Nitrogen + Syngas Conference, Düsseldorf, 21 to 24 February 2011

Call for Papers

Authors:

Dr. Klaus Noelker

Uhde GmbH Ammonia and Urea Division Friedrich-Uhde-Str. 15 44141 Dortmund Germany

Phone: +49 231 547 2455 Fax: +49 231 457 3468

E-Mail:

klaus.noelker@thyssenkrupp.com

Dr. Joachim Johanning, Dr. Joachim Ruether

Uhde GmbH Ammonia and Urea Division Friedrich-Uhde-Str. 15 44141 Dortmund Germany

Title:

Low Energy Consumption Ammonia Production: Baseline Energy Consumption, Options for Energy Optimization

Abstract:

The energy consumption of ammonia production was reduced over many decades and reached figures of about 7 Gcal per ton of ammonia in the early 1990's and reached minimum values slightly below this figure as well.

However, in the following years this trend did not continue. Low energy consumption often was partly sacrificed for low investment cost.

With increasing natural gas prices today, and projects in high gas-cost countries, the focus seems to return to energy consumption again, thus raising the demand for even lower energy consumption figures.

The presentation discusses the theoretical and practical lower limit of energy consumption. It looks at the areas with inefficiencies, and for those which cannot be avoided, the reasons are discussed, and for those which can be avoided, suggestions for improvement are made by some examples. Furthermore, the presentations highlights the influence of the selection of the boundary on the result.