



# NAKHON BIOGAS THAILAND



**Generating sustainable electricity from  
wastewater biogas**

*This project mitigates greenhouse gas emissions and prevents local air pollution from a Thai starch plant by capturing methane and generating sustainable energy which also benefits local communities.*



### The Context

The production of cassava starch is a large industry in Thailand. It's production however, produces large amounts of wastewater that, when stored in large open lagoons, emits harmful methane emissions into the atmosphere. Methane is a greenhouse gas 21 times more potent than CO<sub>2</sub>.

### The Project

Prior to this project, wastewater was treated through cascading open lagoons. This process resulted in methane being steadily released into the atmosphere. The project activity involves installing a closed lagoon anaerobic system that capture the methane gas emissions and uses it for clean energy production in the plant. This not only avoids the emission of harmful gas, but replaces energy sourced from the burning of fossil fuel.

### The Benefits

The project has significantly improved the local air and water quality; at the same time the fossil fuel use of the starch plant has been significantly reduced. The project and the resulting carbon revenue generate jobs for locals and supports social and educational activities. The clean wastewater is used to irrigate nearby fields and allows fish farming, enabling local communities to increase their income.

Using methane from wastewater generates electricity and avoids burning thousands of tons of fossil fuel.



Gold Standard



**850,000**  
m<sup>3</sup>

of water treated/year, providing a clean recycled water resource to farmers



**1,600**  
MWh

electricity generated per year, providing an alternative to the burning of fossil fuels



**11**  
permanent

jobs created, boosting local economies with new income streams



**97,468**  
tCO<sub>2</sub>e

mitigated per year by capturing emissions and displacing fossil fuels

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

**Official name:** CYY Biopower Wastewater treatment plant including biogas reuse for thermal oil replacement and electricity generation Project, Thailand

**Registry link:** [https://mer.markit.com/br-reg/public/project.jsp?project\\_id=103000000002356](https://mer.markit.com/br-reg/public/project.jsp?project_id=103000000002356) | **GS ID:** 560