ABSTRACT


The world's population continuously grows at a quarter million people per day. This fast growing population has raised the world energy consumption up to 4x10^{18} J per year with 80 to 90 percent derived from the combustion of fossil fuels. It is estimated that the fossil energy will be lasted in 42 years. Rice husk is alternative of non-fossil energy that may be utilized in traditional way of cooking (burning it in a traditional stove). One of the renewable energy has great potential to overcome the energy crisis was utilization of rice husk to husk stove. However, the utilization of rice husks to generate carbon gas stove that quite a lot. Excessive concentration of carbon in the air is not good for the environment, because the excess carbon released into the air can make climate change will complicate things even further. So, we need a new alternative to utilize carbon gases from burning the husk. The purpose of the utilization of carbon gases from burning rice husk is to create alternative energy that can reduce the release of carbon into the air as part of efforts to reduce global warming impact method used in the manufacture of alternative energy is the method by cavitation. In order to reduce the gas pollution the gas may be mixed with kerosene and water using sonochemical technique to produce dry steam, so the dry steam from cavitation process can be used as fuel. The process result can be done to boil 1 liter water with energy efficiency between 11.44% - 18.16%. The stove with fuel of water-bio ethanol using cavitation method can be used to boil 1 liter water with energy efficiency between 13.25% - 17.50%. Carbon flown on stove interfered toward energy efficiency and can accelerate boiling time of 1 liter water.

Keyword: rice husk, carbon, kerosene, bio ethanol, cavitation method