



form of pelletised local agricultural residues in Sarawak. Sundar District, which is located at Limbang division, has been chosen as study site to test the spreadsheet programme developed in order to investigate the feasibility of implementing pellet-power generation system in isolated area. Based on the feasibility calculation and sustainable aspects and criteria from the spreadsheet programme developed, the results from this study showed that it is possible to sustainably adopt pellet as fuel for power generation at Sarawak isolated area sustainably.

Paper ID.: 34193

Sustainable Pelletization Of MetroxylonSagu Plantation

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Malaysia is a developing country which generates plenty of biomass wastes from plantation and industries which might induce a number of environmental problems. These predicaments could be solved if these biomass wastes are properly managed or converted into value-added products such as pellets or briquettes. Pelletisation is a form of densified biomass that eases the transportation and distribution of the fuel. It is widely adopted in the European countries especially for electricity generation and as fuel for home heating system. The source for plantation waste in Malaysia especially from oil palm industry, paddy, coconut and sago plantation are abundant and easily to be collected. Therefore, the purpose of this study is to utilise sago plantation wastes such as fronds as raw material for pelletisation. This study also investigated the properties of such pellet on moisture content, calorific value, ash content and amount of fine produced. The pellets produced from this study have low calorific value and bulk density but with higher moisture content and ash content as compare to commercial wood pellet standard. Nevertheless, if the raw material of the pellets could be improved, the properties of the produced sago waste pellets could be enhanced significantly. As such, it is concluded that sago plantation wastes are possible to be pelletised as fuel for power generation.