

Clean Development Mechanism

Sustainable Development co-Benefits Description Report¹

CDM project activity or programme of activities (PoA) information	
Title	Catalytic N2O destruction project in the tail gas of the nitric acid plant PANNA 3 of Enaex S.A.
Pre-registration reference no.	
Reference no.	1229
Type	Project Activity
Sectoral Scope	Chemical industry (5)
Host Party	Chile

Report information	
Submission date	06.07.2021
Publication no.	1
Original language	English
Third party verifier (willing)	Yes
Name of third party verifier and/or comments	In 2017,2018 and 2019 Enaex participated in the Pilot Auction launched by the IBRD and as part of the verification process a stakeholders assessment and a sustainability co-benefits development description report was submitted each year.

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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		•			
	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	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				•	

	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	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:

Information required

	Yes	No	N/A
		•	

Detailed description

A. Environmental co-Benefits

	Indicator	Specification	Extent
Air	The CDM improves air quality by reducing air pollutants as follows:		
	SOx		No
	NOx	<i>The main product is Nitric Acid, hence the CDM project abates 99% of NOx and N2O.</i>	Highly
	Fly ash emissions		No
	SPM		No
	NMVOCs		No
	Noise		No
	Odors		No
	Dust		No
	Other air quality improvements		No

B. Social co-Benefits

	Indicator	Specification	Extent
Jobs	The CDM creates new job opportunities including income generation as follows:		
	New long term jobs	<i>3 long-term jobs were created by the CDM project.</i>	Partly
		New long-term jobs > 1 year - 3	
	New short term jobs	New short-term jobs < 1 year -	No
	Income generation		No
Other employment opportunities	<i>Some indirect job opportunities arise due to catalyst transportation, insurances, installation, instrument calibration, etc.</i>	Slightly	
Health & safety	The CDM results in health and safety improvements as follows:		
	Reduction of diseases, disease prevention	<i>By reducing NOx emissions derived health diseases are reduced in the long term in the nearby community.</i>	Highly
	Reduction of accidents	<i>The CDM project helps to have more accurate and frequently parameters of measurement and control of accidents.</i>	Slightly
	Reduction of crime		N/A
	Preservation of food	<i>NOx as one of GHG is partly responsible for global warming and droughts. In that way, reducing any NOx emission helps to preserve cultivated lands and therefore preserve food.</i>	Partly
	Reducing health damaging indoor air pollution	<i>By reducing NOx emissions outdoors, indoor air pollution is also reduced preventing any derived health diseases.</i>	Partly
	Enhancement of health services		N/A
	Improved sanitation and waste management		N/A
	Other health and safety improvements		N/A

Education	The CDM facilitates education, dissemination of information, research or increases awareness as follows:		
	Job related training	<i>The personnel dedicated to the project is encouraged to learn more about sustainability and emission reduction process looking for new opportunities of sustainable development.</i>	Highly
	Enhanced educational services	<i>The personnel dedicated to the CDM project was asked to give motivational talks to their co-workers and also to local schools about climate change, global warming prevention and mitigation or carbon footprint.</i>	Slightly
	Project related knowledge dissemination	<i>Site tours are regularly offered to externals.</i>	Slightly
	Other educational benefits		No
Welfare	The CDM improves local living and working conditions as follows:		
	Improvement of working conditions	<i>Local employees profit from improved working conditions.</i>	Partly
	Community or rural upliftment		N/A
	Poverty alleviation		No
	Changes in distribution and/or generation of income and assets		N/A
	Increased municipal revenues		N/A
	Empowerment of women	<i>Women and men are treated equally.</i>	Slightly
	Reduced traffic congestion		N/A
	Other welfare benefits	<i>Less people need to commute to go to work.</i>	Slightly

C. Economic co-Benefits

	Indicator	Specification	Extent
Growth	The CDM supports economic development and/or stability as follows:		
	New investments		No
	New industrial/comercial activities		No
	New infrastructure		No
	Enhancement of productivity		No
	Reduction of production costs (services)		No
	New business opportunities	<i>The CDM project is allowed to participate in the carbon market by selling carbon credits which is the only income of the project permitting its continuation.</i>	Highly
	Other economic benefits		No
Technology transfer	The CDM results in a change in technology as follows:		
	New imported technology	<i>There is no NOx emission reduction technology for nitric acid plants in Chile which forced the project participants to import technology and learn from foreign suppliers.</i>	Highly
	New local technology		No
	Adaptation of new viable technologies		No
	Know-how activities for a technology	<i>Local suppliers were encouraged to learn about NOx emission reductions technologies in order to adapt and develop some needed spare parts.</i>	Partly
	Other technological benefits		No