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**Viewpoint**

## THE LOW-CARBON DIET

Change your lightbulbs? Or your car?  
If you want to fight global warming, it's  
time to consider a different diet.

BY MIKE TIDWELL  
PHOTOGRAPHY BY CATHERINE LEDNER

**F**ull disclosure: I love to eat meat. I was born in Memphis, the barbecue capital of the Milky Way Galaxy. I worship slow-cooked, hickory-smoked pig meat served on a bun with extra sauce and coleslaw spooned on top. My carnivore's lust goes beyond the DNA level. It's in my soul. Even the cruelty of factory farming doesn't temper my desire, I'll admit. Like most Americans, I can somehow keep at bay all thoughts of what happened to the meat prior to the plate.

So why in the world am I a dedicated vegetarian? Why is meat, including sumptuous pork, a complete stranger to my fork at home and away? The answer is simple: I have an 11-year-old son whose future—like yours and mine—is rapidly unraveling due to global warming. And what we put on our plates can directly accelerate or decelerate the heating trend.

The great think of an American (or about the one that disintegrated in a matter of hours, the case the rise of arsenic. Manufacture—that you have about 40. It's almost hard to see a pig. "It's a handsome one, pink, obedient, up, and is now melting away in the Southern Ocean. This is just a picture, of course, of the sort of ecological collapse coming over us, and, experts say, unless we fix the broken system on climate change, if the entire West America for about another

the average global one-level diet could reach 20 feet. From the twin phenomena of Hurricane Katrina and Hurricane Gustav, most Americans have a hard time on the issue of climate change. It's getting worse, we know, and greenhouse gas—emissions when we burn fossil fuels—was driving it. Last accepted, it seems, is the role food—specifically our consumption of meat—plays in this matter. The typical American diet now weighs in at more than 3,700 calories per day, reports the U.S. Food and Agriculture Organization, and is dominated by meat and animal products. As a result, what we put in our mouths now adds up there with our driving habits and our use of cool-tech electricity to some of how it affects climate change.

Simple pork, turkey, beef, pigs, sheep, chickens, and eggs is not, very energy intensive. About three half of all the grass grown in America actually goes to feed animals, not people, over the World Resource Institute. That means a huge fraction of the petroleum-based fertilizers, pesticides, and herbicides applied to grass, plus significant percentages of all agricultural land and water use, are put in the service of livestock. Strip-mating animals and you see dramatically less food (beef, or such as 250 gallons less oil per year the region, says Cornell University's David Pimental), and 100 gallons less the egg-and-chicken-raising vegetation.



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## The Low-Carbon Diet

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By Mike Tidwell/Photography by Catherine Ledner

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So why in the world am I a dedicated vegetarian? Why is meat, including sumptuous pork, a complete stranger to my fork at home and away? The answer is simple: I have an 11-year-old son whose future—like yours and mine—is rapidly unraveling due to global warming. And what we put on our plates can directly accelerate or decelerate the heating trend.

That giant chunk of an Antarctic ice sheet, the one that disintegrated in a matter of hours, the one the size of seven Manhattans—did you hear about it? It shattered barely a year ago “like a hammer on glass,” scientists say, and is now melting away in the Southern Ocean. This is just a preview, of course, of the sort of ecological collapse coming everywhere on earth, experts say, unless we hit the brakes soon on climate change. If the entire West Antarctic ice sheet melts, for example, global sea-level rise could reach 20 feet.

Since the twin phenomena of Hurricane Katrina and Hurricane Gore, most Americans have a basic literacy on the issue of climate change. It’s getting worse, we know, and greenhouse gases—emitted when we burn fossil fuels—are driving it. Less accepted, it seems, is the role food—specifically our consumption of meat—is playing in this matter. The typical American diet now weighs in at more than 3,700 calories per day, reports the U.N. Food and Agriculture Organization, and is dominated by meat and animal products. As a result, what we put in our mouths now ranks up there with our driving habits and our use of coal-fired electricity in terms of how it affects climate change.

Simply put, raising beef, pigs, sheep, chicken, and eggs is very, very energy intensive. More than half of all the grains grown in America actually go to feed animals, not people, says the World Resources Institute. That means a huge fraction of the petroleum-based herbicides, pesticides, and fertilizers applied to grains, plus staggering percentages of all agricultural land and water use, are put in the service of livestock. Stop eating animals and you use dramatically less fossil fuels, as much as 250 gallons less oil per year for vegans, says Cornell University’s David Pimentel, and 160 gallons less for egg-and-cheese-eating vegetarians.

**But fossil fuel combustion** is just part of the climate–diet equation. Ruminants—cows and sheep—generate a powerful greenhouse gas through their normal digestive processes (think burping and emissions at the other end). What comes out is methane (23 times more powerful at trapping heat than CO<sub>2</sub>) and nitrous oxide (296 times more powerful).

