

8<sup>th</sup> International Conference on

# BIOFUELS, BIOENERGY & BIOECONOMY

December 04-05, 2017 | Sao Paulo, Brazil

## Biomass waste energetic use and its impacts: A case study in the capital of Brazil

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**Statement of the Problem:** The energy use of biomass waste brings immediate benefits because it adds value to an environmental burden, it can replace fossil sources and increase the efficient use of natural resources. However, there are other factors that need to be evaluated in order to confirm the feasibility of biomass as a proper and competitive energy source. The availability of waste should be checked for location, access and quality of the material. The technology for energetic conversion of biomass is also an important bottleneck. All these factors influence the economic, social and environmental dimensions and can determine the success or failure of such an initiative. In the search for a better understanding of this problem, the scope of this project will cover activities that generate biomass residues and potential consumers of this form of energy in Brasília, the capital of Brazil.

**Methodology & Theoretical Orientation:** This project is divided into three major phases: Biomass diagnostics, energy conversion technologies and evaluation of energy recovery scenarios. The project will be carried out in the dependencies of the Forest Engineering Department in the University of Brasília (EFL/UnB) in partnership with the Biomass Energy Laboratory of the Forest Products Laboratory of the Brazilian Forest Service (LPF/SFB).

**Findings:** There is a significant amount of biomass waste in Brasília, despite its low level of industrialization and farming activities. The immediate availability of waste for energy is low because this material is already used in other activities such as livestock feeding or fertilization. Pruning has a great potential, since its waste does not compete directly with other activities.

**Conclusion & Significance:** Biomass waste for energy purposes is a technical and logistical challenge due to its properties. The energetic use of biomass waste in municipalities should be encouraged nearby its generation spots.

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