

Clean Development Mechanism

Sustainable Development co-Benefits Description Report¹

CDM project activity information	
Title	Moldova Energy Conservation and Greenhouse Gases Emissions Reduction
Project activity reference no.	0173
Type	Project Activity
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Host Party	Republic of Moldova

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Overview of sustainable development co-Benefits

A. The extent of environmental co-Benefits:

		N/A	Partly	Slightly	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	•			
Land	Preventing end of life products/equipment (solid waste)	•			
	Producing/using compost	•			
	Producing/using manure, mineral fertilizer or other soil nutrients	•			
	Irrigation	•			
	Preventing soil erosion	•			
	Minimum tillage				
	Other means to improve land quality	•			
Water	Improving management/control of wastewater	•			
	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	Partly	Slightly	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	•			
	Reducing health damaging indoor air pollution				•
	Enhancing health services		•		
	Improving sanitation and waste management	•			
	Other health and safety improvement	•			

Education	Job-related training	•			
	Enhanced educational services		•		
	Project-related knowledge dissemination	•			
	Other educational benefits	•			
Welfare	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			•	
	Optimized women's empowerment	•			
	Reduced traffic congestion	•			
	Other welfare benefits	•			

C. The extent of economic co-Benefits:

		N/A	Partly	Slightly	Highly
Growth	New investments	•			
	New industrial/commercial activities	•			
	New infrastructure				•
	Enhancement of productivity	•			
	Reduction of production costs (services)	•			
	New business opportunities	•			
	Other economic benefits	•			
Energy	Improvement in supply of energy				•
	Access to energy	•			
	Affordability and/or reliability of energy				•
	Other energy improvements	•			
Technology	Introducing/developing/diffusing imported technology	•			
	Introducing/developing/diffusing local technology	•			
	Adaptation of new technologies to local circumstances	•			
	Know-how activities for a technology	•			
	Other technological benefits	•			
Balance of payments	Reduction of foreign dependency	•			
	Other macro-economic benefits	•			

D. Further information:

	N/A	Partly	Slightly	Highly
	•			

Detailed description

A. Environmental co-Benefits

No co-benefits related to land, water are described.

	Indicator	Specification	Extent
Air	The CDM project activity improves air quality by reducing air pollutants as follows:		
	SOx	<i>Under the PDD 19 new, energy efficient natural gas heating plants were installed in public buildings (such as hospitals, schools and cultural centers) across rural areas of the Republic of Moldova. The project reduces the level of SOx from coal burning by replacing inefficient and outdated coal-based heat boilers with new, efficient heating systems. The amount of sulphur oxides emissions reduced in period of January 29, 2006 - June 30, 2015 is 664 tons.</i>	Highly
	NOx	<i>The project reduces the level of NOx from coal burning by replacing inefficient and outdated coal-based heat boilers with new, efficient heating systems in public buildings across Moldova. The amount of nitrous oxides emissions reduced in period of January 29, 2006 - June 30, 2015 is 155 tons.</i>	Highly
	Fly ash emissions	<i>The project reduces the level of fly ash from coal burning by replacing inefficient and outdated coal-based heat boilers with new, efficient heating systems in public buildings across Moldova. The amount of fly ash emissions reduced in period of January 29, 2006 - June 30, 2015 is 268 tons.</i>	Highly
	SPM	<i>The project reduces the level of SPM from coal burning by replacing inefficient and outdated coal-based heat boilers with new, efficient heating systems in public buildings across Moldova. A total of 19 coal burning heat plants were replaced with 19 natural gas burning heat plants. Thus the level of SPM emissions was reduced by 100 % compared with baseline.</i>	Highly
	NMVOCs		N/A
	Noise		N/A
	Odors		N/A
	Dust	<i>The project reduces the level of dust from coal burning by replacing inefficient and outdated coal-based heat boilers with new, efficient heating systems in public buildings across Moldova. A total of 19 coal burning heat plant were replaced by 19 new natural gas burning heat plants. Thus the level of dust emissions was reduced by 100 % compared with baseline.</i>	Highly
Natural Resources	Other air quality improvements		N/A
	The CDM project activity protects or enhance depletable natural resources as follows:		
	Mineral resources	<i>The project helps reduce the use of coal for heating by replacing the old, highly inefficient coal boilers with new,</i>	Partly

		<i>efficient natural gas boilers. Relative to the baseline, the use of coal is reduced by 100 %.</i>	
	Plant life		N/A
	Species diversity		N/A
	Forests		N/A
	Other depletable natural resources		N/A

B. Social co-Benefits

No co-benefits related to jobs are described.

