

■ Audubon Living

The view from my campsite atop a 13,000-foot ridge in the Andes Mountains, just inside Peru's Manu National Park, is at once breathtaking and troubling. Out over the Amazon Basin, giant cotton tufts filled with vapor are rising, amassing for their assault on the cloudforests below. For the next couple of weeks I will be rambling beneath the forests' dense canopy, draped with mosses and orchids, and witnessing a sampling of the 1,666 bird species found here in the Andes at various times of the year. At the borders of this national park, the signs of

"progress"—trees logged for farmlands or replaced with groves of cultivated eucalyptus or pine—are inching closer. The treeline has been pushed lower as lands have been cleared for grazing. If these iconic forests are to survive, they may need to reclaim some of those lands. And that, too, is ominous. "The speed at which the climate is warming may require many of the tree species to migrate up the mountain faster than they are able," says Miles Silman, a biologist at Wake Forest University, who studies Peru's cloudforests.

Visiting natural places like this is one of the reasons I became a journalist. Yet I can't help but ask myself: Isn't my wanderlust—and therefore that of my readers—part of the climate change problem I'm reporting on more and more? Ecotourism, while educational and enriching, also contributes to the buildup of emissions that are causing climate change. "One of the worst environmental acts a person can do is buying an airplane ticket," says Christina Cavaliere, director of training and education for The International Ecotourism Society, a Washington D.C.-based nonprofit group. (A coast-to-coast flight expends 1.23 tons of carbon dioxide per person, according to The Conservation Fund.)

Even without the flying, travel can be a significant source of greenhouse-gas emissions. Lots of things we do—driving, staying in hotels, eating out, even buying souvenirs—have carbon tolls. Now a growing number of organizations are on hand to help travelers calculate their so-called carbon footprint and purchase offsets that go toward planting trees or supporting renewable energy sources that can, in effect, make travel "carbon neutral" (one of the newest terms in the *New Oxford American Dictionary*). It's essentially the same as carbon trading—a concept most often associated with the Kyoto treaty—and it's available to individual consumers, at the click of a mouse.

Calculator websites abound, with prices and carbon estimates varying widely. I first log on to the website for Native Energy (www.nativeenergy.com),

the company Al Gore selected to zero out the carbon emissions created by making *An Inconvenient Truth*. Native Energy has an option on its homepage that enables you to calculate the carbon emissions created by flying, driving, and taking buses or trains. A round-trip flight between Los Angeles and Lima, Peru, is about 8,400 miles. Add to that the estimated 125-mile train ride to Machu Picchu and the 150-mile bus ride to Manu National Park, and my carbon debt adds up to a total of 3,428 tons. Rounding up to four tons, I can pay \$12 per ton, or \$48, to offset my entire trip, at the same time helping to fund the construction of alternate sources of energy, like windmills, while reducing dependence on fossil fuels.

When I try to replicate these steps on

Sleep Easy

A growing number of hotels, including some of the larger franchises, have begun building environmental sustainability directly into their business plans. Compact-fluorescent light bulbs and do-not-wash-my-towel policies are becoming commonplace. However, conservation shouldn't stop with towels, says Patty Griffin, president of the membership-based Green Hotels Association. She encourages hotels to use aerators on faucets and showerheads, to get rid of all toxic landscape chemicals, to use saltwater instead of chlorine in the pools, and to install energy management systems that shut off the lights and TV when guests aren't in their rooms. (Find member hotels at www.greenhotels.com.) Griffin also says it's important for guests to be vocal. "Tell the manager that you appreciate the hotel's efforts to be green. Tell them you will come back because of it. The number one goal of any hotel is repeat business."

Christina Cavaliere, director of training and education for The International Ecotourism Society, suggests a few harder questions: "Where do they get their water? What do they do with their solid waste? Do they pay fair wages?" She says that when you pay the locals a fair price for their goods, it discourages them from cutting down the forests to make up the difference. And the forests prevent carbon emissions from being released into the atmosphere.—M.T.

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Travelocity (www.travelocity.com/gozero), which now offers a Go Zero program that allows customers to offset carbon emissions generated by a flight, a hotel, or driving, I am given the option of making my trip carbon neutral only if I buy another ticket—which makes it impossible to comparison shop. The Conservation Fund's website (www.conservationfund.org/gozero) is more user-friendly. Though it asks me to input estimates about my annual travel, there's nothing stopping me from entering the mileage for just one trip. When I type in my air miles for Peru, it spits out a toll of 1.84 tons of carbon dioxide (less than the Native Energy estimate). For only \$12.40 I can plant one tree, which over the next 70 years will take all of the carbon emissions generated by my trip out of the air and lock (or as scientists say, "sequester") it in the tree. The donation goes to plant native trees in once-forested areas (in this case, most of them protected lands in the Mississippi River valley).

As I continue shopping, I find other websites that make it possible to expunge my carbon debt on the cheap: Carbon-

fund.org charges \$8.32 for its estimate of 1.51 tons for my Peru flight; Climate Care (<http://climatecare.org/calculators/flight>) tallies 2.37 tons at 17.77 pounds sterling (\$35.18 U.S.).

