

UGM Successfully Develops Technology to Process Waste into Biogas

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UGM has successfully developed the technology to process waste into biogas. The biogas installation built in the Gemah Ripah fruit market, Gamping, Sleman, produces biogas that can generate electricity for the lighting in the market area. "The existing biogas unit is used to process waste at the fruit market in Gamping in the form of rotten fruit to be used as biogas, which can be used as fuel for electric generator," Dr. Siti Syamsiah, UGM Waste Refinery Program Coordinator, explained to reporters in UGM Main Office's Stana Parahita room on Wednesday (9/2).

Siti said that every day the Gamping fruit market produces 4 tons of rotten fruit waste. All this time the fruit waste was never used and disposed of into landfills. By building the installation of biogas, the garbage can be converted into biogas. "This unit has a processing capacity of 4 tons of rotten fruit per day and is expected to produce as much as 333 Nm of cubic meters of biogas per day," she explained.

Siti said the biogas produced has been used as a fuel for electric generators. The electricity generated is able to supply most of the electricity needs in the Gamping fruit market area. "The plan is to generate 548 kwh of electric power each day. In the maximum condition, it can meet the electricity needs of about 500 families, said the lecturer of Chemical Engineering Department.

Siti conveyed that currently two units of the digester had been built, equipment to ferment the fruit waste into biogas, which in one week can generate electricity for lighting for most of the stalls in the Gamping fruit market. In addition, they are able to supply electricity for the streets lighting around the market area. The bio-digester is built below ground level with a diameter of 8 meters and a height of 8 meters.

The development of waste processing technology into biogas is conducted in cooperation with the

Government of Sweden and the University of Boras, Sweden. The Swedish government has provided IDR 1.6 billion for the construction of biogas and research. Meanwhile, the provision of generators and electrical network are facilitated by the Local Government of Sleman. UGM also supported it through a number of studies regarding the processing of biogas.

Siti delivered that the technology adopting the solid waste management technology has been done in Sweden. However, the use of the technology still was still adjusted to local conditions in Indonesia. "The technology of waste management into biogas was transferred from Sweden, one of the countries that have implemented the respective technology," she explained.

The biogas units demo plant (demplot) will be unveiled on Thursday, February 10, 2011. According to the plan, the inauguration will be attended by the Governor of Yogyakarta and the Swedish Ambassador.

Meanwhile, Parl Carlsson, Coordinator for Strategic Development, Boras Energy and Environment, said during the last 20 years, Sweden focused in an effort to transform waste into energy. As the result, now in Sweden about 30 percent of electrical energy used to generate the air conditioner is supplied from the biogas which originates from fruit waste. In addition, biogas is also used for public transportation fuel.

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