Union of Concerned Scientists

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# earthwise

News and Ideas for UCS Members and Activists

## Shedding Light on Animal Agriculture

For decades, physicians and public health officials have been frustrated by the lack of detailed, publicly accessible data on antibiotics used in animal agriculture. But that is about to change thanks to legislation passed this summer that requires livestock producers to report to the Food and Drug Administration the quantities and purposes of the antibiotics they use each year.

In the United States, antibiotics used in human medicine are routinely added to the feed of healthy livestock and poultry to promote growth and compensate for overcrowded and unsanitary conditions in CAFOs (confined animal feeding operations). Bacteria that are constantly exposed to antibiotics develop resistance to these drugs, making human illnesses more costly and difficult to treat.

UCS has estimated that animal agriculture accounts for 70 percent of all antibiotics used in this country. While we pressed for data collection as part of more comprehensive legislation that would limit the unnecessary use of these important medicines (UCS provided testimony, and our activists called their legislators, in favor of these provisions), the data generated by the bill will help us advocate stronger policies to protect antibiotics' efficacy.

close to home

## Traveling Green Can Save You Some Green

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*Whether traveling alone or with your family, motor coaches are a bargain for your wallet and the environment.*

The holidays are among the busiest travel periods, and the heat-trapping emissions generated by all those planes, trains, and automobiles contribute to global warming. But in spite of that fact and Americans' worries about high gas prices and an uncertain economy, we need not be stuck at home all winter. Analysts at the Union of Concerned Scientists have found that, with the right choices in our mode of transportation, we can plan a trip that is easier on both our wallets and the environment.

**Hop on the bus.** Buses (or motor coaches) are one of America's best-kept green travel secrets. Compared with flying, traveling on a bus generates 55 to 75 percent less global warming pollution per passenger, depending on the distance traveled. And from a cost perspective, bus travel is much less expensive than flying and can even be cheaper than driving—some bus companies offer fares as low as one dollar each way. Since there is no single online resource for booking tickets from different bus lines, you'll have to search for those companies that serve your departure and destination cities.

**Rent a car.** If you don't own a fuel-efficient vehicle, think about renting one when driving on longer trips. Economy-class vehicles, which typically get 30 or more miles per gallon, can save more than $100 over a 500-mile trip compared with driving an SUV you own (including fuel costs, rental fee, maintenance, and depreciation), while generating almost half the global warming pollution. Upgrading to an even more efficient hybrid can further reduce emissions without increasing your total costs (the lower fuel costs offset the higher rental fee). Before

(*continued on back page*)

## on a personal note

# A New President, a New Climate Future?

On January 20, Barack Obama will be sworn in as our next president. Though I am writing this only a few days after the election, the debates and discussions leading up to this historic event underscore that President-elect Obama will bring positive, productive change on many of the issues UCS supporters hold dear.

We expect an Obama administration to move much more aggressively on climate solutions than his predecessor. He has proposed strong emissions reduction targets that aim to avoid the worst consequences of global warming, and he has emphasized the role that investments in clean energy technologies can play in revitalizing our economy and strengthening national security. We look forward to working with the new administration on these policies and on securing stronger fuel economy standards and a national renewable electricity standard.

The new administration's support of these policies, however, is not enough to win their passage. We will need to continue working hard to keep the automotive, coal, and oil industries—and their legislative allies—from maintaining the status quo, especially when one of deepest recessions in decades threatens to put bold changes on the back burner. We will also work overtime to gather bipartisan support in Congress for effective climate solutions, even as the election of additional legislators who support such initiatives improves our chances for success in both the Senate and House. One of the most significant prospects for success is re-engaging the United States in international climate negotiations, as President-elect Obama hopes to reach agreement on a new treaty at the Copenhagen climate summit in December 2009.

Never in the 40-year history of UCS has there been such an important opportunity to make significant change on the issues that affect us all. With your continued support, UCS is poised and ready to do what we do best: use top notch science and analysis to help President-elect Obama, his transition team, and congressional leadership craft the most effective policies that will shift our country toward a cleaner, lower-emissions future.

