

**FARMING FOR OUR
FUTURE: THE SCIENCE,
LAW, AND POLICY OF
CLIMATE-NEUTRAL
AGRICULTURE**

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About the Authors



Peter H. Lehner is Managing Attorney of the Sustainable Food & Farming (SFF) Program at Earthjustice, the country's largest nonprofit public interest environmental law organization. The SFF Program deploys strategies to promote a more just, environmentally sound, and climate-resilient agricultural system and to reduce the health, environmental, and climate harms from production of our food. From 2007–2015, Lehner was the Executive Director of the Natu-

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Foreword

In this book, we examine the agricultural strategies, practices, and technologies that can make agriculture in the United States climate-neutral or better, and thus help to curb climate change. Agriculture both contributes to climate change and is severely affected by the more frequent extreme weather, increased pests and heat, and other challenges produced by it. Not only does our food security depend on an agricultural system that can continue and thrive in changed conditions, but our overall security depends on limiting climate change. And while agricultural greenhouse gas emissions may seem modest compared with those from the electricity, transportation, or industrial sectors, agriculture's contribution to climate change is substantial (far more than generally realized) and we will not be able to achieve our mitigation goals unless agricultural emissions sharply decline. Fortunately, agriculture can be a major part of the climate solution, and in the process improve rural communities and the lives of those who work on farms and ranches.

Many visionary farmers, researchers, and advocates have already started down this path. Here, we summarize the many agricultural practices that have been demonstrated to reduce greenhouse gas emissions and increase carbon sequestration in soil, including cover cropping, more varied crop rotations, agroforestry and silvopasture (adding trees into cropping or grazing systems), perennial crops, prescribed rotational grazing, dry manure management, and others. Of course, there are nuances in impact depending on region, climate, and how farmers implement these practices—and there are often conflicting scientific studies and over-simplified advocacy claims—yet it is clear that agriculture itself can become climate-neutral without offsets. Numerous scientific studies as well as the actual experience of many farmers (including one of the authors) have shown that these practices also reduce soil erosion and water pollution—a significant challenge in many parts of the country—and increase soil fertility and productivity, and thus often profitability. They also help farms and ranches build climate resiliency and better withstand the increased stresses that climate change is already bringing, such as floods, droughts, heat waves, pests, and more.

Despite these proven benefits, only a small portion of farmers in the United States implement these practices on only a small fraction of U.S. agricultural land. It is clear that policy change is needed in order to accelerate their adoption. The heart of this book examines policy pathways to accelerate adoption of climate-friendly practices by amending existing federal and state legal regimes and enacting new ones. We recommend improving public agricultural research, development, and technical assistance efforts, especially for climate-friendly practices; reforming federal subsidy and conservation programs; and revising agricultural lending programs, trade policy, grazing practices on government land, programs for perennial agriculture, regulatory strategies, tax policy, biogas subsidies, and greenhouse gas pricing. We also describe how the private and philanthropic sectors can stimulate carbon farming. Moreover, because agriculture is the foundation of our national food system, we also look to upstream and downstream strategies to move toward climate-neutrality, including reducing emissions that stem from production of farm inputs and on-farm energy and from food processing, distribution, consumption, and waste. We also discuss the potential of encouraging consumption of climate-friendly foods through national dietary guidelines, procurement at all levels of government, and private-sector initiatives such as certification schemes and healthier menu options.

Most people think about food often; our food choices both shape and reflect our values and our communities. More than 20 million people work in agriculture and the food system, some in capacities they love and many in jobs with low pay, few protections, and difficult working conditions. We intend this book to help decisionmakers, farmers, consumers, and others take advantage of this opportunity to transform such a critical and central part of people's lives into a solution for climate change. And while there are many aspects of farm policy that this short book does not and cannot address, we hope that the demonstration of the enormous beneficial potential impact of the policy changes we do recommend will inspire and lead to additional policy exploration. After all, we are what we eat and we reap what we sow.