The Evolving U.S. Nitrogen Landscape

by Luke Brummel
Economist: Farm Supply and Grains, Oilseeds, and Ethanol Knowledge Exchange Division

Key Points:

- Domestic consumption of nitrogen fertilizers has remained virtually flat over the past two decades, while the number of domestic nitrogen producers has shrunk by roughly 50 percent due to consolidation, closures, and competition from lower-cost foreign producers.

- Recent developments, however, have turned the domestic nitrogen industry upside-down. The discovery of abundant domestic supplies of natural gas has reinvigorated interest in building new domestic production facilities.

- Currently, new ammonia capacity amounting to nearly 6 million tons is scheduled to come online in the U.S. over the next three years, mostly as expansions of existing facilities.

- Lurking within the broader marketplace is a wide array of potential risks threatening to derail new projects – risks involving capital expenditure costs, variable input costs, environmental concerns, and foreign competition.

- At the top of the list of potential risks is a run-up in the price of natural gas, in response to the growing demand for gas. However, U.S. natural gas prices are expected to remain little changed over the next five years from their current low levels.

- China remains the wild card in the global fertilizer market. It doubled its nitrogen exports in the past 15 years. China’s future aspirations for these exports are unknown and constitute another potential risk.

- As more tons come online in the near future and move into the distribution system, inventory price risk will become a larger consideration. To mitigate this risk, suppliers may move more of their inventories into distributors’ storage facilities under consignment and/or storage agreements.

Introduction

The domestic nitrogen fertilizer market is poised for transformative growth. No new nitrogen fertilizer plant has been built in the U.S. during the past 15 years. Today, nearly all of the major players involved in domestic nitrogen manufacturing are considering whether to build new facilities to expand their output. If all the new projects currently on the drawing boards get built, they...