



CYY Biopower Wastewater treatment plant, Thailand

This Gold Standard VER project involves the installation of an anaerobic wastewater treatment facility, based on Upflow Anaerobic Sludge Blanket technology, at a starch manufacturing plant in Thailand.

Project overview

Wastewater is produced every day from the production of starch.

The wastewater in the plant is treated through cascading lagoons with a retention time of more than a year. The mix of the lagoon size, atmospheric and water temperature, result in an anaerobic environment in the ponds.



Greenhouse gas emission reductions are achieved by capturing methane, which is no longer released into the atmosphere.

These conditions result in methane generation from the organic content of the wastewater which, in the absence of the project, would be released into the atmosphere. The installation of an anaerobic wastewater treatment facility enables the capture of gas from the lagoons. Part of the gas is collected and used in the factory as alternative fuel in an existing thermal oil boiler used for starch drying. The rest of the gas is used as fuel in a number of power generators (gensets) consisting of a biogas fired engine and an alternator, to generate a maximum of about 2600 kWe electricity.





The project significantly contributed to sustainable development through:

- Reduction of greenhouse gas emissions through avoided methane emissions and displacement of electricity generated by fossil fuels-based power plants;
- Displacement of fuel oil with biogas, which results in less dependency on imported fossil energy. This in turn results in energy security and foreign exchange savings.
- Capture of methane which otherwise would be let into the atmosphere, thereby achieving better local air quality and reducing offensive odors from open air lagoons are reduced

The substitution of fuel oil with biogas due to the project activity results in increased availability of these fuels in the local market.

For further details please contact:

South Pole Carbon Asset Management
 Sales Department
 g.gervasoni@southpolecarbon.com



- Improvement of the quality of water discharged into the environment
- Improvements in economic conditions. The construction, operation and maintenance of the biogas plant generate local employment. Twelve permanent positions have been created. This covers both qualified and support staff positions.
- Enhanced safety. A stainless steel piping system is used for transporting the generated gas, which avoids possibilities of corrosion, leakage and fire hazard
- The use of CDM as an incentive for bringing about an energy efficiency project;

KEY DATA

Average Emission Reductions per year:
 96,000 tCO₂
 Commissioning date: 2007
 Standard: Gold Standard VER, pre-CDM