Abstract

Energy is one of the most essential requirement for living things, especially humans. Without the existence of an energy source, a human would have trouble running the wheel of life. Humans need energy resources for daily life, ranging from driving transport to various household needs, such as cooking and lighting tools.

The energy crisis that occurred lately have led to new innovations carried out aimed at finding new sources of renewable energy. New sources of energy is expected to cost affordable nor does it have a negative impact on the environment. One of the innovations of the development of alternative energy is biogas.

Public demand for biogas technology has increased lately, because the entire community also want to feel the benefits of biogas, thus encouraging to undertake capacity expansion on biogas-biogas that already exist today in the community.

Prior to the expansion of capacity, there are two principles that should be reviewed in advance ie, substrate or raw materials of biogas and biogas instrument itself. In this final project will discuss the additional production capacity in engineered substrates biogas organic waste is used as a raw material of biogas in the Village Cibangkong.

Gas measurement results obtained Cromatography method that susbstrat capable of producing biogas is the optimal substrate refined and plus additives (sample 4) is equal to 45920 ppm of methane, pressure measurement results obtained substrate diperhalusa and plus additives (sample 4) has pressure The biggest is 174 psi on day 10. After the tests the installation of biogas for household 6, sample number 4 results obtained are able to meet the needs of six households for 10 days, different from the first sample which only lasted 3 days, the results of this research showed an increase in methane production amounted to 26131 ppm which is 2.32 times than sample 1.

Keywords: biogas , organic waste , methane , biogas production , biogas consumption.