

***Utilization of Biogas Sludge with Randu Leaf Adhesive (Ceiba pentandra) as Briquettes***

Zeni Ulma, S.ST., M.Eng.

**Hegy Eka Anugrah**

***Study Program of Renewable Energy Engineering***

***Majoring of Engineering***

**ABSTRAK**

*Utilization of biogas sludge from cow dung for making briquettes is one of the efforts to reduce the use of fossil fuels. This study aims to determine the best composition of using kapok leaf adhesive on the quality of biogas sludge briquettes and the characteristics of biogas sludge charcoal briquettes with kapok leaf adhesive. Analysis of the data used in this study using three percentages of biogas sludge as raw material with Randu leaf adhesive, namely 75%: 25%, 70%: 30%, and 65%: 35%. The writing method used in this research is pyrolysis in this process which lasts for 2-3 hours using a temperature of 200-300°C. The best composition variation is SBR 1 variation with water content 6.7638 gr/cm<sup>3</sup> (SNI<8), ash content 1.0199 (SNI<8) density 1.1627 gr/cm<sup>3</sup>, kamba density 0.3563 gr/cm<sup>3</sup>, and the burning rate of 0.0887 gr/s. Meanwhile, the briquette test on the calorific value still does not meet the standard (SNI > 5000), which is only 2667 cal/gr, so it requires further research.*

***Keywords: Sludge Biogas, pyrolysis, briquettes, calorific value***