

Fertilizer and Energy



Overview

The nitrogen fertilizer manufacturing industry is both energy-intensive and trade-exposed, as it must compete in a global market. Production of these critical crop nutrients relies heavily on the use of natural gas as a feedstock in the production of ammonia, the basic building block for all nitrogen fertilizers.

The cost of natural gas comprises between 70 and 90 percent of the cost of nitrogen fertilizer production, and it takes approximately 32,000 cubic feet of natural gas to produce one ton of ammonia.

As part of their sustainability efforts, many fertilizer manufacturers cogenerate energy or use other low-impact energy sources, such as solar or steam from waste heat, to increase energy efficiency during production.

Why Is Energy So Important to the Fertilizer Industry?

- Any attempt to limit access to natural gas supplies or artificially raise the price would impose negative consequences on the domestic nitrogen fertilizer manufacturing industry and potentially shift production overseas to markets with less efficient production methods.
- From 1999–2008, the United States closed approximately half of our ammonia manufacturing facilities, primarily due to the high cost of natural gas.
- Thanks to the shale gas renaissance, the U.S. ammonia manufacturing industry has seen a rebirth in recent years.
- Much of the investment during this time has been in the form of increased efficiency at existing plants and the construction of new state-of-the-art facilities.



What Should be Done and Why?

TFI supports energy policies that preserve the competitiveness of U.S. fertilizer manufacturers in the world market. An all-of-the-above energy policy that does not pick winners and losers and ensures a diversified portfolio of energy options is a must.

In addition, any policy that restricts access to supplies of natural gas would have a negative impact on our ability to produce ammonia in the United States because there are simply no other alternative feedstocks available.

BY THE NUMBERS

*Total energy use decreased by **3 percent** from 2017 to **11.9 GJ** per nutrient ton produced.*

*Indirect energy, purchased electricity and steam use declined significantly by **36 percent per ton** produced.*

*Reporting companies captured **100.9 million GJ** of waste heat and used it for energy production—the equivalent of **41 percent** of their total energy use.*