

## ABSTRACT

*Biogasoline plant will planned at Berau Regency of East Kalimantan Province on an area 2,11 km<sup>2</sup>, it will operated 24 hours for 330 days. This plant is using a byproduct of Crude Palm Oil (CPO) with hydroprocessing method. Production CPO in East Kalimantan is 1,959,042 tonn/year. On CPO product is contain of 5-6% Palm Fatty Acid Distillate (PFAD). This material can be processed into commodities that have high value such as motor vehicle fuel. PFAD contains of triglycerides which can be converted into biogasoline. The process used in plant design is hydroprocessing which consists of hydrotreating and hydrocatalytic cracking processes. Both methods operate with high pressure and temperature conditions, and use hydrogen gas to improve product quality. 10,333 tons of PFAD produce 30,000 tons of biogasolin. The first process is the breakdown of carbon chains with a hydrotreating process at a temperature of 330°C and a pressure of 3300 kPa. The second process is hydrocracking, it produce biogasolin and biofuel other. The percentage of biogasoline products is 75%, Biokerocene 24%, LPG 0.5% and biodiesel 0.5%. The form of the company is a Limited Liability Company (PT) with line and staff organizational structure. The employee work system is based on the division of working hours consisting of shift and non-shift employees. The plant is planned to be established in 2018. From the results of the economic evaluation that has been carried out on this plant, the Break Event Point (BEP) value is 40.59% and Shut Down Point (SDP) is 9.05%.*

*Keywords : PFAD, Biogasoline, Hydroprocessing*