



CHORCHAIWAT BIOGAS FOR CLEAN ENERGY THAILAND



Biogas from wastewater reduces harmful greenhouse gas emissions and reduces fossil fuel use

This project mitigates the greenhouse gas emissions from a Thai tapioca starch factory by capturing biogas from wastewater and using it to replace heavy fuel oil in boilers. Local communities benefit from improved air quality and from positive social and environmental impacts.



The Context

Just a few years ago, the wastewater from this Tapioca starch plant in Thailand was treated in a series of open lagoons. The combination of the atmospheric and water temperature forms an anaerobic environment in these ponds that leads to the potent and odorous greenhouse gas methane being released into the atmosphere.

The Project

By covering these open lagoons with an anaerobic wastewater treatment facility, methane previously released into the atmosphere is captured and used as biogas to generate clean electricity. In addition, by using this biogas as fuel in existing heat generating devices in the starch plant, heavy fuel oil is no longer required, leading to further CO₂ reductions.

The Benefits

Today, the project has a dual benefit for the environment: It reduces the emission of the potent greenhouse gas methane and decreases fuel consumption of the plant by 80%. Local air and water quality have been improved significantly. In addition, carbon credit revenues are used to fund social and educational activities within local communities.

The captured biogas can be used to replace fossil fuels, further reducing the factory's output of greenhouse gas emissions.



1
ambulance

donated for the local emergency service, improving the wellbeing of surrounding communities



3,000
m³

wastewater treated per day, providing a cleaner water resource



80
%

decrease in the plant's fuel consumption by the provision of a cleaner biogas alternative



23,000
tCO₂e

mitigated each year, directly contributing to climate change mitigation

For more information on the UN Sustainable Development Goals, please visit: <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

Official name: Chorchaiwat Wastewater Treatment and Biogas Utilization Project | **Registry link:** http://vcsprojectdatabase.org/#/project_details/411 | **Registry ID:** 411