BP Fined, Investigated for Environment, Safety Violations

By Bonner R. Cohen

The reputation of BP, the world’s third largest oil company, has been sullied by a series of developments casting doubt on the energy giant’s ability to carry out routine maintenance, provide for worker safety, and engage in ethical pricing practices for crude oil and natural gas.

As a result of these incidents, Congress has been investigating the firm and intensely questioned BP representatives in early September.

Regulators Impose Fines

For BP, the bad news began in 2005 with an explosion in its Texas City, Texas plant that killed 15 workers and injured 170. The incident earned BP a $21.3 million fine from federal workplace safety regulators, who then sent the case to the U.S. Justice Department for possible criminal investigation. Current and former company employees accused BP of skimping on maintenance and ignoring repeated warnings about trouble at the facility.

In April 2006, BP was fined $2.4 million by the Occupational Safety and Health Administration (OSHA) for safety violations at its Oregon, Ohio refinery. OSHA said the violations p. 18.
Michael Crichton’s *State of Fear* (Harper Collins, 2004, $27.95) is a surprising book. Tucked inside a lively and entertaining tale of a philanthropist, a scientist, a lawyer, and two remarkable women who travel around the world trying to foil the plots of evil-doers is a detailed expose of the flawed science and exaggerations at the base of the global warming scare. It is also a devastating critique of mainstream environmentalism today and an eloquent call for change.

Like Crichton’s previous block-busters, *The Andromeda Strain* and *Jurassic Park*, this new book blends science and fiction in ways that teach as well as entertain readers. Crichton, who earned an M.D. from Harvard University and has written several nonfiction books, backs up his claims with footnotes, an appendix, and an annotated bibliography. Clearly, he wants the science in his book to be taken seriously.

Which raises the question: How much of the science in *State of Fear* is accurate, and how much is fiction?

The answer: Michael Crichton is right! His synthesis of the science on climate change is extremely accurate and the experts he cites are real. The Heartland Institute has been participating in the debate over climate change for more than a decade, and we have worked with many of the experts listed in the book’s bibliography. You can find more information at The Heartland Institute’s Web site, [www.heartland.org](http://www.heartland.org), by clicking on the Crichton is Right button.

---

**Crichton is RIGHT!**

---

**HAS YOUR STATE REDUCED ITS WELFARE ROLLS BY 86%?**

Available for purchase through The Heartland Institute’s online store at [www.heartland.org](http://www.heartland.org) or call 312/377-4000.

A limited number of COMPLIMENTARY COPIES are also available to elected officials and their staff. Send your request by fax on office stationery to 312/377-5000.

*Make a Difference* is both a compelling memoir and convincing proof that we now know important answers to help solve America’s poverty problem—without spending any more of the taxpayers’ money.

Author Gary MacDougal spent years working in Illinois inner cities and rural communities—talking with “ladies in the backyard,” befriending community leaders, and working with local organizations in his quest to find solutions that have long eluded academic researchers and politicians. As chairman of the Governor’s Task Force on Human Services Reform, MacDougal was the catalyst for the complete overhaul of the state’s welfare system, which included the largest reorganization of state government since 1900.

Eight years after MacDougal’s suggestions were implemented, Illinois now stands well ahead of California, New York, and other big-city states, with a spectacular 86 percent reduction in the welfare rolls since reform implementation in 1996, second only to Wyoming among all 50 states. The welfare rolls in Chicago’s Cook County have been reduced an amazing 85 percent, with studies showing that most who left the rolls are working, and at pay above minimum wage.

MacDougal’s extraordinary journey shows the way for the rest of the nation and proves there are ways we can all help provide a ladder of opportunity for those in poverty. We each can *Make a Difference* in the ongoing effort to end America’s poverty problem.
Oil Company Takes the Lead in Wiping Out African Malaria

By James M. Taylor

Marathon Oil Corporation is reporting remarkable success in a first-of-its-kind malaria eradication program.

New statistics from Equatorial Guinea in West Africa show the number of malaria-carrying mosquitoes has declined by 95 percent since Marathon launched its mosquito eradication campaign in 2003, according to Time magazine on August 28, 2006.

The dramatic decline in such a short period is giving hope to the people of a continent where 1 million die each year from malaria.

Multiple Strategies Needed

As reported in the July 2004 issue of Environment & Climate News, Marathon’s five-year, $4.6 million program aims not only to deliver an immediate, crippling blow to malaria-carrying mosquitoes but also to train local officials and give them the resources they need to ensure malaria never makes a comeback.

The first line of attack against malarial mosquitoes has been to apply small amounts of pesticide on the interior walls of people’s homes. This is important because most mosquito bites occur at night while people are in their homes.