Why such a big difference in price between Native Energy and these other websites? Wolfgang Strasdas, a professor of sustainable tourism management at Germany's Eberswalde University who was recently a visiting scholar at the Center on Ecotourism and Sustainable Development at Stanford University, says one of the reasons Native Energy's estimates are higher is because the company figures in a twofold increase for mid-range and long-range flights, which typically travel at about 30,000 feet. "At that elevation planes have an increased greenhouse effect, partly due to vapor trails that may turn into heat-trapping cirrus clouds," says Strasdas. For this reason, he personally prefers to use Atmosfair (www.atmosfair.de), a German company that also includes the long-range factor into their emissions calculator, and tends to produce tallies much higher than Native Energy's. (The cost of the carbon

offsets for just my flight from California to Peru came to \$127.34.)

Jeremy Meredith is a real estate developer in Miami who travels a lot, having ventured to Vietnam, Cambodia, Belize, Bolivia, and Costa Rica (twice) in the past year and a half. After collecting the mileage totals from his various frequent-flier accounts, he chose The Conservation Fund's website to offset all of it, for about \$75. "I liked the fact that they planted trees to compensate for carbon emissions," he says. "Plus, The Conservation Fund was highly rated in the articles I read."

Some environmentalists point to a problem with carbon-offset programs that involve tree planting. "Don't get me wrong—trees are awesome," says Billy Connelly, Native Energy's marketing director. "But we keep introducing carbon taken from the terrestrial ecosystem—coal and oil—burning it up and putting it into the atmosphere. Planting trees doesn't address that." His company invests in new or start-up operations in renewable energy—an expensive process. (One new windmill can cost upwards of \$1 million.)

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Knowing that your money actually bought a tree or promoted wind power is another issue. The Chicago Climate Exchange (CCX) is North America's only greenhouse-gas emissions registry, reduction, and trading system for all six greenhouse gases: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆). The CCX approves third-party certifiers to ensure that its members' carbon-trading claims are legitimate.

Increasingly, tour operators are doing the work for travelers by buying carbon offsets to compensate for the amount of carbon dioxide their trips produce. Twenty-one ski resorts in the West, from Aspen, Colorado, to Tahoe, California, with perhaps the most to lose in a warmer world, are buying renewable energy credits through Bonneville Environmental Foundation (www.greentags.org). REI Adventures (www.rei.com/adventures), which announced a carbon-neutral program last year, also has a partnership with Bonneville to purchase energy credits that support solar, wind, and other renewable energy projects.

L. Hunter Lovins is the president and founder of the small nonprofit Natural Capitalism Solutions, in Eldorado Springs, Colorado, and a business professor at the Presidio School of Management in San Francisco, which offers an accredited MBA program in sustainability. When she jets between Colorado and San Francisco once a month to teach a class in sustainable practices at the school, Lovins always offsets her carbon emissions. Sometimes when she is attending conferences, she is “triple carbon neutral,” because carbon offsets are purchased by her company, the school, and the conference sponsors. “And yet I still feel guilty,” she says. “Because I'm still putting carbon into the air.”

Which brings us to the obvious question: Is it better just to stay home? “Of course,” says Lovins. “But that's not realistic. We want to drink from streams as yet unseen. I want to see the footprint of a snow leopard in Afghanistan. We need to be as conscientious as we can.” Lovins points to small experiments in air travel with ethanol. She particularly likes the Virgin Group's promise to invest an estimated \$3 billion in alternative energy, including carbon-neutral fuel. “Offsets

are better than nothing,” she says. “But we need to come up with alternatives to carbon-based fuels.”

In the meantime, it's important that travelers don't skip over making everyday transportation changes that conserve energy. “Carbon offsets need to be part of a holistic approach,” says Martha Honey, director of the Center on Eco-tourism and Sustainable Development, “in which we not only try to offset our emissions, but we decrease those emissions in as many areas as we can.” Choices like walking or using mass transit instead of driving every day can add up to huge carbon savings. If you don't have access to public transportation, pressure your elected officials to do something about it. “In the United States we often complain that our options for travel are very limited,” says Lovins. “But we don't have options, because we don't demand them. Why doesn't the United States have a good train system? Why aren't cities more pedestrian-friendly? Why aren't our vehicles more efficient? These are not impossible dreams; we just need to start demanding them.”

Supporting local economies is another way to cut carbon emissions, and also make trips more memorable. When Lovins travels she likes to stay in bed-and-breakfasts because they not only employ local people and support local goods, they also save a portion of the heritage in the buildings they preserve. Environmental tourism groups agree: Ensuring that communities profit from your presence and that they understand your commitment to the environment is key. Hire guides from the area. Eat regional in-season foods at local restaurants. And don't expect to eat the same things you do at home. Anything that has to be flown in has a substantial price in terms of the CO₂ released to bring it to you.

Despite its problems, travel can actually be a boon for conservation, adds Honey. “It's crucial to host communities and an important economic activity in developing countries. Plus, travel is a learning tool as well. It gives the traveler an awareness of the world and the environment that you won't get from staying home watching television.” ■

Michael Tennesen wrote *The Complete Idiot's Guide to Global Warming*.