

"Gurza Incinerator" : Biomass Incinerator Powered by Empty Bunch of Palm Oil Fruits as Electrical Biomass Base Development

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Abstract : Indonesia is the largest palm oil producer in the world. The increasing number of palm oil extensification in Indonesia started on 2000-2011. Based on preliminary figures from the Directorate General of Plantation, palm oil area in Indonesia until 2011 is about 8.91 million hectares. On 2011 production of palm oil CPO reaches 22.51 million tons. In the other hands, the increasing palm oil production has impact to environment. The Empty Bunch of Palm Oil (EBPO) waste was increased to 20 million tons in 2009. Utilization of waste EBPO currently only used as an organic fertilizer for plants. But, it was not a good solution, because TKKS that used as organic compost has high content of carbon and hydrogen compound. The EBPO waste has potential used as fuel by gasification because it has short time of decomposition. So, the process will be more efficient in time. Utilization of urban waste has been created using an incinerator used as a source of electrical energy for household. Usually, waste burning process by incinerator is using diesel fuel and kerosene. It is certainly less effective and not environment friendly, considering the waste incineration process using Incinerator tools are continuously. Considering biomass is a renewable source of energy and the world's energy system must be switch from an energy based on fossil resources into the energy based on renewable resources, the "Gurza Incinerator": Design Build Powerful Biomass Incinerator Empty Bunch of Palm Oil (EBPO) as Electrical Biomass Base Development, a renewable future technology. The tools is using EBPO waste as source of burning to burn garbage inside the Incinerator hopper. EBPO waste will be processed by means of gasification. Gasification is a process to produce gases that can be used as fuel for electrical power. Hopefully, this technology could be a renewable future energy and also as starting point of electrical biomass base development.

Keywords : incinerator, biomass, empty bunch palm oil, electrical energy

Conference Title : ICFTAE 2015 : International Conference on Food Technology and Agricultural Engineering

Conference Location : Tokyo, Japan

Conference Dates : May 28-29, 2015