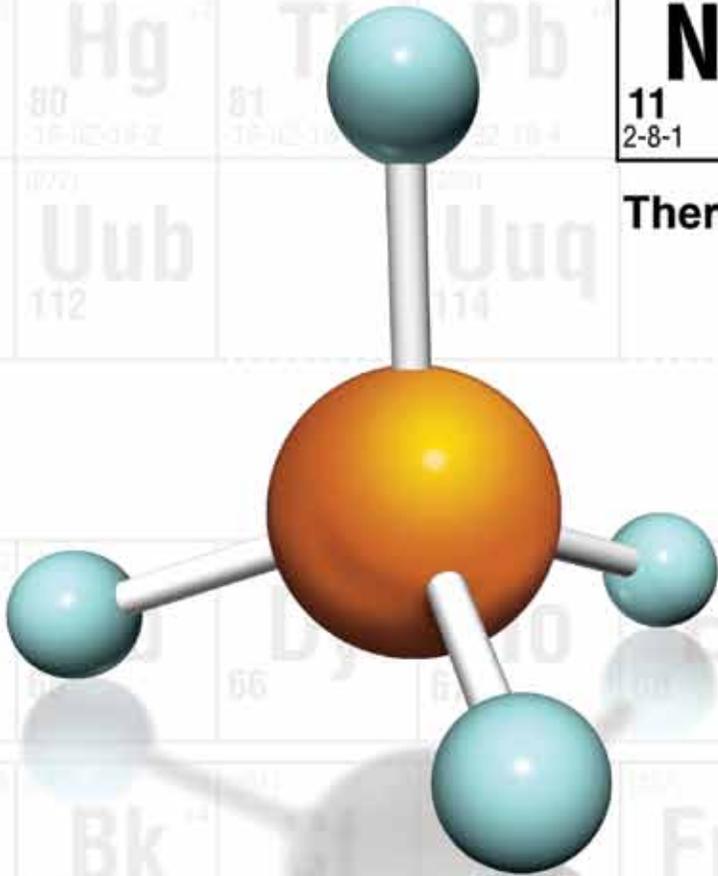


A Reprint from *Tierra Grande*

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## There's GREEN in Greenhouse Gases

By Bane Phillippi

**G**lobal warming and climate change have been heavily debated in the media over the past several years. The perception that global warming is occurring and human activity is exacerbating it has led to some regulation of greenhouse gas emissions. It is likely to lead to much more.

**T**his article discusses the basics of global warming, the current state of greenhouse gas regulation in the United States, and how actual and potential regulation may generate income for rural land owners.

### Global Warming

Six gases (carbon dioxide [CO<sub>2</sub>], methane [CH<sub>4</sub>], nitrous oxide [N<sub>2</sub>O], hydrofluorocarbons [HFCs], perfluorocarbons [PFCs], and sulfur hexafluoride [SF<sub>6</sub>]) are among those commonly referred to as greenhouse gases (GHGs). GHGs trap heat in the atmosphere, producing the so-called greenhouse effect, in which a portion of solar radiation that would otherwise escape

back into space is trapped in the Earth's atmosphere, causing the surface temperature to rise.

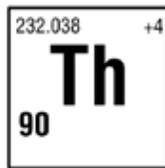
Debate continues over whether human activity contributes to global warming. Regardless, the perception that human-generated GHGs are exacerbating global warming is likely to lead to further regulation.

Certain human activities, such as the burning of fossil fuels, produce GHG emissions, including carbon dioxide. GHGs are commonly referred to as "carbon" or "CO<sub>2</sub> equivalents" because they are measured based on their warming effect relative to carbon dioxide. The extent of an entity's GHG production is sometimes referred to as a "carbon footprint." A carbon

footprint could result from direct emissions (such as those produced by a company's operations) and indirect emissions (emissions associated with a company's suppliers or distributors, for example).

One way a company can reduce its carbon footprint is by reducing GHG emissions through energy conservation, energy efficiency or alternative fuel use. A second way is to "offset" its emissions through "carbon trading," which means purchasing carbon "credits" from other companies or projects that produce a lower amount of carbon emissions.

### Current GHG Regulations



The United States does not comprehensively regulate GHG emissions at present although courts and administrative agencies have issued findings applicable to specific areas of GHG emissions.

The U.S. Supreme Court in 2007 considered whether greenhouse gases should be regulated under the Clean Air Act (*U.S. v. Massachusetts*). In a five-to-four decision, the court required that the EPA consider whether carbon dioxide is a danger to the public.

In April 2009, the EPA issued a proposed endangerment finding that greenhouse gases contribute to air pollution and, therefore, may endanger public health or welfare. This proposed finding could lead to EPA-proposed regulations.

Some facilities that are not now required to control GHG emissions may be required to do so. However, the Obama administration and the EPA have indicated a preference for comprehensive legislation from Congress to address this issue. This idea has met with opposition from conservative lawmakers who say the cost of such a measure would ultimately flow to individual taxpayers.

In June 2009, the House of Representatives narrowly passed the American Clean Energy and Security Act (ACES), H.R. 2454. Before it becomes law, the bill will need to be considered and passed by the Senate. Some are predicting a full Senate vote in October. ACES, among other things, establishes limits (or caps) on emissions from large sources, such as refineries and electric

utilities. It requires that these large sources obtain emission allowances for each ton of carbon emitted.



