

Clean Development Mechanism

Sustainable Development co-Benefits Description Report¹

CDM project activity or programme of activities (PoA) information	
Title	Man and Man Enterprise Improved Cooking Stoves CDM Programme in Ghana supported by Republic of Korea
Pre-registration reference no.	
Reference no.	10430
Type	Programmes of Activities
Sectoral Scope	3
Host Party	Ghana

Report information	
Submission date	26.03.2025
Publication no.	
Original language	English
Third party verifier (willing)	Yes
Name of third party verifier and/or comments	

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Overview of sustainable development co-Benefits

A. The extent of environmental co-Benefits:

		N/A	No	Slightly	Partly	Highly
Air	Reducing Sox	•				
	Reducing Nox				•	
	Reducing Fly ash	•				
	Reducing suspended particulate matter (SPM)					•
	Reducing Non Methane Volatile Organic Compounds (NMVOCs)	•				
	Reducing Noise Pollution	•				
	Reducing Odors	•				
	Reducing Dust	•				
	Other air quality improvements					•
	Preventing end of life products/equipment (solid waste)		•			
Land	Producing/using compost		•			
	Producing/using manure, mineral fertilizer or other soil nutrients		•			
	Irrigation		•			
	Preventing soil erosion		•			
	Minimum tillage		•			
	Other means to improve land quality		•			
	Improving management/control of wastewater		•			
Water	Saving/conserving of water		•			
	Improving reliability/accessibility of water supply		•			
	Purification/cleaner water supply		•			
	Improving ecological state of water bodies		•			
	Other means to improve water		•			
Natural Resources	Protecting mineral resources	•				
	Protecting/enhancing plant life			•		
	Protecting/enhancing species diversity			•		
	Protecting/enhancing forests					•
	Protecting/enhancing other depletable natural resources	•				

B. The extent of social co-Benefits:

		N/A	No	Slightly	Partly	Highly
Jobs	New long-term jobs					•
	New short-term jobs	•				
	New sources of income generation	•				
	Other employment opportunities	•				
Health & Safety	Disease prevention	•				
	Reducing accidents				•	
	Reducing crime	•				
	Preserving food	•				

Education	Reducing health damaging indoor air pollution		•			
	Enhancing health services	•				
	Improving sanitation and waste management	•				
	Other health and safety improvement	•				
	Job-related training					•
	Enhanced educational services	•				
	Project-related knowledge dissemination	•				
	Other educational benefits		•			
	Improving working conditions	•				
	Community or rural advancement				•	
	Poverty alleviation (more people above poverty level)				•	
	Improving wealth distribution/ generation of income and assets	•				
	Increased municipal revenues	•				
Welfare	Optimized women's empowerment				•	
	Reduced traffic congestion	•				
	Other welfare benefits	•				

C. The extent of economic co-Benefits:

		N/A	No	Slightly	Partly	Highly
Growth	New investments	•				
	New industrial/commercial activities	•				
	New infrastructure	•				
	Enhancement of productivity					•
	Reduction of production costs (services)	•				
	New business opportunities	•				
Energy	Other economic benefits	•				
	Improvement in supply of energy	•				
	Access to energy	•				
	Affordability and/or reliability of energy				•	
Technology	Other energy improvements	•				
	Introducing/developing/diffusing imported technology	•				
	Introducing/developing/diffusing local technology					•
	Adaptation of new technologies to local circumstances	•				
	Know-how activities for a technology	•				
Balance of payments	Other technological benefits	•				
	Reduction of foreign dependency	•				
	Other macro-economic benefits	•				

