

**SECTION A. General description of project activity****A.1 Title of the project activity:**

&gt;&gt;

Title: Fatima N<sub>2</sub>O Abatement Project

Version 01	28/07/2011	Webhosting
Version 02	28/10/2011	Respond to DOE validation findings
Version 02.1	20/01/2012	Respond to Request for Registration Incomplete
Version 02.2	13/03/2012	Respond to Request for Registration Incomplete II

**A.2. Description of the project activity:**

&gt;&gt;

Pakistan's economy is fundamentally based on agriculture. In order to encourage growth in the agriculture sector, the government of Pakistan promotes policies for preferential fertilizer manufacturing from natural gas in the country. This policy is intended to increase local fertilizer production in order to resolve the shortage of fertilizer due to insufficient local manufacture of fertilizer.

The increasing demand for fertilizer also activates and spurs the development of new and additional facilities related to fertilizer manufacturing.

Fatima Fertilizer Company Limited (hereafter "Fatima Fertilizer") is a large fertilizer company in Pakistan.

Fatima Fertilizer has constructed and commissioned a large scale fertilizer production complex including

- One ammonia plant (1,500t/day);
- One urea fertilizer plant (1,500t/day);
- One nitric acid plant (1,500t/day<sup>1</sup>, relocated from Immingham UK);
- One CAN fertilizer plant (1,400t/day);
- One NPK fertilizer plant (1,000t/day) and
- One NP fertilizer plant (1,200t/day).

<sup>1</sup> The amounts of nitric acid mentioned here and forthcoming are calculated at 100 percent of nitric acid concentration to ensure comparability of the data as the actual concentration of the weak nitric acid produced may vary during the production campaigns.



The nitric acid plant built by Uhde has been relocated from Hydro Agri/Yara limited UK as a part of a chemical complex. The nitric acid plant was relocated to Pakistan in Dec 2006 and put in operation for the first time in Pakistan in April 2010.

No destruction or abatement system has been installed for the reduction of N<sub>2</sub>O. Nitrous Oxide (N<sub>2</sub>O) is an undesired by-product of the nitric acid (HNO<sub>3</sub>) production process at the synthetic fertilizer production facility. However, N<sub>2</sub>O is not a toxic substance and is not regulated in Pakistan. Without the incentive of the proposed CDM project activity, about 1,070,000 tCO<sub>2</sub>e/year<sup>2</sup> would be continuously released to the atmosphere at the nitric acid plant of Fatima Fertilizer Company Limited.

The aim of the project activity is to reduce N<sub>2</sub>O emissions in the tail gas by installing a tertiary catalyst after the absorption unit. It is expected that the N<sub>2</sub>O abatement catalyst decomposes about 98% of the N<sub>2</sub>O with estimated factual annual emission reductions of approximately 1,050,000 tCO<sub>2</sub>e/year.

The baseline scenario would be therefore the production of nitric acid without the application of any N<sub>2</sub>O abatement facility as described above and identified in section B.4. of this PDD.

The project will contribute to the sustainable development of the area. Through this CDM project, Fatima Fertilizer will employ state-of-the-art N<sub>2</sub>O reduction and monitoring technology in order to reduce greenhouse gas emissions thus promoting sustainable development based on environmental and economic indicators. It will be directly measureable through the N<sub>2</sub>O emission reductions achieved due to the implementation of the project activity. Furthermore, Fatima Fertilizer will promote the concept of CDM which aims to spread state-of-the-art technologies to combat global climate change.

### A.3. Project participants:

Name of Party involved (*) (host) indicates a host Party)	Private and/or public entity(ies) project participants (*) (as applicable)	Kindly indicate if the Party involved wishes to be considered as project participant (Yes/No)
Pakistan (host)	<b>Fatima Fertilizer Company Limited., Pakistan</b> [owner and operator of the nitric acid plant]	No
United Kingdom of Great Britain and Northern Ireland	<b>N.serve Environmental Services GmbH, Germany (“N.serve”)</b> [Project developer] <b>Fatima Fertilizer Company Limited., Pakistan</b> [owner and operator of the nitric acid plant]	No

<sup>2</sup> Based on an estimated business-as-usual emissions factor of 7.00 kgN<sub>2</sub>O/tHNO<sub>3</sub> (N<sub>2</sub>O EU-average value. EC (2007): Reference document on best available techniques for the manufacture of large volume inorganic chemicals, page 131 and an annual design capacity of 495,000 tHNO<sub>3</sub>/year.