

# Small Biogas Plants for Smoke-free Kitchen



Cooking with biogas is smoke-free and increases health and well-being in the family.

**In rural Cambodia, women traditionally cook on simple wood stoves. Respiratory diseases, deforestation and greenhouse gas emissions are the consequences. The programme enables families to buy small biogas plants: forests are preserved and the quality of life of the people increases.**



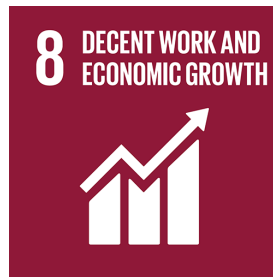
**133,000**

**people profit**



**27,231**

**biodigesters installed**



**2,500**

**jobs created**

Decades of war and uncertainty have made Cambodia one of the poorest countries in the world today. The deforestation rate has accelerated alarmingly in recent years. Cooking with wood is partly responsible for this. Over 98 per cent of households in rural Cambodia typically cook on inefficient ceramic stoves without chimney, one of the simplest and cheapest cooking technologies. As a result, women and children are exposed to high concentrations of pollutants, which can cause a number of diseases.

**Previously I mixed cow manure with chemical fertilizers, but my crop yield remained low. With the biodigester however, the bio-slurry has improved the soil fertility and my crop yields are much better now,**

## Project type:

Biogas

## Project location:

Cambodia

## Project status:

Completed, credits available

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

70,000 t

## Situation without project

Cooking with firewood, methane emissions through cow dung, use of chemical fertilizer

## Contribution to the SDGs



## Project standard



## Impressions



The bioslurry which results from the biodigester is used as organic fertilizer and increases the harvest of vegetables.

and in addition, biogas has reduced the cost of cooking too!

### Chhim Dy, Biogas owner

The installation of biodigesters addresses these problems by providing renewable and cheap energy produced by animal manure. The use of biogas for cooking is smokeless and reduces the need of firewood, thus protects the forests. The bioslurry, which remains after the biogas process, is used as organic fertilizer, increasing the crop yields considerably. The renunciation of chemical fertilizer, relieves the household budget and improves the soil structure of the fields. Cooking with biogas is smoke-free and improves the health of family members, especially women and children. The time-consuming collection of firewood is no longer necessary, time, which can be used for school or other activities. In addition, the programme offers comprehensive vocational training in the field of biogas technology and creates various employment opportunities along the supply chain.

Cambodia has a huge potential in the domestic biogas sector, with around one million households that have sufficient livestock to feed a small biodigester. The programme is a joint development of the Ministry of Agriculture, Forestry and Fisheries and the Dutch Development Organization SNV. The programme works closely with the private sector to create a sustainable biogas sector. Thanks to the income from CO<sub>2</sub> certificates and special microcredits, households can finance the biogas plants.

### This project contributes to 11 SDGs:



133,000 people profit.



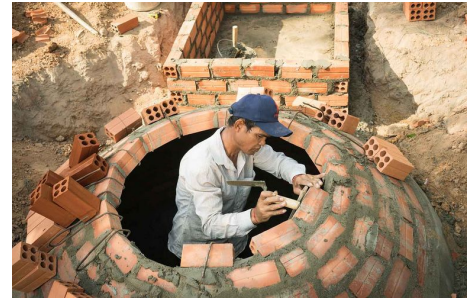
The households benefit from increased yields thanks to the application of the slurry on the fields.



The project improves the health of the people thanks to decreased smoke and dust in the kitchen.



Thanks to less time spent on firewood collection, children have more time to do homework and study.



Construction of a biodigester with bricks and cley.



More family time: Cooking with biogas saves the time-consuming collection of firewood.



The programm helps to strengthen the position of women and children within the family and the society.



The project strengthens the position of women in the family.



27,231 biodigesters installed.



2,500 jobs created.



20,230 families that use bioslurry instead of chemical fertilizer.



The project combats climate change.



Over 131,000 tons of wood saved.



The project reflects a strong North - South collaboration.