It was probably too much to believe that human beings would be responsible stewards of the planet. If droughts and wildfires, floods and crop failures, collapsing climate-sensitive species and images of drowning polar bears didn’t quiet most of the remaining global-warming doubters, the hurricane-driven destruction of New Orleans did. What’s more, the heat is only continuing to rise. This past year was the hottest on record in the U.S.

The U.N.’s Intergovernmental Panel on Climate Change issued a report on the state of planetary warming in February that was surprising only in its utter lack of hedging. “Warming of the climate system is unequivocal,” the report stated. What’s more, there is “very high confidence” that human activities since 1750 have played a significant role by overloading the atmosphere with carbon dioxide; as a result, solar heat is retained that would otherwise radiate away.

“The science,” says Christine Todd Whitman, former administrator of the Environmental Protection Agency (EPA), “now is getting to the point where it’s pretty hard to deny.” Indeed it is. Atmospheric levels of CO₂ were 379 parts per million (p.p.m.) in 2005, higher than at any time in the past 650,000 years. Of the 12 warmest years on record, 11 occurred between 1995 and 2006.

So if the diagnosis is in, what’s the cure? There is little question that the most powerful players—government and industry—have to take the lead. Still, individuals too can move the carbon needle. You can choose a hybrid vehicle, but simply tuning up your car and properly inflating the tires will help too. Buying carbon offsets can reduce the impact of your cross-continental travel, provided you can ensure where your money’s really going. But cleaning up the wreckage left by 250 years of industrial production will require fundamental changes in a society hooked on its fossil fuels. Here are some of the most dramatic shifts that are occurring:

**The Scientists’ Solutions**

If the Earth is choking on greenhouse gases, it’s not hard to see why. Global carbon dioxide output last year approached a staggering 32 billion tons, with about 25% of that coming from the U.S. Turning off the carbon spigot is the first step, and many of the solutions are familiar: windmills, solar panels, nuclear plants. Biofuels, however, are the real growth science, particularly after President George W. Bush called for the U.S. to quintuple its production of biofuels, primarily ethanol. That was good news to American corn farmers, who produce the crop from which the overwhelming share of domestic ethanol is made. But the manufacture of corn ethanol is still inefficient: the process burns up almost as much energy as it produces. (See page 30 for more on ethanol.)

**Building a Better Skyscraper**

If you want to see what the future of architecture looks like, take a look at the new federal building in San Francisco, but don’t look too long. The glinting, 18-story steel tower jangles badly against the gentle skyline of San Francisco, but it’s beautiful on the inside. There’s the absence of conventional heating and air conditioning in 70% of the floor space. There’s the natural light that fills the workspace during much of the day. There are the windows that actually open and close, and the awninglike fins that filter out heat and glare. It’s easy to overlook how important a building like this one could be. While the power and auto industries get the bulk of the blame for the planet’s carbon crisis, the business
of operating office buildings and homes is responsible for 38% of U.S. CO\textsubscript{2} emissions.

**The Green Company**
When a business with more than 7,000 stores, 1.8 million employees and $345 billion in sales changes its ways, it’s hard not to notice. Wal-Mart has made itself the darling of greens with its pledge to install solar panels on many of its stores, switch to hybrid vehicles, conserve water and even buy wild-caught salmon. More important, its mandates are having an incalculable ripple effect through its 60,000 suppliers, which are being asked to join Wal-Mart’s effort to reduce packaging, waste and energy use.

**Change on the Hill**
Jubilant Democrats crowed about big changes to come when they won majorities in the House and Senate last November. James Inhofe, the Oklahoma Republican who has referred to global warming as the “greatest hoax ever perpetrated on the American people,” has been replaced by California’s Barbara Boxer as chair of the Senate Committee on Environment and Public Works. In his four years in the post, Inhofe held a total of five hearings on climate change. The true measure of success for the Democrats will be whether Congress finally passes a law to limit greenhouse emissions. That effort began in earnest in 2003, when Senators John McCain and Joe Lieberman sponsored a bill that would set limits on industrial greenhouse gases and let companies that do better than required sell pollution credits to those that fail to meet targets.

States and cities aren’t waiting for Congress to act. California Governor Arnold Schwarzenegger committed his state to a 25% reduction in greenhouse gases by 2020; he was promptly sued by carmakers that would have to increase fuel efficiency to sell there. But if California prevails, the size of its market could turn its regulations into a de facto national standard—and that, in turn, would be good news for the entire planet.

**Questions**
1. What did the U.N. panel on climate change conclude in its newly issued report?
2. What percentage of U.S. CO\textsubscript{2} emissions come from operating office buildings and homes?