

The Low-Carbon Diet

A California chef and a climate scientist present a recipe for sustainable eating

By Christine Soares

Can we save the earth one stir-fry at a time? I was certainly dubious when I first saw the book, *Cool Cuisine: Taking the Bite Out of Global Warming*. Still, the lush cover photography of a verdant table setting and a bowl of farm-fresh eggs drew me in. As I flipped through the pages, I was a bit surprised to see they were packed with clean, colorful graphics and sidebars explaining everything from the atmospheric carbon cycle to the role of bees in agriculture and step-by-step instructions for successful composting. Each chapter concluded with a set of tasty-sounding recipes, and the copious endnotes had detailed references.

Was this a cookbook or a climate change guide? Or both? Intrigued, I started reading.

Food for a Healthy Planet

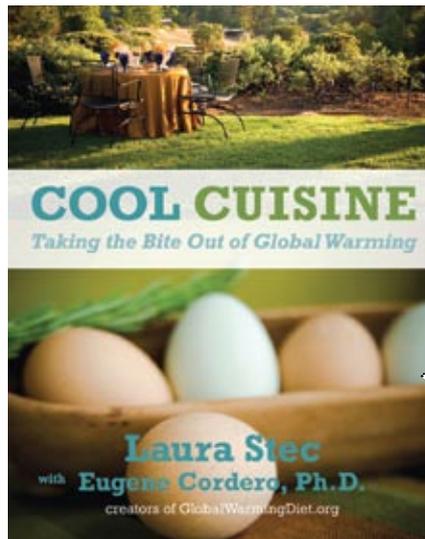
Laura Stec, a San Francisco Bay Area chef and the main authorial voice, opens with an explanation of what she calls “the global warming diet”: our modern dependence on mass-produced food from industrial farms that consume enormous amounts of fossil fuels and spew tons of waste. As a professional foodie, she is as dismayed by the environmental degradation as she is by the fact that what comes out at the end of that pipeline is “machine cuisine”—food that she says lacks freshness and flavor, with little connection to the sun and soil that produced it. Such food has no “vibe,” she writes. And she is determined to do something about it.

What follows is Stec’s own story of setting out to learn everything she could about the American food production enterprise. In a lively style, she describes encounters with dozens of scientists and armies of farmers in her quest to understand both the origins of machine cuisine and what makes good food good. Along the way, Stec met her co-author Eugene Cordero, a climate researcher at San Jose State University who co-wrote a global assessment of ozone for the United Nations in 2006 and is currently working on modeling projects for the next Intergovernmental Panel on Climate Change (IPCC) report. Cordero acted as the book’s overall science adviser and wrote most of the sidebars.

When I spoke with the authors, Cordero explained that he joined forces with

Stec because his fellow climate scientists are well aware that worldwide food production could account for as much as 35 percent of greenhouse gas emissions. But the role of food in global warming hasn’t trickled down into popular discussions about solutions. Only in the past year has IPCC chair Rajendra Pachauri started to say that people must reduce meat consumption for the good of the planet, Cordero noted, “and he’s the first famous climate scientist with any authority to be saying this, so I think it’s still a new concept, even for the climate science community.”

Other aspects of the book’s message are not so new, of course. The dysfunction of the modern food industry has been documented by journalist Michael Pollan and others. And the virtues of local and seasonal foods are also territory well trodden by chef-writers such as Alice Waters. But the way that Stec and Cordero combine their perspectives on food is entirely novel and highly effective. Together they connect the dots between overwhelmingly large-scale problems, such as nitrogen fertilizer runoff, and individual choices about what dish-



Want to Buy?

Information about the book and where to buy it is available at www.globalwarmingdiet.org. The book can also be purchased through www.amazon.com



Turning down the heat: Laura Stec, a San Francisco Bay Area–based chef and environmental advocate, explains in her new book written with scientist Eugene Cordero (*below*) how to use cuisine as a tool for fighting climate change.

One of the most positive effects we can have on the environment begins on our dinner plate.

—LAURA STEC AND EUGENE CORDERO

es we put on the dinner table every day.

One chapter, for example, called “Why All the Oil in My Soil?” explains how healthy soil is alive with microbes and nutrients, details the destructive effects of oil-based fertilizers, erosion and deforestation, and touts the merits of earthworms and shade-grown coffee and chocolate. Stec also explains how beans and legumes work with soil microbes to fix nitrogen, reducing the need for fertilizers, so by the time I reached the end of the chapter the recipes, including jalapeño rum beans and dark chocolate chili, not only sounded delicious, they *made sense*. “Of course, this is how we should be eating,” I thought, and I resolved to buy a slow cooker.

