BARRIERS FOR CHARCOAL SUSTAINABLE PRODUCTION IN BRAZIL

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Overview

Brazil is the largest producer of charcoal in the world and uses all its production for domestic consumption. In 2016, 85% of the production was destined to the industrial, and 12% to the residential sector. The main Brazilian characteristic is the use of charcoal as a reducing agent in pig iron and steel production industries, replacing mineral coal. Due to the renewable origin of the raw material, Brazil also has the title of the largest producer of "green steel" in the world. If produced in a sustainable way, the use of charcoal in the steel industry brings relevant benefits, thus reducing greenhouse gas emissions, creating jobs, reducing external dependence on fossil fuels and promoting the use of planted forests, preserving native forests and local biodiversity. However, along the production chain are found several points that prevent sustainable charcoal production for this purpose. On another hand, for residential sector, charcoal has a specific end use in the country: barbecue cooking, which is a food with large cultural aspect. The residential use of charcoal in Brazil faces a worrying reality, given the lack of legislation guaranteeing the origin and quality of the charcoal commercialized. This situation has negative impacts, contributing to unhealthy working conditions, deforestation, illegal production and sale, as well as to health problems for producers and users. Thus, this work aims to identify the main social, economic and environmental barriers that hamper the sustainable production of charcoal in Brazil.

Methods

This work presents a bibliographical review of studies and research on secondary data from governmental databases about the main barriers of charcoal in Brazil . Firstly, it focused on studies on the use of wood for charcoal production to understand the points about the planning of supply and demand of raw materials. Through the recognition of the main productive chains of charcoal in Brazil, the environmental, economic and social impacts of greater relevance in the development and expansion of the charcoal production were identified. After that, legislation on the production of charcoal was investigated, which allowed to describe the main governmental measures for the improvement and sustainability of the productive chain. Thus, were listed the main social, economic and environmental barriers that should be prioritized for decision making in order to produce more sustainable charcoal.

Results

The results show that there is much to be improved in the Brazilian scenario. One of the barriers identified was the lack of demand planning, which caused pressure on native forests to produce charcoal and resulted in large deforested areas and devastation of Brazilian biodiversity. In addition, due to lack of supervision, the labor used to produce charcoal is marginalized (or slave in some situations). The lack of incentives makes the most of the technologies used are inefficient, which brings great environmental damage (by the large greenhouse gas emissions into the atmosphere), social (in terms of workers health) and economic (at low conversion of raw material in product). As the main need for improvement are investments and incentives for the research and use of more efficient furnace technologies in the process of transforming firewood into charcoal.

Conclusions

The barriers identified point out that Brazil has a long way to go in the search for more sustainable production of charcoal, however, incentives and government measures to increase the area of planted forests, commitment to extinguish slave labor, attempt to control the origin of the raw material and commitment of Brazil to comply with international agreements for the emission of gases, are good points that allow us to indicate a promising and sustainable scenario in the future.