

ABSTRACT

STUDY ON POTENTIAL ENERGY AND TECHNOLOGY OF ORGANIC WASTE IN BANDAR LAMPUNG

By

Ikhwan Sulaiman

Garbage is a problem for the city of Bandar Lampung, both for residents and their environment. While the trash at this time can be used as energy through the thermal process. To utilize the energy derived from waste, it is necessary to study the characteristics of waste generated by the conditions that need to be considered is the condition of waste and treatment, variety and amount of waste and energy content per unit mass.

There are several kinds of thermal processes, such as incineration, gasification and pyrolysis. These process will significantly reduce the volume of waste which is no longer able to be accommodated by TPA Bakung. Characteristics of trash for each thermal process is also different, so the characteristics of Bandar Lampung city garbage needs to be studied.

The characteristics of Bandar Lampung city garbage that has high moisture content need to be removed by drying process, either using the drying by the sun or take advantage of wasted heat by the thermal processes. With dry characteristic waste and flammable, it can be determined that gasification process is a thermal process that is best suited to the characteristics of waste city of Bandar Lampung.

Gasification has been known for a long time and used in some developed countries, the characteristics of organic waste with low moisture content suitable to this process. One of the facilities that use this technology available in Chianti, Italy which produces 33.7 MWe with a capital of 980 billion rupiah.

Keywords: energy from organic waste, organic waste characteristics, gasification