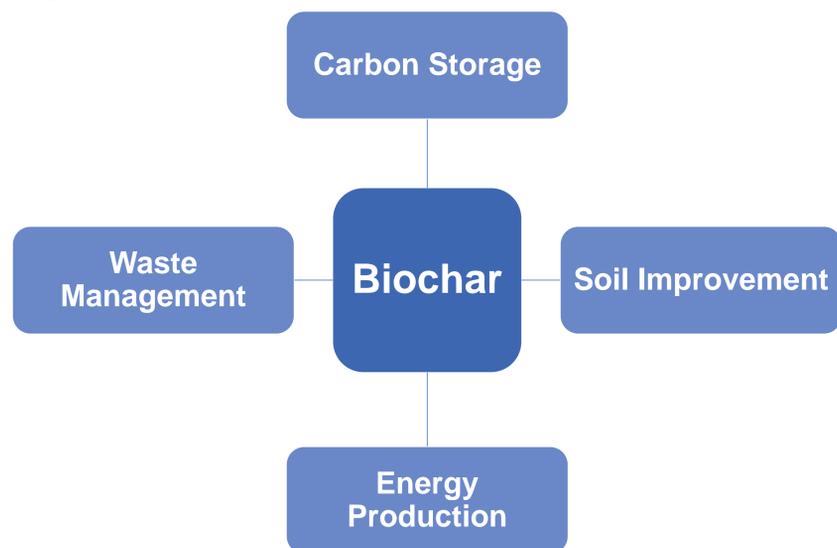


Biochar Reverse Mining in Brazil: Coupling Land Reclamation to a Negative Emissions Technology

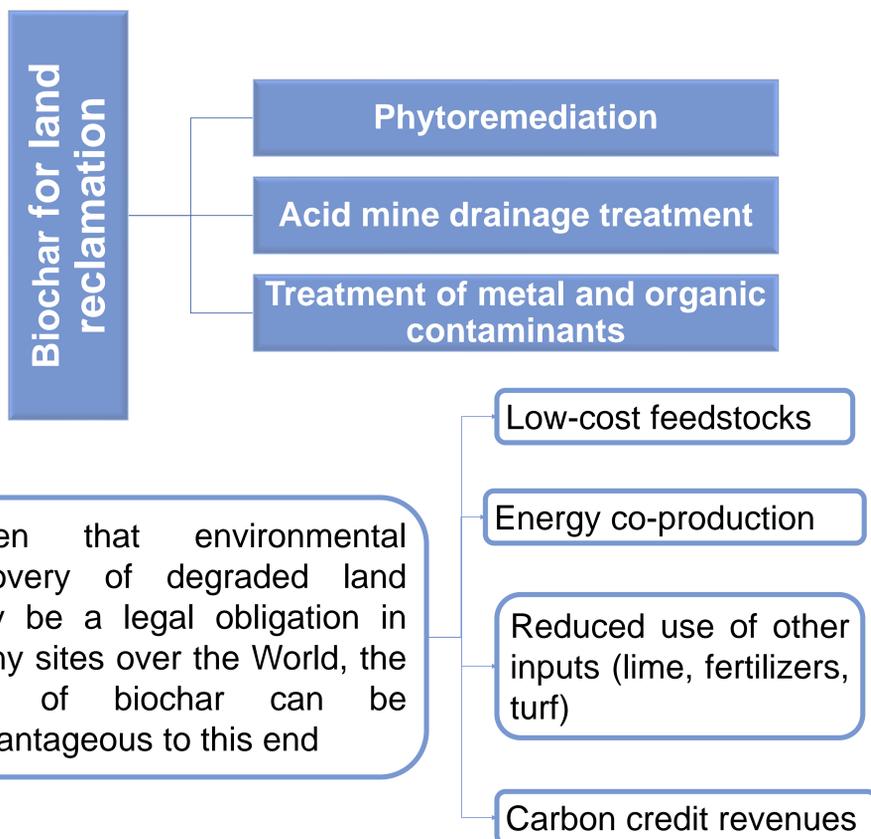
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CONTEXT

Biochar is a NET acknowledged by its capacity to perform long-term carbon storage while improving soil quality, producing energy and possibly giving a destination to agricultural residues.