Indeed, accounting for all factors, livestock production worldwide is responsible for a whopping 18 percent of the world’s total greenhouse gases, reports the U.N. Food and Agriculture Organization. That’s more than the emissions of all the world’s cars, buses, planes, and trains *combined*.

So why do we so rarely talk about meat consumption when discussing global warming in America? Compact fluorescent bulbs? Biking to work? Buying wind power? We hear it nonstop. But even the super-liberal, Prius-driving, Green Party activist in America typically eats chicken wings and morning bacon like everyone else. While the climate impacts of meat consumption might be new to many people, the knowledge of meat’s

general ecological harm is not at all novel. So what gives?

Roughly three percent of all Americans are vegetarians, according to the Vegetarian Resource Group, a nonprofit that educates people on the benefits of a meat-free diet. Part of the reason, I know, is the unfortunate belief that vegetarianism is a really tough lifestyle change, much harder than simply changing bulbs or buying a better car. But as a meat lover at heart, I've been a vegetarian (no fish, minimal eggs and cheese) for seven years, and trust me: It's easy, satisfying, and of course super healthy. With the advent of savory tofu, faux meats, and the explosion of local farmers' markets, a life without meat is many times easier today than when Ovid and Thoreau and Gandhi and Einstein did it. True, many meat substitutes are made from soybeans, a monocrop with its own environmental issues. But most soy production today is actually devoted to livestock feed. Only 1 percent of U.S. soybeans become tofu, for example.

One day I get carryout veggie Pad Thai. The next I cook stir-fried veggies at home with soy-based sausage patties so good they fool even the most discriminating meat connoisseurs. Bottom line: Of the most difficult things I've ever done in my life, vegetarianism doesn't even make the chart.

Some folks, I realize, have a deep-down, gut-level (so to speak) reaction to vegetarianism as "unnatural." We humans have canine teeth, after all. We evolved to include meat in our diets. To abandon such food is to break thousands of years of tradition and, in some cases, ritual behavior bordering on the sacred.

All true. But we also evolved as people who defecated indiscriminately in the woods and who didn't brush our teeth. Somehow we've moved to a higher level on those counts. Now, with potentially catastrophic climate change hovering around the corner and with our briskets and London broil helping to drive the process, it's time to evolve some more.

A compromise in recent years, of course, has been the idea of animals raised locally and organically. Becoming a "locavore" who eats regional fruits and vegetables in season as much as possible makes abundant sense, of course. And animals from your area can lower the environmental impacts of your diet in many ways while simultaneously saving cherished local farmland and progressive farm families.

But with global warming, here's the inconvenient truth about meat and dairy products: If you eat them, regardless of their origin and how they were produced, you significantly contribute to climate change. Period. If your beef is from New Zealand or your own backyard, if your lamb is organic free-range or factory farmed, it still has a negative impact on global warming.

This is true for several reasons. Again, the biological reality of ruminant digestion is that

methane is released. The feed can be local and organic, but the methane is the same, escaping into the atmosphere and trapping heat with impressive efficiency. Second, no matter the farming method, livestock makes manure that produces nitrous oxide, an even more awesomely impressive heat trapper. Livestock in the United States generates a billion tons of manure per year, accounting for 65 percent of the planet's anthropogenic nitrous oxide emissions.

Even poultry, while less harmful, also contributes. Ironically, data released in 2007 by Adrian Williams of Cranfield University in England show that when all factors are considered, organic, free-range chickens have a 20 percent greater impact on global warming than conventionally raised broiler birds. That's because "sustainable" chickens take longer to raise, and eat more feed. Worse, organic eggs have a 14 percent higher impact on the climate than eggs from caged chickens, according to Williams.

"If we want to fight global warming through the food we buy, then one thing's clear: We have to drastically reduce the meat we consume," says Tara Garnett of London's Food Climate Research Network.

So while some of us Americans fashionably fret over our food's travel budget and organic content, Garnett says the real question is, "Did it come from an animal or did it not come from an animal?"

**Which brings us back to** vegetarianism and why I live a meat-free life. The facts speak for themselves. If we really want to fight climate change, we should change our lightbulbs and purchase hybrid cars and, above all, vote for politicians committed to a clean energy future. But we should also eat less meat, a lot less, or none at all.

I believe consumer habits are starting to change similarly to the way they've shifted with compact fluorescent bulbs. Ten years ago people complained about the harsh quality of light from fluorescents and the hassle of switching them out. But the bulbs are now made to produce a much warmer quality of light and the price has come down. What's more, in seven years of using only CFLs at my home, I've never had a guest make a single comment.

In the near future, as we increasingly discuss the climate "facts" of meat consumption, and as veggie cuisine gets still easier at home and at restaurants, we'll see more and more people changing their diets in the same way they're switching to CFLs in droves now. Of this I'm sure.

