

# Fertilizer and Climate Change



## Overview

The fertilizer industry recognizes the ongoing challenge of climate change and is committed to ensuring the sustainable and safe production and use of our products. The fertilizer industry has already invested significant amounts of capital in efficiency improvements at manufacturing facilities to reduce their environmental impact.

The fertilizer industry has also invested heavily in the development and promotion of science-based 4R Nutrient Stewardship practices, where farmers apply nutrients using the **right source, at the right rate, at the right time, and in the right place.**

The 4Rs have proven to be an effective way for farmers to reduce the negative impacts of excessive fertilizer use, raise yields, and increase profitability. The Fourth National Climate Assessment identifies the 4Rs as an “adaptation strategy to cope with the adverse impacts of climate change.”

## Why Does Climate Change Matter to the Fertilizer Industry?

### Fertilizer Manufacturing

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The U.S. fertilizer manufacturing industry is both energy-intensive and trade-exposed. In fertilizer manufacturing, greenhouse gas emissions primarily come from the production of ammonia (0.2 percent of U.S. total GHG emissions), phosphoric acid (negligible percentage of total U.S. GHG emissions) and nitric acid (0.1 percent of U.S. total GHG emissions).

### Fertilizer Use

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Agriculture is at the frontline of adaptation to climate change, and the fertilizer industry is committed to the sustainable use of its products through implementation of the 4Rs. This approach to nutrient management is contributing to substantial progress in minimizing the impact of fertilizer on our nation’s air and water resources.

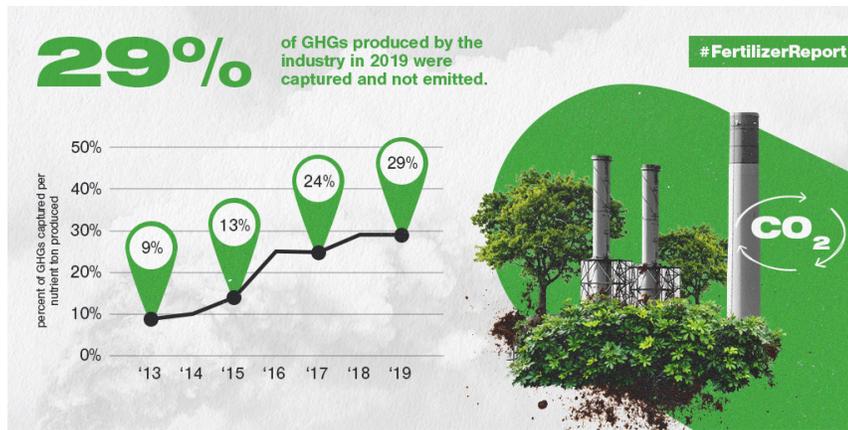
# What Should be Done and Why?

## Fertilizer Manufacturing

As Congress examines various proposals to address climate change and reduce GHG emissions, it is very important that any legislation or policy does not create a disincentive or inhibit the continued advancements in the U.S. fertilizer industry. TFI supports incentives or credits for companies that invest in energy-efficiency technologies, which ultimately reduce GHG emissions.

Any carbon-pricing regime that increases U.S. production costs to the point that production shifts to jurisdictions such as China (which is currently the global swing supplier) could have the net effect of increasing global GHG emissions, thereby undermining the objective of the policy in the first place.

To avoid that unintended consequence, the global competitiveness of the U.S. fertilizer sector must be protected in any federal climate policy.

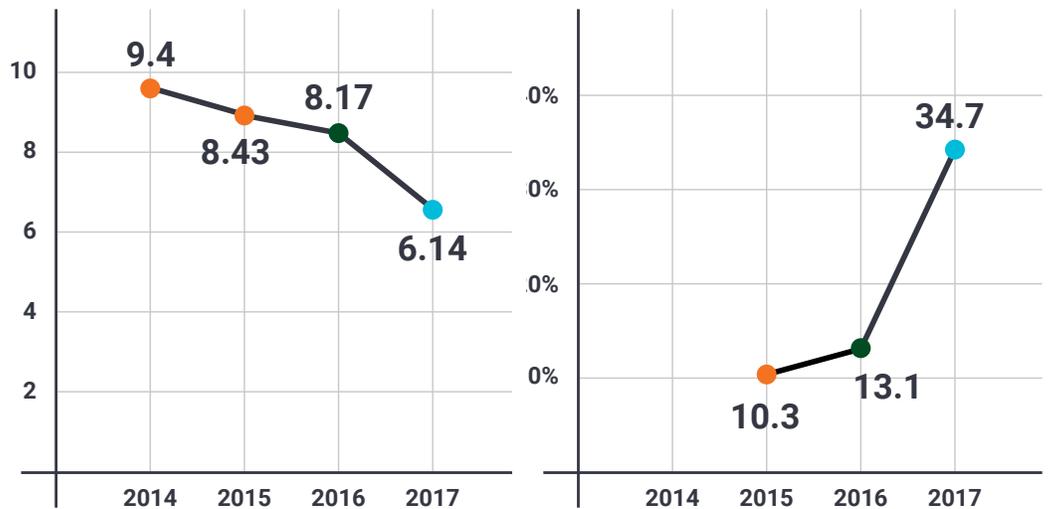


## Fertilizer Use

TFI supports including 4R practice implementation in any offset credit program that may accompany a carbon-pricing regime. TFI also strongly supports additional public investment in 4R research.

A farmer growing strip-till managed corn in Illinois who went from basic to advanced 4R practices reduced his CO<sub>2</sub> emissions by 34.7 percent over four years.

### 4R Practice Benefits for a Strip-Till Corn Farmer in Illinois



CO<sub>2</sub>e Emissions per bu for Strip-Tilled Corn in Illinois

Percent of CO<sub>2</sub> Emissions Reduction for Strip-Tilled Corn in Illinois

Basic Intermediate Advanced