



Sichuan Household Biogas Programme (China)

Clean Biogas for Poor Rural Households

Key Facts

Location

Sichuan, China

Project Type

Renewable energy: household biogas

Annual GHG Emissions Reduction

About 800,000 tCO₂e

Project Standard

CDM, Gold Standard for the Global Goals

Included Households

395,435 low-income rural households

Project IDs

CDM PoA 2898, GS 1239

Background

The rural areas in Sichuan Province are among the least developed in China. The average annual per capita income for poor farmer household in Sichuan is approximately 500 Euro, and the province contains 43 counties that have been officially defined as national poverty counties in order to qualify for economic assistance from the government. Sichuan is also highly vulnerable to natural disasters. In 2008, a heavy earthquake claimed the lives of nearly 70,000 people and left another 4.8 million homeless. In addition, an estimated 12 million animals of productive livestock were killed during the devastating event.

Project Description

To make people's lives better while helping to protect the earth's climate, UPM's Sichuan Household Biogas Programme of Activities (PoA) shall provide up to one million low-income rural households in China's Sichuan province with proven and reliable biogas digesters and efficient biogas cook stoves. The digester tanks are fed with animal manure, previously just discharged into open pits, and convert it into clean and affordable biogas to be used conveniently for cooking, heating, or lighting instead of coal and firewood. After switching to biogas, each participating smallholder farmer family saves roundabout 2 tCO₂e of methane and carbon dioxide emissions year by year.

All biogas equipment distributed under this programme is installed and maintained by the Sichuan Rural Energy Office (SREO) via its dense network of local service centers and its many certified biogas technicians all over Sichuan.



United Nations
Framework Convention on
Climate Change



Gold Standard[®]
for the Global Goals



CONTRIBUTION TO ACHIEVING UN SUSTAINABLE DEVELOPMENT GOALS

According to a recent scientific study by the Center for Sustainable Environmental Sanitation (CSES) at the University of Science & Technology in Beijing, UPM's Sichuan Household Biogas PoA substantially improves the lives of nearly 400,000 smallholder households or 1.2 million needy people and verifiably helps achieving the following UN SDGs:



1 NO POVERTY
After switching to biogas, the households dispose of around 40% higher annual income due to saved energy and fertilizer expenditures, higher agricultural output, etc.



8 DECENT WORK AND ECONOMIC GROWTH
An estimated 10,000 total jobs related to construction and maintenance of biogas plants have been created by the project in the local biogas sector, thereof some 2,000 permanent jobs and 8,000 temporary jobs.



2 ZERO HUNGER
Better food security and nutrition because of increased animal welfare and an additional 182,000 ha of farm land under sustainable and more productive agricultural practices



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Up to now, the PoA has induced roundabout EUR 300 million of total investments in domestic biogas technology, related services, as well as modern energy and waste management infrastructure.



3 GOOD HEALTH AND WELL-BEING
Improved health due to reduced indoor air pollution and better hygiene at the farmer's premises is particularly beneficial for women and children spending much of their time at home.



10 REDUCED INEQUALITIES
Sustained and notable income growth of participating households helps reducing existing inequalities between urban and rural Sichuan.



4 QUALITY EDUCATION
All participating households have been trained in biogas digester and cook stove use; in addition, some 2,000 people have been qualified as biogas technicians under the programme.



12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Biogas digesters avoid untreated manure corresponding to almost 220,000 tons of dry matter per year and generate high-quality organic fertilizer from digestate instead.



5 GENDER EQUALITY
Roughly 1,000 jobs have been created for women by the PoA; new biogas stoves save approx. 1.5 hours cooking time per day for women which is now available for other purposes.



13 CLIMATE ACTION
The PoA saves approx. 800,000 tCO₂e of greenhouse gas emissions year by year and reduces annual coal consumption by about 340,000 tons.



6 CLEAN WATER AND SANITATION
Improved waste management, less fertilizer & pesticide use and better sanitation systems protect soils and water resources and benefit both local people and environment



15 LIFE ON LAND
Due to the PoA, annual firewood use decreases by approx. 690,000 tons and almost 100,000 tons of chemical fertilizer are replaced p.a. by superior and more eco-friendly natural fertilizer.



7 AFFORDABLE AND CLEAN ENERGY
All PoA households get access to clean, reliable, convenient and affordable biogas for cooking, lighting or heating



17 PARTNERSHIPS FOR THE GOALS
Solid and long-term multi-stakeholder partnership between German and Chinese project participants strengthens international cooperation for the UN SDGs.

Note: The PoA's positive impact on UN SDGs 3, 6, 7, 8, 13 is verified under the Gold Standard for the Global Goals (GS4GG).

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