

# Heat Production in Manioc Processing



Manioc roots being delivered on small trucks.

**The capture of climate-damaging methane at a tapioca starch factory and its use as biogas instead of coal reduces emissions of climate-damaging gases and the consumption of fossil energy sources.**

Daklak Tapioca Factory - a starch factory owned by the Daklak Agricultural Materials and Food Joint Stock Company (DAKFOCAM) in the southeast of Vietnam - processes some 43,000 tonnes of manioc roots per year producing about 12,000 tonnes of tapioca starch products. The production process results in large quantities of wastewater with a high content of organic substances. Prior to the implementation of the project, the wastewater system consisted of a series of seven wastewater ponds where, due to the depth of the ponds, anaerobic decomposition of the organic matter occurred with the resultant formation of methane - a gas around twenty times more harmful than CO<sub>2</sub>. This methane was able to freely enter the atmosphere. Until now, the energy required for starch production has been generated by burning coal.

In the climate protection project, the first pond is now covered by a membrane and thus the methane is captured. The recovered methane from the wastewater treatment can be burnt in addition to coal in the existing, modified boilers. If the heating is not required, or should surplus biogas be produced, then the methane is burned off before discharge. Besides the reduction of the greenhouse gases methane and CO<sub>2</sub>, the local air quality is also improved by the reduced amounts of coal burnt. Moreover, the dependence on purchased fossil fuels is reduced. Certification with the Gold Standard sustainability label ensures that this project will contribute economically, socially and ecologically to sustainable development.

## Project type:

Biogas

## Project location:

Daklak Province, Dang Kang Commune, Vietnam

## Annual CO<sub>2</sub> reduction:

17,557 t

## Situation without project

Methane emissions and coal as energy source

## Contribution to the SDGs



## Project standard

**Gold Standard**

CER

## Impressions



The tapioca starch factory processes about 43,000 tons of manioc roots per year.



Worker in protective clothing and gloves sorting manioc roots.



A membrane captures the climate-damaging methane gas.



The captured biogas (methane) is transferred through pipes to the boilers where it is burnt to generate electricity.