

Influence of Densification Process and Material Properties on Final Briquettes Quality from FastGrowing Willows

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Abstract : Biomass treatment through densification is very suitable and important technology before its effective energy recovery. Densification process of biomass is significantly influenced by various technological and also material parameters which are ultimately reflected on the final solid Biofuels quality. The paper deals with the experimental research of the relationship between technological and material parameters during densification of fast-growing trees, roundly fast-rowing willow. The main goal of presented experimental research is to determine the relationship between pressing pressure raw material fraction size from a final briquettes density point of view. Experimental research was realized by single-axis densification. The impact of fraction size with interaction of pressing pressure and stabilization time on the quality properties of briquettes was determined. These parameters interaction affects the final solid biofuels (briquettes) quality. From briquettes production point of view and also from densification machines constructions point of view is very important to know about mutual interaction of these parameters on final briquettes quality. The experimental findings presented here are showing the importance of mentioned parameters during the densification process.

Keywords : briquettes density, densification, fraction size, pressing pressure, stabilization time

Conference Title : ICEEE 2015 : International Conference on Energy and Environmental Engineering

Conference Location : Osaka, Japan

Conference Dates : October 08-09, 2015