D. Further information:

	Yes	No	N/A
Information required			•

E. Monitoring procedure of activity-level sustainable development co-benefits indicators

	Yes	No	N/A
Information required	•		

Detailed description

A. Environmental co-Benefits

	Indicator	Specification	Extent
Air	The CDM improves air quality by reducing air pollutants as follows:		
	SOx		N/A
	NOx	<i>Improved Cooking Stoves enables a more efficient combustion of charcoal, resulting in less NO2 particles, which is a combustion pollutant https://ww2.arb.ca.gov/resources/documents/combustion-pollutants-indoor-air-quality</i>	Partly
	Fly ash emissions		N/A
	SPM	<i>Improved cooking stoves enables a more efficient combustion of charcoal, resulting in less SPM (Suspended Particulate Matter) emissions, including PM10 particles. On this PoA 10430, the majority of the monitoring survey respondents have confirmed they felt less exposed to smoke since they use the project stove.</i>	Highly
	NMVOCs		N/A
	Noise		N/A
	Odors		N/A
	Dust		N/A
	Other air quality improvements	<i>Most assessed beneficial impact of Improved cooking stoves on air quality is that they reduce the amount of carbon monoxide (CO) emissions, which are associated with several harmful effects, thanks to a more complete combustion of charcoal</i>	Highly
Natural Resources	The CDM protects or enhance depletable natural resources as follows:		
	Mineral resources		N/A
	Plant life	<i>By reducing the woody biomass fuel for combustion, improved cooking stoves indirectly positively impact the plant life and its habitat status, as less withdrawal of resource is induced</i>	Slightly
	Species diversity	<i>Similarly, as species depend on their habitat wellbeing, an indirect positive impact is induced</i>	Slightly
	Forests	<i>Like many developing countries, Ghanaians' primary energy source is biomass (1). The use of these sources as fuel has had a substantial impact on Ghana's forests. Improved cooking stoves help protecting Ghana's forests from further degradation by more efficiently using and therefore reducing reliance on natural resources. (2) (1) https://www.sciencedirect.com/science/article/abs/pii/S0973082621001241 (2) https://cleancooking.org/wp-content/uploads/2021/07/334-1.pdf</i>	Highly
	Other depletable natural resources		N/A

B. Social co-Benefits

	Indicator	Specification	Extent
Jobs	The CDM creates new job opportunities including income generation as follows:		
	New long term jobs	<i>The PoA creates employment (production, marketing, distribution, after-sales services) throughout the PoA lifecycle. 10 jobs were created since the start of the project activity regarding CPA1 (VCS latest MR), thus a total of 20 jobs for both CPAs at PoA level.</i>	Highly
		New long-term jobs > 1 year - 20	
	New short term jobs	New short-term jobs < 1 year -	N/A
	Income generation		N/A
Health & safety	Other employment opportunities		N/A
	The CDM results in health and safety improvements as follows:		
	Reduction of diseases, disease prevention		N/A
	Reduction of accidents	<i>ICs promote safe and secure working environments of kitchen workers.</i>	Partly
	Reduction of crime		N/A
	Preservation of food		N/A
	Reducing health damaging indoor air pollution	<i>While the project device household's end users are exposed to less fumes when using it, the stoves are used outdoor the majority of the time, weather permitting.</i>	Slightly
	Enhancement of health services		N/A
	Improved sanitation and waste management		N/A
Education	Other health and safety improvements		N/A
	The CDM facilitates education, dissemination of information, research or increases awareness as follows:		
	Job related training	<i>The monitoring team for this PoA receives proper training at onboarding and yearly basis, as evidenced to the periodic verification DOEs.</i>	Highly
	Enhanced educational services		N/A
	Project related knowledge dissemination		N/A
Welfare	Other educational benefits	<i>The project reduces the proportion of time rural women spend on unpaid domestic work related to collection of firewood, and cooking meals on inefficient traditional cookstoves. The time saved can then be applied elsewhere in economic or social pursuits.</i>	Slightly
	The CDM improves local living and working conditions as follows:		
	Improvement of working conditions		N/A
	Community or rural upliftment	<i>The project reduces the proportion of time rural women spend on unpaid domestic work related to collection of firewood, and cooking meals on inefficient traditional cookstoves. The time saved can then be applied elsewhere in economic or social pursuits.</i>	Partly
	Poverty alleviation	<i>As confirmed by the monitoring surveys, the use of stoves results in money savings for households (less biomass fuel needed)</i>	Partly
	Changes in distribution and/or generation of income and assets		N/A

