

CDM N₂O ABATEMENT PROJECT – ABU QIR, EGYPT

Objective: Avoidance of N₂O emissions from fertiliser production

The project aim is to reduce N₂O emissions resulting from the nitric acid plant of Abu Qir Fertilizer.

Background:

Abu Qir Fertilizer Co, located in Egypt, is one of the world's largest fertiliser producers. The majority of its output is used by domestic farmers in the nutrient-poor Nile delta. The industrial production of nitric acid (HNO₃), an indispensable precursor in nitrogen fertiliser manufacture, produces nitrous oxide (N₂O). N₂O is an unwanted, invisible and a previously neglected by-product of the nitric acid plant. One tonne of N₂O has the equivalent global warming potential of 310 tonnes of CO₂.

Normally the accruing N₂O is emitted unfiltered into the atmosphere. There is no regulation for the prevention of N₂O in Egypt. Which is why it is the common to vent the by-product, N₂O, in the atmosphere.

Project description

- > The German engineering company UHDE GmbH has developed an innovative technology: the EnviNOx[®] reactor. This reactor is located at the exhaust end of the manufacturing process. The N₂O, generated in the manufacturing process, is split and destroyed inside the EnviNOx[®] reactor. The efficiency of the catalytic process within the EnviNOx[®] reactor in Abu Qir is nearly 99%.
- > As a result of the installation of the EnviNOx[®] reactor a calculation was made of the amount of N₂O which will no longer be emitted into the atmosphere. 4,800 tonnes of N₂O emissions are avoided per year, equivalent to 1.5 million tonnes CO₂ per year.

- > The project was developed by "Carbon Egypt Ltd." a Joint Venture between RWE Power and the Austrian company "Carbon Projektentwicklung". The partners are developing and implementing further N₂O abatement projects.



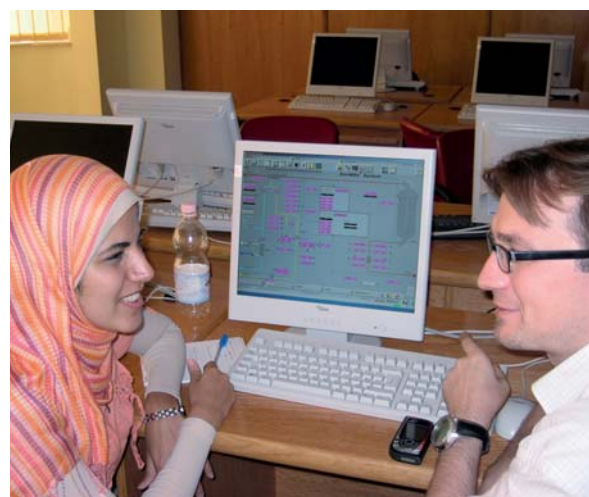
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Benefit: Annual reduction of 1.5 million tonnes of CO₂e

- > With the aid of this project and the EnviNOx[®] reactor the harmful N₂O is destroyed, reducing worldwide greenhouse gas emissions.
- > Approximately 1.5 million tonnes of CO₂e are avoided every year as a consequence of this project. The total emission reduction of the

project is approximately 10.5 million t CO₂e in the crediting period.

- > The project has also provided new jobs in the region, transfers technical know-how from Germany to Egypt and a part of the income of the project sponsors social projects in the area. This Project is to date Africa's largest CDM project.



Project title	Catalytic N₂O destruction project in the tail gas of the Nitric Acid Plant of Abu Qir Fertilizer Co.
Project type	N ₂ O destruction
Host country	Egypt
Project status	Registered as CDM project activity at the UNFCCC since October, 7th, 2006
Crediting period:	7 years, renewable Start: 7 October 2006
Emission reduction start:	September 15th, 2006
Average Emissions reductions p.a.:	1,500,000 t CO ₂ e