

Tekno-Ekonomi Briket Sekam Padi dengan Perekat Getah Damar dan Minyak  
Jelantah  
*Tekno-Economics of Rice Husk Briquettes with Dammar (Agathis dammara)  
Gum Adhesive and Use Cooking Oil*  
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***ABSTRACT***

As the population grows, so does the need to use fossil fuels, which means that fossil fuel reserves are getting less and less available. To overcome this, a renewable and environmentally friendly alternative energy source like rice husks is absolutely necessary. In 2020, approximately 10.92 million tons of rice husks were produced by rice production. Rice husk briquettes with gum resin adhesive and used cooking oil will be the focus of this study. Utilizing techno-economic analysis such as Cost of Goods Sold, Break Even Point, Net Present Value, Benefit Cost Ratio, and Payback Period, calculating fuel consumption comparisons, calculating fuel efficiency values, and carrying out cost analysis of rice husk briquettes made from coconut shell waste, the purpose of this study is to determine overall whether or not it is appropriate to invest in products made from rice husk briquettes. Using a method of calculation in the form of Cost of Goods Sold per kilogram (IDR 7,660/kg), the techno-economics of rice husk briquettes using gum resin adhesive as renewable energy show that the Break Even Point is IDR 78,486,503. Net Present Value is Rp. Rp. 291.220.158, Payback Period of 2 years which indicates that the capital will be returned within 2 years and the Benefit Cost Ratio is 1.5 so that the briquette business is feasible to run. Rice husk briquettes are a fuel that has the highest economic value when compared to LPG stoves and electric stoves. Compared to coconut shell briquettes, rice husk briquettes are more expensive and have lower calorific value, so they need to be considered again for future development.

***Key Words:*** *Dammar Gum, Rice Husk Briquettes, Techno-economic Analysis, Waste Cooking Oil*