**RURAL LANDOWNERS WHO FOLLOW** designated agricultural and forestry practices may generate carbon credits to sell. Then, large companies that produce more greenhouse gases than the law may allow can purchase credits from them.

ACES also allows capped sources to "increase" their carbon emissions by obtaining offsetting emission credits, including agriculture and forestry related offsets. It requires the Secretary of Agriculture to establish a program governing the generation of offset credits from domestic agricultural and forestry sources.

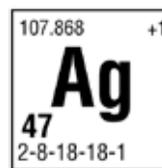
The initial list of eligible domestic agricultural and forestry offset practice types includes

agricultural practices in three broad categories: (1) agricultural, grassland, and rangeland sequestration and management practices; (2) changes in carbon stocks attributed to land use change and forestry activities; and (3) manure management and disposal.

If ACES passes the Senate as written, the agriculture secretary will ensure that offset credits represent verifiable and additional reductions, avoidance, or sequestration, and that sequestration offsets result in permanent net reduction in atmospheric greenhouse gases. The secretary will also establish the rules and methodology for the offsets, and will be required to approve all offset projects and establish procedures for verification.

One offset credit would be awarded for each ton of CO<sub>2</sub> equivalent the secretary determines has been reduced, avoided or sequestered. Initial ownership of the credit will lie with the offset project developer, and the credits will be transferable unless expired or retired.

### Agricultural Interests Divided



Agricultural groups are split on whether to support a mandatory cap-and-trade program such as that in ACES. The American Farm Bureau Federation (AFBF) opposes a government-mandated program. According to AFBF President Bob Stallman, "Unilateral cap-and-trade legislation will have little or no impact on the climate because greenhouse gas emissions require a global response."

The AFBF has also taken the position that food prices would likely rise for consumers unless an offset program is put in place. "Even if an offset

program were implemented," says Stallman, the ACES bill still does not make sense for producers because "a number of sectors will not be able to participate" (www.fb.org).

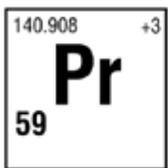
The National Farmers Union (NFU) supports a nationwide mandatory carbon emission cap-and-trade program provided certain conditions are met, including the implementation of an agricultural offset program. The NFU's position is that such legislation will increase energy input costs to agriculture producers but such legislation will not be void of economic opportunities for its members (<http://nfu.org>).

## Potential Income Sources

What does this mean for rural landowners?

Until there is a regulatory program that puts a cap on emissions and allows for the trade of such emissions, the only U.S. market for carbon credits is voluntary. One such voluntary market is the Chicago Climate Exchange (CCX), which operates a trading system for GHGs and has developed its own guidelines for carbon management offsets (For more information on CCX, go to <http://www.chicagoclimatex.com/>).

Though the CCX program is voluntary, contracts for emission offsets are legally binding between the parties. Companies may want to buy offset credits even if they are not required to as a means of satisfying their customers and investors. The commodity traded on the CCX is the "CFI Contract," which represents 100 metric tons of CO<sub>2</sub> equivalent. Over the past few years, CFI Contracts generally have sold from under \$1 to over \$7.



Programs offered by CCX to generate offsets are the Forestry Carbon program for maintaining or increasing forest area; the Rangeland Soil program for grazing land management that employs sustainable stocking rates and rotational grazing; the Agricultural Methane program for methane collection and combustion at livestock operations; and the Agricultural Soil program for conservation tillage practices.

Projects must take place within designated land resource regions and offsets are issued at standard rates depending on the location and specific project types. Using the Agricultural Soil program as an example, rates vary from 0.2 to 0.6 metric tons of CO<sub>2</sub> per acre per year for conservation tillage.

Credits can be "cultivated" by implementing no-till, strip till or ridge till on enrolled acres. Credits also can be earned by converting land to grassland, with rates ranging from 0.4 to 1.0 metric tons per acre per year.

The CCX requires a minimum contractual commitment of five years. As part of CCX's process, each year 20 percent of the earned carbon credits (by tonnage) are placed in a carbon bank by the CCX and are paid in a lump sum at the end of the contract. This provides an incentive for producers to complete all terms of the contract. Penalties are assessed for early termination of the management practices.

The soil does not have to be tested for carbon sequestration at the beginning or end of the contract period, but all projects must be verified by a CCX-approved verifier, which confirms that the practices were implemented. CCX's position is that if the landowner implements no-till cropping, grass seeding, range management or forestry, carbon sequestration has occurred.

Projects must be enrolled through a CCX-approved aggregator. Aggregators are approved by CCX to lump together carbon offsets and sell them on behalf of producers. These aggregators combine acreage of participating producers into

*One way a company can reduce its carbon footprint is by reducing GHG emissions through energy conservation, energy efficiency or alternative fuel use.*

blocks of offsets that are traded on the CCX. Sale proceeds are being forwarded to participating producers. The NFU, through its Credit Trade Program, is a CCX-approved aggregator.

## Thinking Ahead May Yield Cash

The price for cultivating carbon offsets is currently fairly low, but this could change if federal cap-and-trade legislation is passed. Rural landowners should be aware of this income potential and should monitor developments that could result in increased prices for carbon offsets. ♣

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## THE TAKEAWAY

Greenhouse gas regulation may offer rural landowners a new source of income: selling carbon credits to companies that emit more gases than allowed by law. Maintaining forested lands, sustainable grazing land management, methane collection practices and conservation tillage practices may make rural land eligible to earn carbon credits to sell.



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