The potential of biochar to enhancing seed emergency, crop productivity, water-holding capacity and nutrient retention, to reduce soil acidity and to stimulate microbial diversity and functions highlights its value as a great soil enhancer. Yet, recently much research has focused on its possible role as a degraded-land reclamation agent.



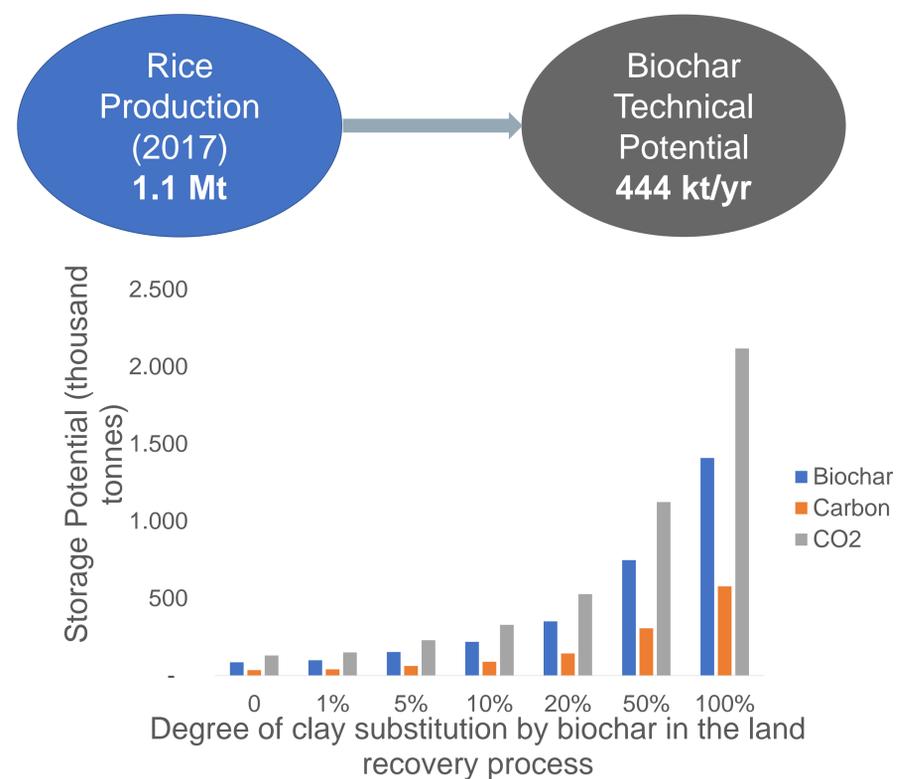
OBJECTIVE

This work aims to describe a system to reclaim coal-mining degraded areas by using biochar, focusing on the account of its GHG mitigation potential. A conceptual case study in the south region of Santa Catarina (SC) state, in Brazil, is assessed.

CASE STUDY

Santa Catarina concentrates roughly half of the country's coal production. In 1993, a lawsuit condemned the involved parties to develop environmental recovery projects to the degraded areas in the south of the state. Of the more than 6,000 ha reported as impacted, more than 4,000 ha have recovery projects in execution and planning phases.

The south of SC also stands as a major rice producing region, generating each year a considerable amount of residues. Whilst the husk is burned in the rice processing units to generate energy, the straw has no competing use. Moreover, since rice is produced in paddy fields in the region, no straw is required in the soil for erosion control.



CONCLUSIONS

- Higher carbon sequestration intensity as for soil amendment (t/ha)
- Easier implementation process (legal obligation, infrastructure)
- Might have an elevate potential for global scale degraded lands

ACKNOWLEDGEMENT



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