



Sustainability action · Project Renewable Energy and Energy Efficiency

Households biogas in rural areas, India

A community based project is providing rural families with simple biogas reactors for clean and nonharmful cooking energy replacing inefficient wood fired mud stoves technology.

Project

The purpose of the project activity is to bundle 12474 plants installed in rural areas of Maharashtra of varying capacities, from 2m³ to 6m³. The biogas digesters were built by the NGO AKKPS.

The main feature of the biogas plant is the fixed underground digester chamber, constructed with a layer of bricks and an additional layer of cement mortar forming the roof above. Connected is an inlet tank, through which manure is fed into the plant, which ferments separating the slurry from the methane gas which is released through the gas outlet pipe. The slurry passes into

the outlet tank where it is ejected from the plant and can be used as fertilizer on the fields.

With the project, emission-rich wood fired mud stoves are being replaced with biogas cookers. Each household is feeding cow dung and human excreta into the anaerobic digester. For cooking and other thermal household tasks, it is simple and reasonably efficient to use the gas directly in conventional low-pressure gas burners. A single digester's capacity is sufficient for providing cooking fuel to a family of four to five persons. Biogas systems offer multiple benefits. The digester-effluent is usually a good fertiliser, and, if connected to latrines, biogas plants can provide valuable sanitation services. In the years to come, profits from selling the carbon credits will be distributed to each family, providing additional resources for AKKPS to meet local needs. The technology is tried and tested in India, and has been in use for many years.

Checklist	Additionality and permanence	3 rd party verified	Transparency	Annual CO ₂ -reduction	Social and environmental benefits	Marketing material
Project 301 624	According to the rules of the VCS and Gold Standard	By DNV	Provided by Markit Environmental Registry	50,000 tCO ₂ e	As documented in our database	High resolution pictures available



Location

The project is located in 16 rural Districts in India's Maharashtra state, which include some of the country's 250 most backward districts. Maharashtra has a typical monsoon climate, with hot, rainy and cold weather seasons and occupies the western and central part of the country and has a long coastline stretching nearly 720 kilometers along the Arabian Sea.

Project achievements

Socio-economic impact

- Significantly less time is needed to gather wood, providing additional time for other activities that generate income
- A strong reduction of health problems related to hygienic issues caused by waste disposal in and around the house is achieved
- The project is saving the 18,000 households money because of reduced wood and kerosene usage and reduced medical bills resulting from indoor smoke related respiratory diseases
- In the mid-term, the project is generating family income through the sales of carbon credits
- Permanent and temporary jobs were created in building and maintaining the units as well as monitoring the CO₂ reductions
- The project leads to a complete reduction of indoor smoke which results in less respiratory problems and premature deaths in the villages
- The NGO AKKPS implements various grassroots developmental activities, including:
 - children's education, community and referral health
 - activities to support young widows and deserted women
 - training of communities on waste management practices

Environmental impact

- Less deforestation thanks to reduced need for firewood benefits regional wildlife and biodiversity
- The biogas slurry is used as an organic fertilizer for agricultural activities
- The project leads to improved air and soil conditions thanks to better fertilization and avoidance of smoke

Gold Standard

