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Towards strengthening sustainability instruments in the Brazilian sugarcane ethanol sector

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Towards strengthening sustainability instruments in the Brazilian sugarcane ethanol sector

Abstract

Among the most applied sustainability-oriented instruments in the sugarcane ethanol sector are the Environmental Impact Assessment (EIA) and the Bonsucro Certification. EIA is a mandatory decision support tool for environmental authorities to approve sugarcane ethanol projects, and the Bonsucro certification is a voluntary scheme that aims to demonstrate to external stakeholders the performance of sugarcane ethanol industry on sustainability issues. The objective of this research is to analyze the environmental, social and economic issues addressed in the Bonsucro certification that could be included in Environmental Impact Statement (EIS) – the technical report of EIA process – in order to extend EIA to the non-environmental dimensions and thus strengthen its contribution for sustainability in the sugarcane ethanol sector. The Brazilian context was chosen because the country is a pivotal producer of sugarcane, and whose production practices are continuously subject to the scrutiny of the international markets and academia. This is an applied research based on an exploratory-descriptive approach, employing a multi-case study in which data collection was accomplished by gathering document data, as well as semi-structured interviews with key sources and actors from the Brazilian sugarcane ethanol industry. Although most themes concerning the sustainability of the sugarcane ethanol sector are recognized in both instruments, some relevant sustainability issues are not included in either of the two and included in one but not in the other. As expected the main similarities between these two instruments are largely related to environmental issues – soil and water; biodiversity; emissions and effluents and recycling of waste – while differences can be observed in the economic and social dimensions. Promotion of energy efficiency was seldom included as a criterion in the EISs, whereas production and process efficiency, training for employees, quality of products and research and expertise were criteria completely absent from the EISs. We conclude that harmonizing the topics covered by the EIS and the Bonsucro certification would result in advantages: helping to mainstream sustainability within the lifecycle of the sugarcane production and to address some relevant social and economic issues within EIA processes in the sugarcane ethanol sector.

Highlights

- The Bonsucro certification and the Environmental Impact Assessment are used for promoting sustainability.
- Sustainability pillars are non-uniformly included in the Bonsucro certification and in the Environmental Impact Assessment.
- The Environmental Impact Statement is already used to obtain the Bonsucro Certification.
- Enlarging the scope of the Environmental Impact Statement can strengthen sugarcane sector sustainability.
- The Bonsucro certification addresses social and economic issues that are not included in the Environmental Impact Statement

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