African homes are generally open to the elements due to sweltering heat and lack of air conditioning. When mosquitoes get in, they tend to light on the interior walls. The application of small amounts of pesticides on the walls deters some mosquitoes from lingering inside and kills mosquitoes that remain.

A second line of attack is the introduction of modern medicines and treatments in Equatorial Guinea hospitals. While chemical spraying was once the norm, it is now managed as a supplement to oral medicines.

Tide Turning

“Marathon should be commended for showing leadership in fighting malaria,” said Driessen, senior policy advisor for the Congress of Racial Equality and Committee for a Constructive Tomorrow. “After decades of failure fighting malaria and millions of unnecessary deaths due to this disease, things are finally changing in Equatorial Guinea and throughout Africa.”

Driessen noted anti-pesticide sentiment from environmental activists, which inhibited the fight against malaria in the past, is much less successful at holding back anti-malaria programs today.

“During the past year in particular, a new sense of urgency and realism has taken hold,” said Driessen. “We’re finally beginning to hear a little good news.”

Oil Funding Other Projects

Marathon’s public service efforts, while uniquely successful with respect to malaria eradication, are not the only current example of public service funding. ExxonMobil, for example, is donating $100 million to Stanford University over a 10-year period for continuing research into climate change science.

“During all the concern expressed over global warming, it is refreshing to see companies such as ExxonMobil actually doing something about it,” said Daniel Simmons, director of the Natural Resources Task Force at the American Legislative Exchange Council. “Scientific research even in the past few years alone has given us a better understanding of our climate and what drives it. Scientific understanding, not political posturing or unsubstantiated scare campaigns, will allow us to make the best decisions regarding the future of our planet.”

© 2006 The Heartland Institute. Nothing in this issue of Environment & Climate News should be construed as reflecting the views of The Heartland Institute, nor as an attempt to aid or hinder the passage of any legislation.
We Need a Commitment to Energy Alternatives

By Steve Huntley

Consider this proposition: The next time you fill ‘er up at the gas station, you’ll be contributing a couple of bucks to Iran’s nuclear arms program. Or helping fund the network of fundamentalist Wahhabi clerics, mosques, and schools that foment hate of the West. Or kicking a few dollars into a pipeline that eventually ends up in the hands of terrorists hoping to kill Americans.

Funding America’s Enemies

No, we don’t buy petroleum from Iran. Islamist clerics don’t pump oil. Terrorists get funding any way they can.

Still, the money you and I spend on gasoline and our demand for ever more of it push the price of petroleum ever higher, enriching oil-producing states that are our adversaries or those who claim to be our friends but where oil wealth gets passed on to Islamist fanatics.

America imports nearly 60 percent of the more than 20 million barrels, or 840 million gallons, of oil and petroleum products we use daily—half of it gasoline.

Stop griping about Exxon’s “excess profits,” and start worrying about Iran’s oil profits. Or those of Saudi Arabia, home of Wahhabism. Or revenues raked in by Venezuela, whose president, Hugo Chavez, uses oil money to stir up anti-Americanism in Latin America.

Alternative Fuel Needed

Escalating energy prices send money to people who wish us ill. That’s why we should have a Manhattan Project effort to develop an alternative to petroleum, or at least a supplement that can depress our demand for it.

If starving the treasuries of our foes is the goal, a comprehensive campaign could include drilling for oil in the Arctic refuge and coastal seas, mandating higher gas efficiency for cars, and encouraging hybrid vehicles. That could be a start on a campaign that says we as a nation are willing to do what it takes.

But it could be a false start. More oil drives down prices—and drives up demand. More efficient cars seem to encourage us to drive more.

All that means we would soon find ourselves back in the same position, helping shovel money into the furnace of anti-American hatred.

Which brings us back to alternatives to oil.

Coal Supplies Alternative

Brazil is reported to be coping well today because it responded to the 1970s oil shortages by pushing use of ethanol from sugar cane in flexible fuel vehicles, autos with engines that can run on gas or alcohol.

President Bush proposes greater use of biomass fuel as well, but his plan would only slightly more than double ethanol use from 3.4 billion gallons a year to 7.5 billion in 2012.

Writing in The American Enterprise magazine earlier this year, Robert Zubrin, an aerospace engineering and research executive, cited another source for alcohol—coal, of which he says America has enough to fuel our cars with methanol for 500 years.

Obviously, shifting from petroleum to alcohol poses tremendous hurdles. Government would have to mandate all new cars be flexible fuel vehicles. Since it takes energy to make ethanol or methanol, Washington might at the start have to subsidize power for it, perhaps by building nuclear plants near coal fields or in major agricultural areas.