	Indicator	Specification	Extent
Health & safety	The CDM results in health and safety improvements as follows:		
	Reduction of diseases, disease prevention	<i>The efficient heating technology allows for a longer heating season (from 60 to 160 days per year), higher room temperatures (from 13 to 18 degrees Celsius), and reduction of smoke as compared to the outdated and highly inefficient coal boilers. About 16,495 people in poor urban and rural communities in Moldova, enjoy more reliable and higher heating temperatures in public buildings such as schools, kindergartens and hospitals. This provides significant health improvements for children, teachers, medical staff and patients as well as for the boiler operators, who report a reduction in respiratory diseases and fewer incidences of illness during the cold winter months.</i>	Partly
	Reduction of accidents		N/A
	Reduction of crime		N/A
	Preservation of food		N/A
	Reducing health damaging indoor air pollution	<i>The project results in reduced respiratory diseases and eye infections, in particular for boiler operators, who benefit from lower emissions of thick smoke from inefficient burning of coal and improved ventilation of boiler room facilities that have been rehabilitated.</i>	Highly
	Enhancement of health services	<i>More reliable and comfortable heating temperatures in hospitals and public medical facilities help improve the comfort level (and performance) of medical staff, the comfort level of patients and lower the incidences of illnesses during the cold winter months.</i>	Partly
	Improved sanitation and waste management		N/A
	Other health and safety improvements		N/A
Education	The CDM project activity facilitates education, dissemination of information, research or increases awareness as follows:		
	Job related training		N/A
	Enhanced educational services	<i>More reliable and comfortable heating temperatures in schools and kindergartens allow for longer school days; helps increase student attendance and retention rates; and lower the incidences of illness during the cold winter months.</i>	Partly
	Project related knowledge dissemination		N/A
	Other educational benefits		N/A

Welfare	The CDM project activity improves local living and working conditions as follows:		
	Improvement of working conditions	<i>The working conditions for boiler operators at participating public buildings are significantly improved compared to the traditional highly inefficient coal boilers. The boiler rooms where the operators work are either rehabilitated or newly constructed. Unlike before, the boiler rooms are above ground with natural light and good ventilation. In addition, the new boilers emit significantly less smoke than before, require less coal and continual loading of coal into the fire and are programmable, resulting in significantly less time and effort to operate. Furthermore, pupils, teachers; hospital staff and patients benefit from higher indoor temperatures during cold winter months, which increases the level of comfort while studying, working or recovering.</i>	Highly
	Community or rural upliftment		N/A
	Poverty alleviation		N/A
	Changes in distribution and/or generation of income and assets		N/A
	Increased municipal revenues	<i>The local public authorities that own the public buildings, benefit from a stream of carbon finance revenues from the CFU of Moldova for the ERs generated. This revenue can be used to pay for the salary of the boiler technician, small repairs, and other relevant activities.</i>	Slightly
	Empowerment of women		N/A
Energy	Reduced traffic congestion		N/A
	Other welfare benefits		N/A

C. Economic co-Benefits

No co-benefits related to technology transfer, balance of payments are described.

	Indicator	Specification	Extent
New investments		N/A	
New industrial/comercial activities		N/A	
New infrastructure	<i>As per the PDD, 19 new energy efficient heating systems have been installed in public buildings across Moldova and infrastructure upgrades have been done - such as new roofs, windows, doors and sanitation systems - to help maximize the heat efficiency of the buildings.</i>	Highly	
Enhancement of productivity		N/A	
Reduction of production costs (services)		N/A	
New business opportunities		N/A	
Other economic benefits		N/A	
Energy	The CDM project activity supports economic development and/or stability as follows:		
	Supply of energy	<i>Under the PDD, 19 new and energy</i>	Highly

Balance of payments		<i>efficient natural gas heating plants were installed in public buildings such as hospitals, schools, kindergartens and cultural centers. As per the PDD, the project aims to improve the overall average efficiency of the heat distribution network in rural areas from 40%-50% to 70%-90%.</i>	
	Access to energy		N/A
	Affordability and/or reliability of energy	<i>Thanks to the project, heating of public buildings such as schools, kindergartens, hospitals and cultural centers is more affordable and reliable because the boilers installed via project are much more efficient from the economical point of view, less pollutant and much more reliable than the old ones.</i>	Highly
	Other improvements to energy		N/A
	The CDM project activity results in improving the country's balance of payments as follows:		