

**PROTOTIPE REAKTOR BIOGAS BERBAHAN BAKU LIMBAH TERNAK
(KOTORAN SAPI) DAN LIMBAH PASAR (SAMPAH SAYUR) SEBAGAI
ENERGI ALTERNATIF**

Amelia Carela

Jurusan Teknik Kimia Program Studi D.IV Teknik Energi
Politeknik Negeri Sriwijaya Palembang
Email : Ameliacarela@gmail.com

ABSTRACT

Using for energy makes reserves running low, for it to need alternative renewable energy, saving energy and enviromentally friendly, is using of biogas. Biogas is a gaseous fuel produced from fermentation of organic materials with the help of anaerobic bacteria that can be used as an alternative energy. Manufacture of biogas reactors is done to support biogas fermentation with raw material mixture of cow dung and vegetable waste in ratio 7 : 3. Biogas production is done by varying volume of EM4 as activator 43 ml, 48 ml and 53 ml. Fermentation biogas done until 20 days. Result of biogas is analyzed to know volume of biogas from variation of EM4. From calculation, the highest volume biogas that add EM4 53 ml is 16,68 L. After getting volume the highest calorific value is 13.895 kJ/kg. Calorific value is not suitable for combustion, because compositon of CH₄ content 22,97 % and still under standart of biogas.

Keywords : Cow dung, vegetable waste, volume EM4, biogas, methane gas