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Clean Development Mechanism (CDM) through Greenhouse Gases (GHGs) Emission Reduction by Improved Municipal Solid Waste (MSW) Management in the City of Pontianak – Landfill Gas (LFG) Capture, Flaring and Electricity Generation

THIS PAPER IS THE RESEARCH RESULT IN THE MSW FIELD OF PONTIANAK THAT WAS CONDUCTED IN FEBRUARY 2009. THE PURPOSE OF THE RESEARCH IS TO REVIEW THE PROGRESS OF THE PROJECT COOPERATION RUN BETWEEN THE MUNICIPAL GOVERNMENT OF PONTIANAK AND PT. GIKOKO KOGYO INDONESIA TITLED “PONTIANAK - GHG EMISSION

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For : Institute for Global Environment Studies (IGES)

Method : Observation and Interview

1. Pontianak and Its Waste

Pontianak is the capital of the Indonesia province of West Kalimantan. It occupies an area of 107.82 km² in the delta of the Kapuas River, at approximately 1143 km, the longest river in Indonesia and the 133rd-longest river in the World by length. It is located precisely on the equator which is situated at coordinates of 00 1' 33.75" N, 109 19' 20.31" E.

The Municipality of Pontianak population is growing from 2006 from 536,580 by July 2006 to 552,785 at the end of 2007. To-date population according to the Central Bureau of Statistics of the Municipality of Pontianak is approximately 600,000 with the population growth rate approximately of 2.0% p.a. (http://kalbar.bps.go.id/kota_ptk/Kota/index_duk.htm)

The growth of population leads naturally to various problems in particular waste problem. Waste can not be considered as a simple matter. Hygiene, health and other social-economic problem can occur from waste problem. Without commitment and a strong will from the actors related to the waste management system, waste will become a source of disaster for the city of Pontianak and its surroundings.

Another problem faced by Pontianak is electricity. From our 2-day site visit¹ we have experienced that due to the insufficient electricity supply, the electricity flow in this city constantly drops. This is apparently a sign that Pontianak needs more supply of electricity. In this matter, waste can be a great potential to make a contribution in solving the electricity problem for the Municipality of Pontianak. With a proper waste management system using Landfill Gas Flaring Facility, methane gas can be produced and utilized as electricity source. Thus, it can contribute to the implementation of the vision of sustainable development in the Municipality of Pontianak, through which it brings benefits to social, environmental and economic dimension.

2. Waste Management for Pontianak Municipality at TPA Batu Layang

To achieve these objectives the Local Government of the Municipality of Pontianak which in this case is represented by the Agency of Sanitary and Gardening of Pontianak City cooperates with the PT Gikoko Kogyo Indonesia and the Institute of Global Environment Studies (IGES) build the installation of LFG collection system and an Enclosed LFG Flaring facility which will destroy the methane gas that is being generated within the City of Pontianak's landfill, TPA Batu Layang. This project will at the end utilize some of the collected LFG for the generation of electricity. The installation of the facility can be seen in Figure 1 below.

¹ Two researchers, Mr. Masanori Kobayashi and Mr. Martha Fani Cahyandito conducted the site visit on February 7 and 8, 2009.