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## First Comprehensive Guide to Carbon Sequestration Now Available

Duke University Press and The Nicholas Institute for Environmental Policy Solutions Publish *Harnessing Farms and Forests in the Low-Carbon Economy*

Duke University Press and the Nicholas Institute for Environmental Policy Solutions at Duke University are pleased to announce the publication of the first comprehensive guide to help farmers and foresters turn their land's carbon-storing properties into a tradable commodity, and to provide guidance for those who would verify those practices as carbon "offsets."

*Harnessing Farms and Forests in the Low-Carbon Economy: How to Create, Measure, and Verify Greenhouse Gas Offsets* contains comprehensive information about land management practices best suited for sequestering, or storing, carbon dioxide emissions in soils and forests. It details how landowners can convert this storage capacity into revenue-generating greenhouse gas emissions "offsets," that can be sold, via carbon markets, by businesses or energy users unable to reduce emissions on their own.

Duke's Nicholas Institute for Environmental Policy Solutions developed the guide in collaboration with the nonprofit advocacy group Environmental Defense, and engaged scientists from Texas A&M, Colorado State, Rice, Princeton, Kansas State and Brown universities, as well as other experts. Excerpts of the guide and additional materials are available online:  
<http://www.env.duke.edu/institute/ghgoffsetsguide/index.html>

The guide explains how farmers and foresters can convert their land's carbon dioxide storage capacity and reduce emissions of potent greenhouse gases such as methane and nitrous oxide into revenue-generating "offsets" that can be bought and sold in future carbon markets. Lawmakers at the state and federal levels are paying increased attention to the role of these offsets as legislation to reduce U.S. greenhouse gas emissions is being developed. A number of agricultural groups are realizing the potential for new revenue streams through greenhouse gas-sequestering alterations to farming practice, such as no till farming where soils are not turned up after every season, and manure management practices that capture methane and utilize it as an energy source.

"This is a comprehensive roadmap that paves the way for agriculture as a verifiable, measurable carbon sink," said Dick Wittman, a member of the Agricultural Carbon Market Working Group and the former president of the Pacific Northwest Direct Seed Association. "Recent studies by Kansas State University and others have indicated that carbon could be an \$8 billion market for agriculture," Wittman said. "This document proves that specific agricultural conservation tillage practices

are a legitimate method to store carbon. Should policymakers embark on a cap and trade policy on climate, agriculture has the potential to be a cost effective solution for those who are trying to curtail carbon and other greenhouse gas emissions.”

Fred Krupp, president of Environmental Defense, said, “A comprehensive cap on carbon will guarantee reductions in global warming pollution while stimulating new technologies. Designed well, it will move people to sequester carbon in the ground and in forests. This important book shows how carbon offsets on farms and forests can contribute if they are measurable and verifiable. The book is a badly needed how-to manual for farmers and foresters showing them how to create, measure, and verify their offset reductions. It also will help assure the public and policymakers that offset reductions are real when they meet rigorous standards.”

The guide is divided into three sections. The first provides an overview for legislators, landowners, and those unfamiliar with offset markets but interested in learning about them. The second provides a more detailed but nontechnical exposition of the offset process for project developers, investors and purchasers of offsets. Farmers and other land managers will find, in the third section of thirteen detailed appendices at the end of the volume, the technical information detailing exact practices for sequestering, and measuring, carbon in soils and forests.

Some land managers in agriculture and forestry are building demonstration projects that apply the recommendations in the guide.

In Idaho, reforestation projects will return previously cultivated lands to pine forests, with the resulting offsets aggregated by a Native American tribe. In New York, a group of small landowners and dairies is producing offsets by combining reforestation, no-till farming, methane capture from manure, buffer zones, and cover crops.

“We know land-use practices can give us more options for reducing greenhouse gas emissions over the next 20 to 30 years, and flexibility for companies adjusting to a U.S. carbon cap once it is enacted,” said Nicholas Institute Director Tim Profeta. “But farmers and foresters have needed specific guidance, and lawmakers need to know that the reductions can be verified. This book gives us that information and assurance.”

The Nicholas Institute is a nonpartisan academic institution established in 2005 to bridge the gap between academic research and active environmental policymaking, and to serve as an honest broker in the policymaking process.

Environmental Defense is a leading national nonprofit organization that links science, economics, law and innovative private-sector partnerships to create breakthrough solutions to the most serious environmental problems.

Harnessing Farms and Forests in the Low-Carbon Economy:  
How to Create, Measure, and Verify Greenhouse Gas Offsets  
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