United Nations Framework Convention on Climate Change

CDM PROJECT CO-BENEFITS IN NEPAL

Accelerating deployment of clean energy in rural households

Project description	**Two CDM projects are helping to deploy an additional 20,000 biogas digesters in households across Nepal. This is accelerating the implementation of the Biogas Support Programme of the Nepalese Government, which otherwise uses a mix of national finance and donor aid.** The digesters are sold at a subsidised rate to low-income rural households to enhance access to basic services such as heating, cooking and hot water production. The digesters utilise the dung from farmers' livestock and domestic latrines to produce methane gas as the organic waste breaks down. The methane is then used as cooking fuel in biogas stoves built directly in the dwellings. This replaces more traditional cooking fuels such as firewood, agricultural residues, animal manure and kerosene.
Co-benefits	**The project illustrates how the CDM can deliver a range of benefits for low income households in rural communities, by:** • Scaling-up and accelerating deployment of a clean energy programme by enhancing the funding opportunities available to it • Providing micro-financial support for low-income households to allow them to transition to lower-cost, cleaner forms of energy production and use • Reducing the time spent by women collecting firewood or travelling to purchase fuel • Improving indoor air quality in homes as the smoke-free combustion of biogas displaces the use of traditional fuels, generating health benefits for the community, especially for women who do most of the cooking • Creating jobs and building capacity to support the widespread replication of the technology

"Our family decided to install a biogas plant because firewood was not available easily, and it was also more convenient. The main benefit is that there is no smoke in the kitchen now, and it is much healthier for us. It also takes less time to cook and clean utensils. We still collect firewood but earlier we needed 30 kgs/day but now we need only 5 kgs/day." (Owner of a biogas digester in Gorkha)

KEY PROJECT BENEFIT

Accelerating the improvement of health and welfare, creating employment and enhancing incomes in rural communities

The project is supporting nearly 20,000 additional households in Nepal to obtain biogas systems

Women with biogas stove (Courtesy of the World Bank)

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CO-BENEFITS IN DETAIL

Economic	• Supporting the upfront investment. With system costs ranging from USD 251 to USD 393 per household, which is significantly higher than that of conventional kerosene stoves (USD 6 – 8 per unit), the CDM project allows the units to be sold to households for the price of USD 148 – USD 309 (a 20 – 40 % cost reduction) • Saving of around USD 240 per household on annual fuel expenditure • Reducing annual kerosene imports which costs to Nepal of around USD 2 million (the entire Biogas Support Programme) • Creation of job in digester construction and maintenance is estimated to be in the order of 15,000 people years (the entire Biogas Support Programme)
Social	• Improving health by reducing exposure to smoke in properties. In a survey, 89.4 % of sampled households reported a reduction of kitchen smoke with the use of biogas. This has led to health improvements, especially for women • Improving manure management and other sanitation aspects. Biogas digesters are installed in conjunction with domestic latrines
Empowerment	• Freeing-up on average 3 hours of time per day, which can be used by women in other ways such as the education of children, tending crops, undertaking social activities, or allowing poorer households to generate better incomes • Building capacity in the region for replication of the project by training biogas installers and enhancing digester maintenance services

PROJECT FACTS

Project title & number	Biogas Support Programme, Nepal (Activity 1 and 2) – 136 and 139
Project type & methodology	Methane avoidance – domestic manure AMS-I.C. – Thermal energy for the user with or without electricity
Location	55 (activity 1) and 57 (activity 2) out of 75 districts in Nepal
History & CERs	Registered: 27 December 2005 Project operational life: 21 years Expected CERs: 46,990 + 46,893 (tCO_2 eq/year) Expected total CERs: 1,971,543 (tCO_2 eq) CERs issued to date: Awaiting issuance request
Project link	<http://cdm.unfccc.int/Projects/DB/DNV-CUK1132666829.52/view> < http://cdm.unfccc.int/Projects/DB/DNV-CUK1132671435.09/view>
Facts as at	November 2010

Women with biogas stove
(Courtesy of the World Bank)

This factsheet has been compiled from information provided by project participants of the CDM project, either through the project design document, monitoring reports or subsequent correspondence with project participants. The information is not verified as part of the CDM registration or issuance processes. This factsheet is one of a series produced by the UNFCCC secretariat to highlight the types of co-benefits generated by the CDM.