Coal mining raises environmental issues. Massive aid might also be needed to jumpstart the infrastructure of the new energy source.

Commitment Required

Maybe those proposals are too much. Maybe alcohol is not the answer. Perhaps a scientist somewhere has another answer. But the only way to find out is through a Manhattan Project-like effort. Past failures at energy independence are no reason not to try again in extraordinary times.

But as much as we need a Manhattan Project on energy, we won’t get it. That kind of monumental undertaking comes only from a nation on a war footing.

Though, after the 9/11 attacks, the president took the nation to war, he didn’t take American society to war. Not much in the way of sacrifice was asked of the public. No draft was activated. Taxes weren’t raised to pay for the war. Americans were mostly asked only to put up with the irritation of increased security at public places.

Indeed, far from asking for sacrifice, Bush called on Americans to, well, shop.

That was perhaps understandable given the shock 9/11 administered the economy, but it certainly didn’t instill a sense of our society gripped by the crisis of war, essential for the commitment required for any Manhattan Project.

Enemies Determined

Our enemies, on the other hand, are committed to total war. People who fly planes into buildings believe in merciless conflict.


Moves toward peace are seen as weakness; Israel withdraws from Lebanon only to be plunged into war by terrorists. Islamist clerics who rail endlessly about the sins of the West and exalt martyrdom are dedicated to perpetual jihad.

The solution to high energy prices we hear touted most often is that of free markets. In ordinary times, that’s the only approach. But a commitment to markets shouldn’t turn into something akin to a suicide pact.

A society enriches its foes at its own peril.

Steven Huntley (shuntley@suntimes.com) is a columnist with the Chicago Sun-Times. This article was first published in the August 4 Chicago Sun-Times, and is reprinted with permission.
A curious alliance of consumer advocates, environmental activists, and international strategists has taken up the rallying cry of energy independence in the United States. Consumerists expect independence to bring down the high price of gas and heating oil. Environmentalists hope it will promote “renewable” sources of energy. And strategists think it will weaken anti-American oil-producing regimes.

Undesirable Independence
But energy independence is not a desirable goal. It merely brings to the field of energy the stagnant isolationism of North Korea and the nationalistic mindset that destroyed the recent Doha round of world trade talks. What the U.S. needs is a greater reliance on free markets in energy, at home and abroad.

“[E]nergy independence is not a desirable goal. ... What the U.S. needs is a greater reliance on free markets in energy, at home and abroad.”

In America, independence has a positive sound because the country was born of an independence movement. But America’s Founding Fathers were internationalists, not protectionists. Adam Smith’s Wealth of Nations taught them that economic cooperation among nations is far more efficient than national isolation.

Thus the Founders would have considered it a good thing that one-third of all the energy consumed in the United States now comes from international trade, beginning with Canada.

Burden of Socialism
After all, when we buy from the world market, we buy the cheapest crude oil and petroleum products available from dozens of nations. We benefit by saving both our money and our resources, and those nations benefit by obtaining dollars with which to buy our exports.

That is not to say that foreign oil markets are without problems. They aren’t. But those problems are not inherent in the commodity we call oil. They come from an inefficient and corrupt economic system: socialism.

The nationalization of oil from Venezuela to Russia, and government activism in other forms, have diminished entrepreneurship, competition, and innovation in the energy field. As a result, demand has outpaced supply, and oil prices have risen in America and around the globe. That would not happen in a free market.

Leading by Example
Ultimately, then, the solution to costly and unpredictable oil lies in winning the battle of ideas and exporting the philosophy of freedom to oil-rich, economically impoverished regions of the world. Government control over energy resources must be replaced with private ownership and entrepreneurship, beginning with the subsoil and extending to above-ground energy infrastructure, from the wellhead to the pump.

Persuading other countries to substitute economic liberty for statism will not be easy, but the case must be made through argument and example.

Taxes Not the Answer
In the meantime, what can policymakers do to address the problem of high energy prices?

First, our lawmakers should begin by shaving the punitive taxes that some politicians want to slap on U.S. oil companies.

Higher taxes would immediately raise prices at the pump. And over the long term, such taxes would deplete the capital needed to increase production. That was the perverse result of the Crude Oil Windfall Profits Tax Act of 1980 (WPT), which was mercifully repealed in 1988.

Moreover, burdening U.S. companies with more taxes will increase Americans’ dependence on oil from socialist regimes. Before its repeal, the WPT reduced annual domestic U.S. oil production by an estimated 5 percent and increased oil imports by an even greater percentage.

Burdensome Regulations
U.S. politicians should set an example for the world by recognizing and redressing the harm their regulations have already done.

