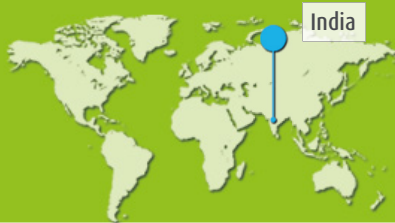


India: Generating heat from groundnut shells



Certification:



Key Facts



The Project

In recent decades, India has experienced a huge growth in population, especially in urban areas. This development demanded a rapid industrialisation so that the economy can keep up with the growing headcount. However, these two increases have put a tremendous strain on the environment, infrastructure and the country's natural resources. Energy demand is at an all time high and is often met with fossil fuels, predominantly coal and oil. These fuels though are detrimental to the environment, polluting it with poisonous gas and particles. It is therefore no surprise that the WHO listed respiratory illness as the 3rd biggest cause of premature death among children under the age of 5. Despite using fossil fuels, India is still unable to meet its huge demand and, in many areas, the power supply is still so unstable that industrial production is limited, thus slowing economic development. In light of this, the task of meeting this ever-growing demand for energy poses a huge political, economical and environmental challenge to the country.

This project activity is located in a starch production company based in Gujarat. The starch production requires heat for the drying process. The project will involve biomass based thermal energy generation to meet the requirements. It utilizes the renewable resource of groundnut shells to generate steam for captive consumption, thus avoiding non-renewable coal. The groundnut shells are locally available reducing transport of fuel resources to the company too.

Location:

Gujarat, India

Project type:

Renewable Energy – Biomass

Total emission reductions:

»» 26,500t CO₂e p.a. ««

Project standard:

VCS

Project start date:

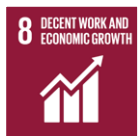
May 2014

Sustainable Development

By supporting this project you'll contribute to the following SDGs:



No poverty: The project is based near a rural village and sources groundnut shells from the local area. Therefore surrounding farmers will benefit economically as vendors to the company. Thus the project creates new income opportunities resulting from the sales of biomass fuel like agriculture waste. Increased income levels contribute to the economic safety and empowerment of the most vulnerable sections of local society.



Decent work and economic growth: The project generates employment for locals both directly in operation and maintenance and indirectly in transport and supply of groundnuts for fuel. Furthermore, the involvement of local agriculture will promote economic growth in that area, allowing it to develop.



Industry, innovation and infrastructure: The project directly supports the local industry. The use of biomass does not only deal with agricultural waste, it also promotes the domestic use of renewable energy within companies, which could make a huge difference to the Indian industry.



**SUSTAINABLE
DEVELOPMENT
GOALS**

While focusing on reducing greenhouse gas emissions, all our projects also generate multiple co-benefits. These are supportive of the United Nations Sustainable Development Goals.



Technology brief – how it works

Biomass refers to a large amount of plants, and forest and land residues which can be used for heat and energy production. In the case of this project, groundnut shells are used for fuel, which are a by-product of growing groundnuts for agriculture. These would otherwise be left to rot, releasing methane in the process. As a biomass, the shells only release the amount of CO₂ that they collect during growth as a plant. However, biomass is only considered a renewable fuel source when the source is sustainable; i.e. the use cannot surpass the rate of growth and create a deficit.

For this project, the groundnut shells are used in place of coal within a boiler to produce steam. This steam is then used as thermal energy to aid the drying process required in the starch production line. The biomass is received by the plant and then stored for no more than 30 days to minimise CO₂ emissions whilst in storage.



Project Standard



The Verified Carbon Standard (VCS) is a global standard for the validation and verification of voluntary carbon emission reductions. Emissions reductions from VCS projects have to be real, measurable, permanent, additional, unique, transparent, and third-party verified. Assessed against the background of the total volume of emission reductions, VCS is the globally leading standard for voluntary carbon offsets.

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