



Project Application : Bio-Gas Capture Facility

Case History : FELDA Besout POME Bio-Gas Project

Client : Global Strategic Sdn. Bhd.

Owner : FELDA Palm Industries Sdn. Bhd.

Scope : Design and Construct Covered In-Ground Anaerobic
Digester with Gas Collection and Effluent HDPE Piping System.

Completion : 2009

The completed methane capture facility comprised a bottom HDPE liner and HDPE cover encompassing the POME in between these two liners thereby creating an anaerobic digester.

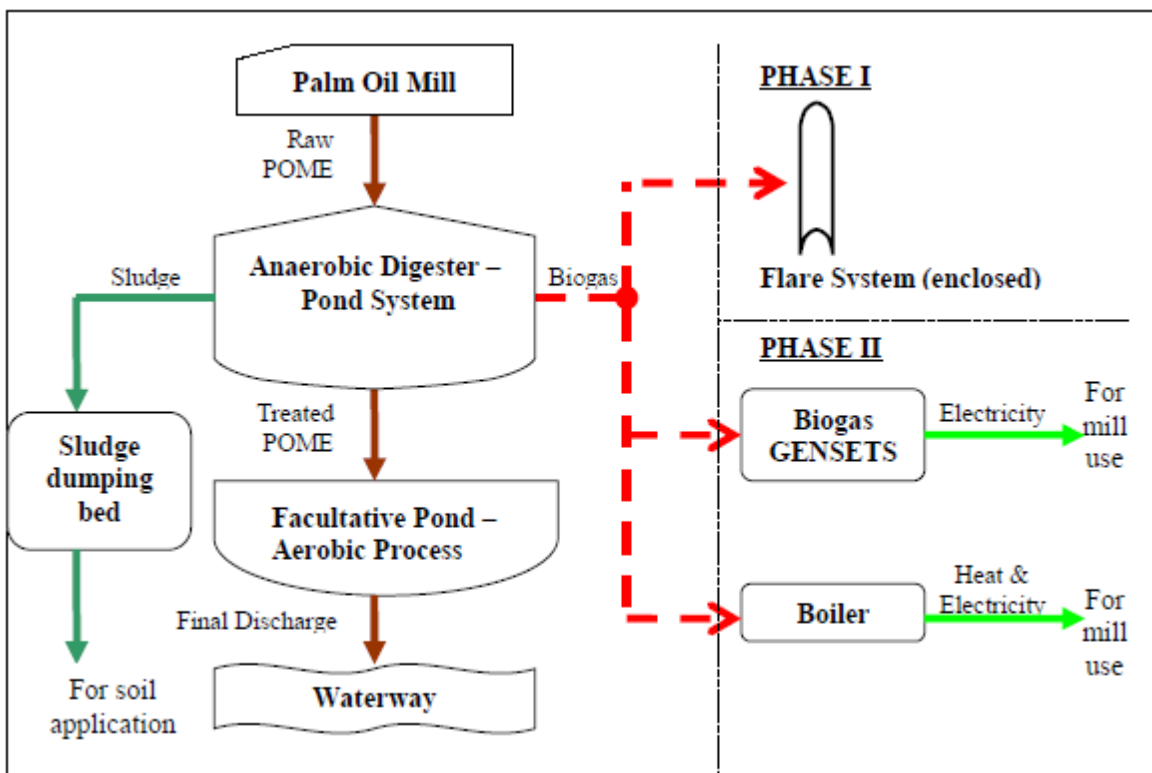
A system of HDPE piping were installed on the bottom liner inside the digester to remove the collected sludge to a designated sludge drying bed and a separate piping system were installed to create a mixing effect for the POME inside the digester to enhance methane generation.



The biogas captured in the covered digester is transferred by negative pressure through the HDPE gas collection pipe inside the digester to the enclosed flare unit located offsite from the digester where the amount of biogas is measured and recorded before being flared off.

The biogas collected will be used for electricity generation in the proposed Phase II of the project.

A schematic diagram of the facility taken from the project PDD is shown below for reference :-





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Photographs of the Project.

FELDA G. Besout Anaerobic Pond – 1.5mm thk HDPE Geomembrane Lining.



Base and slopes lined with 1.5mm thk. HDPE Liner



Gas collection pipe for bio-gas collection.



View showing influent pipes; far end and on slope desludging pipes.



Anchor trench near to effluent pipes.



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FELDA G. Besout Anaroebic Pond – 1.5mm thk HDPE Geomembrane Lining.



**Deployment of the
1.5mm thk. HDPE Cover**



**Completed cover with captured
gas showing pipe
leading to the flare**



Flare assembly at a distance



**A nearer caption of the cover with
man walking on top.**



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