But when it comes to food, the facts are not enough for many people. Of this I'm also sure. A holistic nutritionist in my neighborhood says one's ideas about food reside in the same part of the brain that houses our ideas and beliefs about religion. It's not all

rational, in other words. Facts abound about the harm of fatty, sugary foods, yet the obesity epidemic grows. And I can't count the number of environmental conferences I've attended where meat was served in abundance. Even Michael Pollan's 2006 bestseller *The Omnivore's Dilemma*, wherein he dissects with encyclopedic thoroughness the eco-hazards and animal cruelty issues surrounding meat and egg production—even this book astonishingly mentions the words *global warming* only two times and *climate change* not at all. In 464 pages. That's highly unreasonable, in my view.

All of which is to say that for people to care, the climate–food discussion must be about more than just facts, more than pounds of greenhouse gases per units of food. It's got to be about morality, about right versus wrong. And I don't mean the usual morality of environmental “stewardship.” Or even the issue of cruelty to farm animals. I'm talking here about cruelty to people, about the explicit harm to humans that results from meat consumption and its role as a driving force in climate change. Knowingly eating food that makes you fat or harms your local fish and birds is one thing. Knowingly eating food that makes children across much of the world hungry is another.

I served as a Peace Corps volunteer in the Democratic Republic of the Congo in the mid-1980s, living in a tiny rural village where the staple crop was hand-tilled corn. It was harvested twice a year, in May and December. This meant the two annual “rainy seasons” had to begin right on time, in January and September, and continue for several months afterward. Any deviation from this rainfall pattern virtually guaranteed a lower corn harvest. And given the total absence of grocery stores, community granaries, or the money to buy extra food even if it existed, this meant hunger.

A signature impact of global warming, of course, is a dramatic shift in precipitation patterns worldwide, including longer and more severe droughts as well as extreme rainstorms and flooding in non-drought areas. Many scientists believe these impacts are already being felt by farmers worldwide and could spell future disaster, especially for subsistence farmers like those I lived with in Africa. Global wheat prices have jumped about 100 percent in the past year in part because a record drought in Australia—made worse by global warming—has devastated farmers across the continent. Food production in China alone could drop 10 percent as early as 2030, United Nations scientists warn.

**The people I lived with in Africa** contribute almost nothing to the problem of global warming, through their diet or otherwise. Coal-fired electricity versus wind power? They don't *have* electricity. SUVs versus hybrid cars? They don't have cars—none at all, or roads for that matter. And meat consumption? Tiny, tiny portions maybe twice a week.

If we in the West don't alter course in the coming years, if we allow extreme global warming to become reality, an impact on the U.S. diet could very well be a great reduction in the amount of meat on our tables—a reduction imposed on us by nature

instead of achieved by us through enlightened lifestyle changes. The wide and guaranteed availability of agriculturally productive land may simply cease. The crop yields we see now could shrink significantly, thanks to everything from weird weather to pest invasions. But it's a safe guess to say we'll have space for a national diet of plant-based foods (some crops are expected to benefit from global warming), just not the option of consuming all those animals.

But in the Congo and other poor countries, in places like Bangladesh and Peru and Vietnam, where meat consumption is already low, severe climate change means *food* off the table. It means hungry children. It means the rains don't come on time or at all in tiny villages like the one I lived in. It means, in the end, cruelty to people.

Are we clear now on the raw facts and urgent morality of our present meat consumption in America?

We need much more than just a few magazine readers to voluntarily stop eating meat, of course. It's a good start, but what we really need are national *policies* that encourage lower meat consumption by everyone. This could be achieved using fees or other market mechanisms that properly price greenhouse-gas emissions according to the harm they cause. The bad news, I suppose, is that the cost of meat could rise. The good news is we would finally have a fair and honest way to judge its danger, and thus more incentives to do the right thing, more incentives to switch to a healthy and convenient vegetarian diet of the sort I've joyfully embraced for years, despite my great appreciation for the taste of meat.

We could also, as a nation, just eat a lot *less* meat as an alternative to full vegetarianism. Anthony McMichael, a leading Australia-based expert on climate change and health issues, has crunched the numbers. He estimates that per capita daily meat consumption would need to drop from about 12 ounces per day in America to 3.1 ounces (with less than half of it red meat) in order to protect the climate.

I suppose I could measure out 3.1 ounces of meat per day, cook it, eat it, and still feel morally okay. But frankly I'd rather just go without. I'd rather be a vegetarian. It's easier to explain. It's easier to defend. And I just plain like it.

*Mike Tidwell, director of the Chesapeake Climate Action Network, is the author of The Ravaging Tide: Strange Weather, Future Katrinas, and the Coming Death of America's Coastal Cities (Free Press).*