Kevin Knobloch

KEVIN KNOBLOCH, *president*

## fast facts

*Coal use has risks other than global warming*

Coal-fired power plants in the United States emit more heat-trapping carbon dioxide than any other source. But there are many other reasons why this fossil fuel is detrimental to our health and environment:

- Coal plants are also the largest source of human-generated mercury, a potent neurotoxin. Mercury emissions contaminate lakes and streams and the fish that live in them, and can harm people who eat contaminated fish.
- Mountaintop mining in Appalachia has buried more than 700 miles of some of the most biologically diverse streams in the country.
- The burning of coal generates more than 120 million tons of ash, slag, and sludge annually–roughly the same amount as all municipal solid waste disposed in U.S. landfills each year.
- Fine particulate pollution from U.S. power plants cuts short the lives of approximately 24,000 people each year–50 percent more than were murdered in this country in 2004.

## Increase Your Impact

You can double–or even triple–your gift to UCS if your employer has a matching gift program. All you need to do is complete your company's form and mail it to UCS with your contribution. For more information, contact your human resources department or the UCS membership office at (800) 666-8276 x8000.

# Prevent an Expansion of Dirty Coal

## What's at Stake

Our ability to reduce global warming pollution from the electricity sector.

## How You Can Help

Urge Congress to ban the construction of new coal-fired power plants unless they feature carbon capture and storage (CCS) technology.

## What's Happening

Coal-fired power plants are the largest U.S. emitter of carbon dioxide ($CO_2$)—the primary global warming gas—yet our nation is poised to *increase* these emissions by building many new coal plants. Virtually all of these proposed plants lack CCS technology, which would capture a plant's $CO_2$ and store it underground.

The United States already gets about half of its electricity from coal plants that lack CCS. Building more of these plants would lock us into decades of higher carbon emissions at a time when we need to significantly reduce these emissions. The new UCS report *Coal Power in a Warming World* has found that CCS technology has enough emissions-reducing potential to warrant large-scale demonstration projects. These projects would help determine how the technology compares with other low-carbon energy technologies and answer questions about needed infrastructure, safety, and cost.

Regardless of whether new coal power plants incorporate CCS into their designs, however, the mining, use, and disposal of this fuel causes serious health and environmental problems (see "Fast Facts" on p. 2). Thus, the United States must also invest in renewable energy and energy efficiency technologies.

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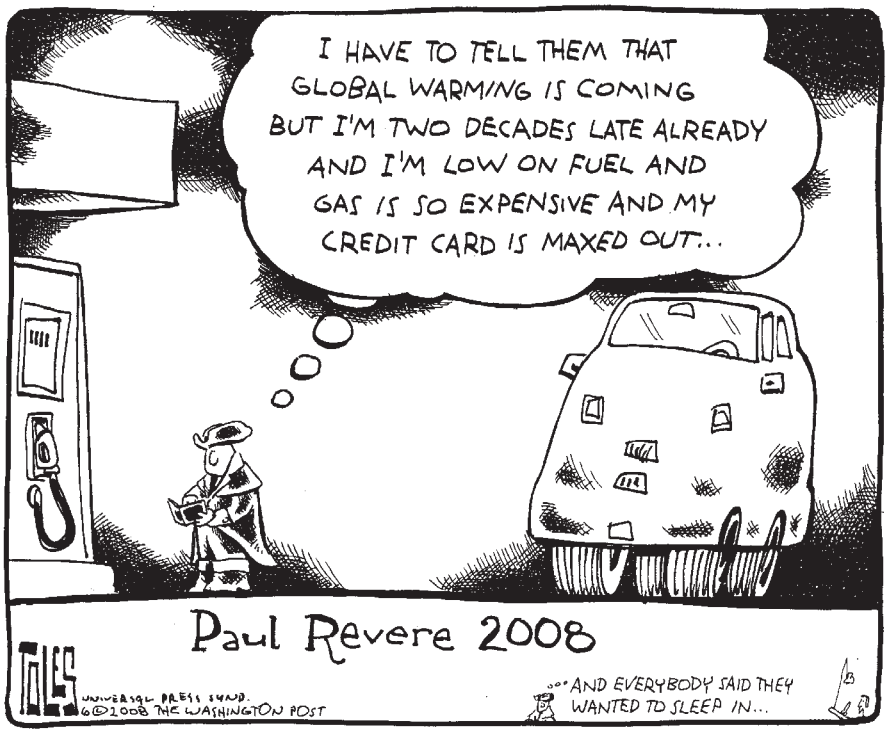
## What You Can Do

