

# Carbon Footprint

CARBON

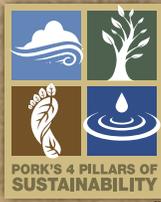


## FACTS



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### Pork Producers: *Committed to Environmental Sustainability*

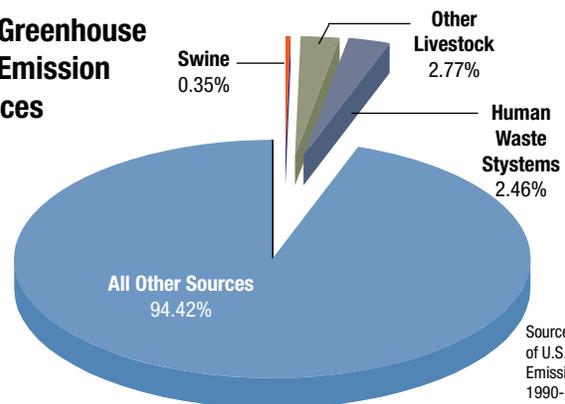


Safeguarding the environment comes naturally to America's pork producers because they understand their inherent responsibility to preserve natural resources for future generations. Today, under the umbrella of environmental sustainability, producers have taken this public trust to the next level with their Checkoff investments in research into the four pillars of environmental sustainability—CARBON FOOTPRINT, WATER FOOTPRINT, AIR FOOTPRINT AND LAND FOOTPRINT. The insights and innovations found from this research will help producers maintain their role as leaders in protecting the natural resources they manage on their farms—one of the ethical principles of the pork industry's We Care initiative they are committed to achieving.

**America's pork producers are among the most environmentally and socially conscious food producers in the world today.** From their continual emphasis on the welfare of the animals under their care to their stewardship of the soil, water and land they call home, pork producers are leaders on many environmental fronts. And as always, producers continue to ensure that the food they produce is done so in a responsible and caring way for animals, consumers and the environment

Just as they took steps in the 1980s and '90s to protect the soil and water, today's pork producers are leaders in assessing and understanding their carbon footprint. Through the Pork Checkoff, producers are funding research efforts at the University of Arkansas' Applied Sustainability Center to measure and identify the overall carbon footprint involved with pork production. They are determined to address this important area and capitalize on opportunities that make good environmental sense and are economically sustainable.

### U.S. Greenhouse Gas Emission Sources



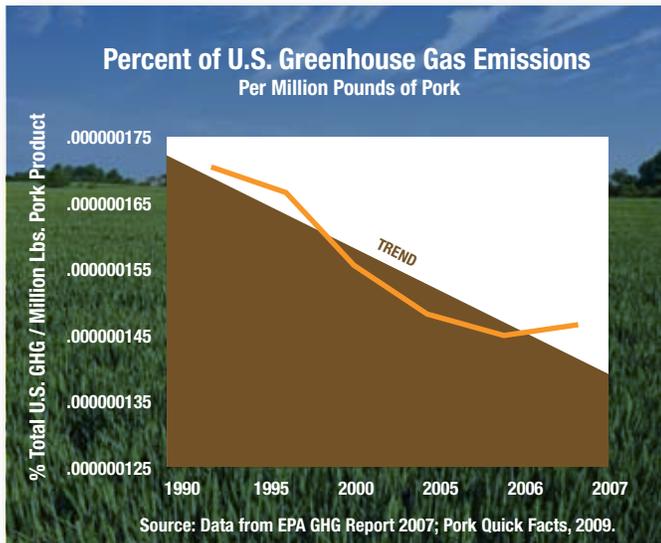
Source: Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2009, Feb. 15, 2011.

### Some key facts to consider:

- **Pork production's carbon footprint is a small fraction of U.S. greenhouse gas (GHG) emissions.**

Animal agriculture as a whole contributes a small part of U.S. GHG emissions. According to U.S. Environmental Protection Agency (EPA), in 2007 only 2.8 percent of U.S. GHG emissions came from animal agriculture and pork production contributes even less—just over one-third of one percent (0.35%) of total U.S. GHG emissions.<sup>1</sup>





- **Pigs produce little expellable gas from enteric fermentation.**

Unlike some other livestock species, pigs with their single stomach don't produce much expellable gas during digestion, which according to the United Nations' Framework Convention on Climate Change, is ranked as second among the top four main sources for non-CO<sub>2</sub> GHG emissions. The other main sources, in order, are soils, manure management and rice cultivation.

- **Pigs produce less GHG emissions than humans.**

In GHG emission terms, producing pork is easier on the environment than people are. In terms of waste handling, Humans generate 2.65 percent of total GHG emissions just from municipal sewage treatment plants and solid-waste landfills. Meanwhile, pigs only create 0.3 percent in total.

- **U.S. animal agriculture is very eco-friendly.**

A 2006 United Nation's report<sup>2</sup> concluded that about 74 percent of agricultural GHG emissions come from developing countries. The vast majority of global GHG emissions attributed to livestock production (12 - 18 percent) results from deforestation and converting rain forests and other lands to grow crops or pasture. Such actions do not occur in the U.S., which has actually seen an increase in the total acreage of forested land over the last several decades – even while total agricultural production has increased.

- **Livestock-related GHG emissions in the U.S. have declined per unit of production.**

Since 1990, U.S. farmers increased meat production by almost 50 percent, milk production by 16 percent, and egg production by nearly 33 percent.<sup>3</sup> The fact that GHG emissions from U.S. animal agriculture have remained relatively constant while protein production has dramatically increased reflects improved feed efficiencies, better manure-management strategies and efficient use of cropland. So, every gallon of milk or pound of meat produced in the U.S. today has a smaller carbon footprint than it used to have.

- **Pork producers are determined to lead in carbon-footprint knowledge.**

The National Pork Board has created a comprehensive working group. It consists of pork producers and representatives of the feed-crop production, feed formulation, meat packing and processing, and retail marketing components of the pork chain. While it's already known that the three gases of primary interest in pork production are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O), much more remains to be discovered. That's why the industry is diligently working to assess pork's life-cycle from feed to fork. The goal is identify areas where producers can continue the trend of producing more food using fewer resources for an ever-more eco-friendly and economically viable result.

- **The National Pork Board's carbon footprint project is comprehensive with multiple phases.**

Since June 2008, the National Pork Board has been working on a specific plan to assess and better understand the pork industry's carbon footprint. The Checkoff-funded research has completed:

- A review of available literature and information related to energy use and greenhouse gas emissions from pork production.
- A summary or "scan level" life-cycle assessment of energy use and emissions across the entire pork chain, including feed crop production, feed formulation, swine production, transportation, meat processing and retail components.
- A detailed, in-depth life-cycle assessment of the on-farm animal production component covering all aspects of raising the animals, including manure-management practices.
- A producer-friendly software tool called the Live Swine Carbon Footprint Calculator. It calculates the greenhouse gas emissions involved in sow and grow-finish production, which can help producers identify areas for potential improved efficiency.

<sup>1</sup> <http://epa.gov/climatechange/emissions/downloads11/US-GHG-Inventory-2011-Chapter-6-Agriculture.pdf>

<sup>2</sup> United Nations Framework Convention on Climate Change/TP/2008/8; 21 Nov. 2008

<sup>3</sup> American Meat Institute, 2009.

For more information on Pork Checkoff's environmental sustainability effort, visit [www.pork.org/sustainability](http://www.pork.org/sustainability)



We Care is an overarching philosophy and set of ethical principles that guides America's pork producers to do what comes naturally to them – demonstrating their commitment to maintaining a high standard for safe food, animal well-being, public health, natural resources, employee care and community.