	Increased municipal revenues		N/A
	Empowerment of women	<i>The project reduces the proportion of time rural women spend on unpaid domestic work related to collection of firewood, and cooking meals on inefficient traditional cookstoves. The time saved can then be applied elsewhere in economic or social pursuits. Also, in Man and Man Enterprise, all women and men working in the same area of expertise have equal salaries as this can be verified in salary slips</i>	Partly
	Reduced traffic congestion		N/A
	Other welfare benefits		N/A

C. Economic co-Benefits

	Indicator	Specification	Extent
Growth	The CDM supports economic development and/or stability as follows:		
	New investments		N/A
	New industrial/commercial activities		N/A
	New infrastructure		N/A
	Enhancement of productivity	<i>Man and Man Enterprise (CPAs implementer, technology supplied and manufacturer) is a Ghanaian company located in Kumasi region, Ghana. The increased activity, since the start of the PoA, strengthened the growth of the company, and permitted an extension of its production capacity.</i>	Highly
	Reduction of production costs (services)		N/A
	New business opportunities		N/A
	Other economic benefits		N/A
Energy	The CDM supports economic development and/or stability as follows:		
	Supply of energy		N/A
	Access to energy		N/A
	Affordability and/or reliability of energy	<i>Ghanaians' primary energy source is biomass, and thanks to the use of Improved Cooking Stoves, less biomass fuel is needed.</i>	Partly
	Other improvements to energy		N/A
Technology transfer	The CDM results in a change in technology as follows:		
	New imported technology		N/A
	New local technology	<i>Program beneficiaries were relying on traditional stoves in baseline, and now use improved cooking devices as project stove.</i>	Highly
	Adaptation of new viable technologies		N/A
	Know-how activities for a technology		N/A
	Other technological benefits		N/A

D. Further information:

E. Monitoring procedure of activity-level sustainable development co-benefits indicators

SDG Goal	SDG Goal description	SDG Indicator	SDG Indicator description	SD co-benefits Category	Activity-level sustainable development indicator	Baseline scenario description	Monitoring frequency	Monitoring Procedure
3	Ensure healthy lives and promote well-being for all at all ages	3.9.1	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	B. Social co-benefits	Fraction of households attesting fewer smoke emissions while cooking with the project device	Households' exposure to smoke from traditional three-stones and coal pots with no improved combustion air supply or flue gas ventilation	Every monitoring period (at least annually)	Monitoring surveys, carried out periodically on a sample of the distribution database, include the following question : "Does the household experience less fumes during cooking events thanks to ICS ?" allowing a % calculation of the proportion of households experiencing less exposition to fumes.
7	Ensure access to affordable, reliable, sustainable and modern energy for all	7.1.2	Proportion of population with primary reliance on clean fuels and technology	C. Economic co-benefits	Number of households equipped with an improved cookstove	Targeted households use a combination of inefficient stoves	Every monitoring period (at least annually)	Calculated from the number of stoves distributed under this project activity (from databases for each CPA) multiplied by the percentage of operating devices obtained through monitoring surveys
8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.5.2	Unemployment rate, by sex, age and persons with disabilities	C. Economic co-benefits	Number of quality jobs created throughout the PoA lifecycle	No employment creation in the pre-project scenario	Every monitoring period (at least annually)	Quality job counts are monitored by sex, age (and disabilities if any), through review of employee records, training certificates, receipt of safety equipment purchase
13	Take urgent action to combat climate change and its impacts	13.2.2	Total greenhouse gas emissions per year	A. Environmental co-benefits	Amount of GHGs emissions avoided	No GHGs emissions avoidance in the pre-project scenario	Every monitoring period (at least annually)	Each monitoring period includes a quantification of GHG emission reductions and removals according to methodology, based on both available at validation and monitored data and parameters
15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	15.1.1	Forest area as a proportion of total land area	A. Environmental co-benefits	Tonnes of woody biomass saved	No woody biomass savings in the pre-project scenario	Every monitoring period (at least annually)	Among the monitored parameters followed at each emission reduction calculation, B(y, savings,i,j) calculated through WBT and/or KPT, represents the quantity of woody biomass that is saved in tonnes per cookstove.