



## Thailand – Waste to Energy

### Overview: Wastewater treatment and Biogas recovery at Cassava processing plant.

The project consists of the installation of a new Anaerobic Baffled Reactor in place of a series of open lagoons, to treat wastewater at a starch factory. Biogas from the reactor is used to generate heat to dry the starch product, and there is an enclosed flaring system for excess biogas, so that methane is not released to the atmosphere.



### Benefits: Emissions reductions and sustainable development

This Project delivers reductions in greenhouse gas emissions in two ways. Firstly, the reactor removes organic material from the wastewater generated by three starch processing plants. The capture & combustion of methane, which would otherwise be released from the degradation of organic material in the open lagoon system, removes a greenhouse gas considered 21 times more potent than carbon dioxide. Secondly, the biogas produced by the plant is used as a fuel in the boiler generating heat for final dry starch production, thereby displacing some 3 million litres per year of heavy fuel oil otherwise used for this purpose. A smaller quantity of the biogas will be used for electricity generation, with any excess flared.

The Project will deliver further local environmental benefits, including the improvement of final wastewater quality and the reduction in odour/nuisance and groundwater contamination. The project, which employs 22 full time staff, will also serve as a biogas education centre. As a clean technology demonstration project, the economic feasibility and operational performance of this type of biogas reactor can be proven for agro-industries within the SE Asia region.

### Project carbon credits

During the verification period from 15 Jan 2007 to 30 Jan 2009, greenhouse gas reductions by this project totalled 83,655 tonnes of CO<sub>2</sub> equivalent. Carbon credits were verified to the Voluntary Carbon Standard (2007) in June 2010 by SGS. (Certificate available upon request). Carbon credits from 31 Jan 2009 onwards are registered under the CDM programme.