



# Clean Development Mechanism

## Sustainable Development Co-benefits Description Report<sup>1</sup>

CDM project activity information	
<b>Title</b>	Catalytic N <sub>2</sub> O destruction project at the new nitric acid plant PANNA 4 of Enaex S.A.
<b>Project activity reference no.</b>	5393
<b>Type</b>	Project Activity
<b>Sectoral Scope</b>	Chemical industries (5)
<b>Host Party</b>	Chile

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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, natural resources are described.

	Indicator	Specification	Extent
Air	The CDM project activity improves air quality by reducing air pollutants as follows:		
	SOx		N/A
	NOx	<i>More than 90% of NOx emissions are reduced due the project activity</i>	Highly
	Fly ash emissions		N/A
	SPM		N/A
	NMVOCs		N/A
	Noise		N/A
	Odors		N/A
	Dust		N/A
	Other air quality improvements		N/A

### B. Social co-benefits

No co-benefits related to welfare are described.

	Indicator	Specification	Extent
Jobs	The CDM project activity creates new job opportunities including income generation as follows:		
	New long term jobs	New long-term jobs > 1 year - 3	Partly
	New short term jobs	New short-term jobs < 1 year - 0	N/A
	Income generation		N/A
	Other employment opportunities	<i>Some indirect jobs opportunities arise from the project due 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 to the nearby community, any derived health diseases are reduced in the long term</i>	Highly
	Reduction of accidents	<i>Project is helping on having more accurate and frequently parameters of measurement and control</i>	Slightly
	Reduction of crime		N/A
	Preservation of food	<i>NOx as one of GHG is in part responsible for global warming and droughts. In that way, reducing any NOx emission will help on preserving cultivated lands and therefore preserving 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 project activity facilitates education, dissemination of information, research or increases awareness as follows:		
	Job related training	<i>The personnel dedicated to the project are encouraged on learning more about sustainability and emission reduction process looking for new opportunities of sustainable development</i>	Highly
	Enhanced educational services	<i>Sometimes the personnel dedicated to the project has been asked to give and motivational talks to their coworkers and also to local schools about climate change, global warming prevention and mitigation or carbon footprint</i>	Slightly
	Project related knowledge dissemination		Slightly
	Other educational benefits		N/A

### **C. Economic co-benefits**

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

	Indicator	Specification	Extent
Growth	The CDM project activity supports economic development and/or stability as follows:		
	New investments		N/A
	New industrial/comercial activities		N/A
	New infrastructure		N/A
	Enhancement of productivity		N/A
	Reduction of production costs (services)		N/A
	New business opportunities	<i>The project has been allowed on participating in the carbon market by selling carbon credits which is the only income of the project permitting its continuation</i>	Highly
	Other economic benefits		N/A
Technology transfer	The CDM project activity 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 us on using imported technology and learning from foreign suppliers</i>	Highly
	New local technology		N/A
	Adaptation of new viable technologies	<i>Local suppliers have been encouraged to learn about NOx emission reductions technologies in order to adapt and develop some needed spare parts</i>	Partly
	Know-how activities for a technology		N/A
	Other technological benefits		N/A