

## **The Fertilizer Industry Can Help to Reduce Global Greenhouse Gas Emissions**

**Paris: 28 July 2009** -- The International Fertilizer Industry Association (IFA) released today its white paper, [Fertilizers, Climate Change and Enhancing Productivity Sustainably](#). The paper's objective is to provide a review of the fertilizer industry and its global impact, both positive and negative, on [climate change](#). The industry advocates a life-cycle approach, encompassing fertilizer production, transport and use.

The fertilizer life-cycle accounts for 2 to 3% of total global greenhouse gas (GHG) emissions. Yet, **nitrogen fertilizers are estimated to contribute to feeding as much as half of the world's population**. As agricultural production rises to meet food, feed, fibre and bioenergy demand worldwide, fertilizer use will also increase. Climate change creates an imperative for the fertilizer industry to contribute to mitigation and adaptation in order to achieve a more sustainable path to global food security. Increasing agricultural productivity, through efficient fertilizer use, is critical to prevent further deforestation, protect biodiversity, and thus reduce the emissions level per unit of agricultural output.

The fertilizer industry recognizes that it contributes directly and indirectly to GHG emissions, particularly carbon dioxide (CO<sub>2</sub>) and nitrous oxide (N<sub>2</sub>O) and it has set as a priority to reduce them. The technology and knowledge is available to achieve significant reductions. Some of the current solutions include:

- Improving the management of operations using Best Production Techniques, in order to reduce energy consumption and direct GHG emissions in natural gas-based ammonia production, which carries the largest share of the industry's emissions.
- Utilizing state-of-the art technology, such as secondary N<sub>2</sub>O abatement catalysts in nitric acid production.

The improved performance in all manufacturing processes has an emissions reduction potential of up to about 120 Tg CO<sub>2</sub>-equivalent per year. Future Carbon Capture and Storage technology may add some 100 Tg CO<sub>2</sub>-equivalent in coal-based ammonia production facilities (principally in China).

The fertilizer industry has an economic rationale and direct control over the performance of its production facilities. However, the production of fertilizers accounts for less than 1% of total GHG emissions and fertilizer use for 1.5%. The industry is helping farmers to reduce emissions by sharing knowledge, products and technologies to improve the efficiency of fertilizer use in the field. IFA has developed a **global framework for [Fertilizer Best Management Practices](#)**, in partnership with policymakers, scientists, extension agents and farmers, to ensure that an ever-

growing number of farmers use the 4R approach: Right Product @ Right Rate, Right Time, Right Place. Good agricultural practices are essential in order to minimize unwanted impacts of intensified agriculture. In addition, judicious fertilizer use helps increase cultivated soil carbon reserves by increasing the photosynthetic conversion of CO<sub>2</sub> to biomass that is subsequently converted to soil organic matter. The paper notes the potential gain of soil carbon sequestration on degraded soils, such as in much of Sub-Saharan Africa.

Fertilizer production and agriculture are both truly global businesses. Policy decisions related to climate change need to take into account local conditions and the possibility of trade substitution (which could lead to “carbon leakage”). Otherwise, competitiveness could be distorted and emissions reduction targets could be undermined. **Appropriate and timely policy decisions are critical to ensure desired emissions reductions.** They should recognize early adopters and providers of improved technologies in order to encourage appropriate investments in the near term. Financing mechanisms need to address barriers to technology adoption. They also need to take into account the specific needs of agriculture.

Efforts by the fertilizer industry to take responsibility for its greenhouse gas emissions can only be fully effective if policymakers and other stakeholders, such as farmers, also play their part. The critical goals of protecting food security, reducing poverty and fighting climate change must coexist. The fertilizer industry, along with other members of civil society, calls on governments to include agriculture in the post-Kyoto negotiations that will take place in December in Copenhagen.

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**The International Fertilizer Industry Association (IFA)** is a not-for-profit trade association representing the global fertilizer industry. IFA member companies represent all activities related to the production and distribution of every type of fertilizer, their raw materials and intermediates. IFA's membership also includes organizations involved in agronomic research and training. IFA has some 525 members in about 85 countries. The global fertilizer industry produces some 170 million tons of fertilizer nutrients annually. These are used in every corner of the globe to support sustainable agricultural production and food security. [www.fertilizer.org](http://www.fertilizer.org)

**Fertilizers, Climate Change and Enhancing Productivity Sustainably** is a white paper published by the International Fertilizer Industry Association. It was prepared collectively by the members of the IFA Task Force on Climate Change. A summary of the white paper is also available as an IFA issue brief entitled [Fertilizers and Climate Change, Enhancing Productivity and Reducing Emissions](#).

**For more information on fertilizers and climate change:**

<http://www.fertilizer.org/ifa/Home-Page/SUSTAINABILITY/Climate-change>

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