Contact your members of Congress and urge them to help our nation transition to a cleaner energy future by implementing a suite of measures that would:

- accelerate research and development of CCS technology, but fund only 5 to 10 large-scale demonstration projects until the technology is proven;
- oppose any new coal plants that lack CCS technology;
- adopt stronger statutes and regulations to reduce the environmental and social costs of coal mining, transport, and waste disposal; and
- support more aggressive deployment of energy efficiency and renewable energy technologies.

Send an email from the online UCS Action Center at *www.ucsusa.org/action* or call the Capitol switchboard at (202) 224-3121 and ask to be connected to your legislators' offices.

## drawing conclusions



## Traveling Green (*continued from front page*)

you arrive at the rental counter, consult *www.fueleconomy.gov* to obtain fuel economy estimates for all of the cars available at that location.

**Take the train.** On average, U.S. passenger trains emit approximately 0.43 pound of global warming pollution per passenger mile compared with 1.08 pounds for a typical car carrying a single person. Train travel can also save you money when traveling between large cities, since train stations that are often much closer to city centers than airports allow you to avoid cab rides into town.

**Fly with budget airlines.** Try to choose airlines that offer coach-class seating exclusively. Because first-class seating takes up more space than coach seating, the average first-class passenger on a domestic flight is responsible for twice as much global warming pollution as someone seated in coach. Some airlines, in an effort to improve operating margins by increasing the number of passengers per plane, have eliminated first-class seating altogether. This allows these airlines to reduce not only their coach fares, but also their per-person carbon emissions (on the order of 10 to 15 percent).

**Avoid peak travel dates.** Whether you're sitting on the tarmac or stuck in traffic, the congestion associated with peak travel times translates into more global warming pollution. When a car or SUV is stuck in traffic, its fuel consumption rate can be *double* the rate it gets at steady cruising speeds. So, considering that the U.S. Bureau of Labor Statistics says 574 million vacation days went unused in 2006, why not attach an extra day or two on either end of your vacation to avoid peak travel congestion—and higher transportation fares as well?

To learn more about green travel options, visit the UCS website at *www.ucsusa.org/gettingtheregreener*. And from all of us at UCS, we wish you a safe—and green—holiday season.

## UCS on the web

**The faces of renewable energy.** UCS has created a new online feature that showcases the people, places, and technologies powering the U.S. renewable energy industry. Click on the interactive map to see, hear, and read about some of the people who are working to build a clean energy future. Check it out at *www.ucsusa.org/faces*.

## dialogue

*What factor is the source of the most uncertainty in climate projections?*

Scientists use models—calculations typically run on multiple powerful computers—to project how global warming pollution in the atmosphere will affect future average temperatures, precipitation, and other aspects of our climate. The formulas used to project climate change differ among models, but the most significant variable is always how much energy will be used over the course of this century (based on choices made by governments, businesses, and individual citizens).

To account for this uncertainty, climate models employ different "scenarios" to approximate the impact that different degrees of energy use will have on carbon dioxide and other heat-trapping emissions over time—which, in turn, yield different degrees of climate change. The Intergovernmental Panel on Climate Change, for example, used a set of six scenarios for its most recent climate assessment, ranging from low emissions (the "B1" scenario) to high emissions ("A1FI," in which FI represents fossil-fuel-intensive energy use).

By the end of this century, as projected by the B1 scenario, temperatures rise between 2.7 and 5.2 degrees Fahrenheit (°F) over the 1980–2000 average; in the A1FI scenario, the projected rise in temperatures increases to between 6.1°F and 11.0°F. The difference between the average end-of-century temperatures for these two scenarios, therefore, is substantial—nearly 4.6°F. This underscores the need to make energy choices today that will set us on a lower-emissions path and avoid the most dangerous consequences of global warming.

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