Public Demand Growing

Mercifully, Stec doesn’t seem to expect readers to spend all day soaking beans or tending an herb garden. She wants to teach people how to use food in a way that makes it easy to eat well. Beyond the recipes, Stec offers techniques and tips for coaxing out the sweetness in vegetables, making all-purpose sauces and even organizing a cheese plate. That last tidbit



hints at some of Stec’s other jobs as a caterer and cooking teacher.

She is also a consultant who helps companies “green” their operations, and her case studies of corporate efforts to adopt sustainable food practices are a distinguishing feature of the book. Stec relates the story of Preston Maring, a doctor who took on the problem of hospital food within the giant California-based health care provider Kaiser Permanente. Maring noticed that hospital dietitians were writing menus that included offerings such as grapes and asparagus in the middle of winter, causing the hospitals to source food from as far away as South Africa. After Maring initiated a systemwide study, Kaiser Permanente determined that it used 250 tons of fresh fruits and vegeta-



bles a year to make 6,000 patient meals daily in 19 hospitals. Much of the food originated on unsustainable agribusiness farms of 100,000 acres or more, and nearly half of it came from outside California. Kaiser Permanente discovered that designing more seasonal menus and procuring more produce locally could reduce the organization's carbon footprint by more than 17 percent and in certain cases even save some money.

Stec goes on to describe some of the logistical issues and planning that smoothed the transition within Kaiser Permanente, demonstrating her understanding that this kind of change has to make at least some kind of business sense, too. She recently consulted with the Loews Hotel chain on ways to green



Basic Stir-Fry: Three Ways SERVES 4

Base recipe:

- 1 cup vegetable stock
- 2 tablespoons soy sauce
- 1 tablespoon dry white wine
- 1 tablespoon freshly squeezed lemon juice
- 2 tablespoons cornstarch
- 2 tablespoons olive oil
- 1 pound sliced mixed vegetables (peppers, broccoli, carrots), about 2 cups

Options:

- 1 pound chicken, beef or vegetables (peppers, carrots, broccoli) cut into 1-inch pieces

Combine first five ingredients and set aside. If using meat, preheat wok or sauté pan on medium-high heat. Add 1 tablespoon oil and chicken or beef. Stir-fry until cooked through, about 5 minutes. Remove from pan.

Add another tablespoon oil and sliced vegetables and stir-fry, about 5 minutes. While cooking, add 1 tablespoon cold water as needed to "force-steam" the vegetables. When vegetables are crisp-tender, add stir-fried chicken or beef. Whisk stir-fry sauce, making sure cornstarch is mixed in. Add sauce to wok. Cook until thickened.

Emissions for each recipe version (grams of CO₂ equivalent)



Nutrition Facts

Peanut Butter

Serving Size: 2 tablespoons
Servings Per Container: about 14

Amount Per Serving		
Calories	200	Calories from fat 10
% Daily Value		
Total Fat	16 g	25%
Saturated Fat	2.5 g	12%
Trans Fat	0 g	0%
Cholesterol	0 mg	0%
Sodium	120 mg	5%
Total Carbohydrates	6 g	2%
Dietary Fiber	2 g	9%
Sugars	1 g	
Protein	8 g	



Carbon Footprint

Per Serving: **118g CO₂e**
Total Carbon: **1648g CO₂e**

Primary location of origin:
Orrville, Ohio

Method of transportation:
Train/Truck



Note: Carbon rating ranges from 1 to 10, with lower numbers being more climate friendly.
Carbon dioxide equivalent (CO₂e) accounts for carbon dioxide and other greenhouse gases.

their event services, and she told me that the company's motivation was demand from the marketplace. If a group planning to hold a big conference insists on green practices, then any hotel hoping to get that business better be able to deliver sustainably.

Change Starts in Your Kitchen

Such hands-on experience helping large institutions certainly lends credibility to Stec's idea that if those market forces continue to grow and the principles of green eating scale up, then perhaps the food production landscape in the U.S. might actually be altered for good.

From that perspective, the idea that meaningful change could start in my own kitchen started to seem less far-fetched. A stir-fry recipe in the book (*above*) follows a full-page chart breaking down the carbon dioxide (CO₂) emissions represented by each ingredient. The graphic shows the basic recipe containing a pound of vegetables and then versions with another

pound of vegetables, chicken or beef added in. The results are stark: the veggie-only meal totals 3,013 grams of CO₂ equivalent, the chicken version 5,520 grams and the beef 15,692 grams. In case the message isn't clear enough, a note at the bottom of the page mentions that the CO₂ difference between the vegetarian and beef versions of the meal is about the amount emitted by an average car driving 35 miles. Perhaps this is not the first book to make that point, but it is the first one I've seen that also offers a recipe, literally, for what to do about the problem. In addition to a tremendous amount of information presented in very digestible form, Stec and Cordero offer hope that individual choices can make a difference—and that maybe it is possible to shift from a global-warming diet to more sustainable, healthy and flavorful fare, one stir-fry at a time.

Christine Soares is a staff writer and editor at Scientific American.