

## **ABSTRACT**

*Climate change is one of the main causes that threatens life on earth. Various policies are being pursued by Indonesia to achieve emission reduction targets and Net Zero Emission. One of the efforts is that Indonesia has signed the COP26 Coal to Clean Power Transition Statement or a transition statement from coal energy to clean energy. This commitment to clean energy is targeted to reach zero emission by 2060, or sooner. The company wants to expand its business into the new and renewable energy (EBT) sector. Therefore, before PT Bukit Asam develops its business to establish a wood pellet plant, it is necessary to first design the initial business and feasibility which includes aspects of feasibility analysis, namely market aspects, technical aspects, operational aspects, environmental aspects, financial aspects, and sensitivity analysis to be able to determine whether this business development is feasible to run or not. The design stages in this Final Project are the preliminary stage, data collection stage, data processing stage, analysis stage, verification, validation, and conclusion and suggestion stage. This research uses the assumption that interest rates, inflation, taxes, and other economic conditions are considered stable based on the time when the research was conducted. The inflation rate used is 3.27% and the MARR value used is 8%. Based on the feasibility calculation on the financial aspect, the establishment of a wood pellet plant is feasible with an NPV of Rp 29,393,458,729, an IRR of 44.34%, a PBP of 2.28 years, and a BCR of 1.29. And according to sensitivity analysis, the establishment of this wood pellet plant is sensitive to a decrease in product selling prices by 12.01%, sensitive to an increase in direct raw material costs by 41.57%, and sensitive to an increase in raw material supply service costs by 51.46%.*

**Keywords – Net Zero Emission, Feasibility Analysis, Sensitivity Analysis**