For example, recent energy legislation mandated the use of billions of gallons of ethanol to supplement gasoline, while implementing trade barriers that prevent the importation of cheaper ethanol. Together these laws have led to ethanol price increases of more than 50 percent this year, making it more expensive than gasoline and pushing up U.S. fuel prices. These laws should be repealed.

For a generation, government rules in the United States have forbidden the full use of domestic oil and gas resources. Fortunately, politicians are apparently on the verge of ending this blind acceptance of environmental pseudo-science to allow at least some new exploration and production here at home.

“Ultimately, ... the solution to costly and unpredictable oil lies in winning the battle of ideas and exporting the philosophy of freedom to oil-rich, economically impoverished regions of the world.”

One hopes the partial opening of offshore drilling now nearing enactment is the beginning of further legalization not only regarding offshore sites but also the Arctic National Wildlife Refuge (ANWR) in Alaska. The U.S. House and Senate passed different bills and must reach a compromise for legislation to take effect.

Energy independence is neither realistic nor desirable. But the opposite of independence is not dependence—it is cooperation. International energy cooperation, fostered by a growing reliance on free markets at home and abroad, is the surest guarantee of energy affordability for American consumers and national strength for the United States.
Massachusetts

Continued from page 1

Pritchard noted. The act specifically protects Buzzards Bay, which is just south of Cape Cod, from the “building of any structure on the seabed or under the subsoil” as well as “the construction or operation of offshore or floating electric generating stations.”

“The project as proposed is not permitted under the Ocean Sanctuaries Act,” Pritchard wrote. Of particular concern to groups such as the Massachusetts Audubon Society and state wildlife officials is the dependence of endangered roseate terns on the bay for breeding, nesting, and foraging.

Environmentalists Concerned

Environmentalists expressed great concern over the project. “Buzzards Bay is among the most unique estuarine resources in the nation and has been recognized as such by Congress in 1985 by earning the designation of an Estuary of National Significance. It has also been honored by the Commonwealth of Massachusetts as an Area of Special Interest and Ocean Sanctuary,” noted the environmentalist group Coalition for Buzzards Bay in a July 31 letter to Pritchard.

“After the release of a 23-page report criticizing plans for a proposed industrial wind farm off the shore of Buzzards Bay in Massachusetts, state and local officials are lining up in opposition to the project.”

The designations highlight the unique and diverse ecology present in the Bay, including geographically sensitive salt marshes, tidal wetlands, eelgrass beds, tidal flats, barrier beaches, rocky shores, and tidal rivers and streams,” the letter noted. “Buzzards Bay’s unique geographic position between the Atlantic Ocean, Vineyard Sound, and Cape Cod Bay provides ideal marine habitats for a variety of productive fisheries,” the letter added.

“The roseate tern is cited on the U.S. Endangered Species list as endangered,” observed the Massachusetts Audubon Society on a Web page dedicated to the wind power issue. “Buzzards Bay is home to 99% of the state population and 45% of the North American population of this species.”

Local Democrats Lead

New Bedford Mayor Scott Lang (D) has been one of many local leaders in the fight against the proposed project off his town’s shore. “If you saw the largesse of this proposal ... well, I haven’t met too many people who looked at it and said it makes any sense in the area we’re talking about,” Lang told the Boston Globe for an August 20 article.

State Sen. Mark Monigny (D-New Bedford), another critic of the proposed wind farm, called the Environmental Affairs secretary’s report “music to my ears” because the project would likely need the approval of the state legislature—which it is unlikely to get—to move forward.

“I’m more confident that the developer will be forced through a number of hurdles, which will get us to a more positive, balanced development,” Montigny told the Globe.

Analysis Critical

“Wind power is neither a safe nor effective means of supplying power,” said Tom Tanton, vice president and senior fellow at the Institute for Energy Research. “Wind developments are, as noted by Secretary Pritchard, harmful to wildlife and vistas and really do not provide any measurable emission offsets or fuel savings.”

“It is quite telling that wherever wind farms are proposed, local environmentalists are the first ones to oppose them,” added Sterling Burnett, senior fellow at the National Center for Policy Analysis. “The national groups often favor industrial wind farms because they are not the ones that have to live with them. Local environmentalists are the ones who are stuck with all the environmental damage,” said Burnett.
New Energy Technology Could Bring Electricity to Third World

By Paul Driessen

The only good thing about the good old days is that they’re gone.”

My grandmother’s wisdom came from experience. As a teenager in late nineteenth century Wisconsin, she had cleared tons of rocks from fields and hauled countless buckets of water on the family farm. If she had to select just one modern technology, she said, she’d choose running water. But electricity was a close second.

No wonder. Without electricity, modern life reverts to her childhood: no lights, refrigeration, heating, air conditioning, radio, television, computers, safe running water, or mechanized equipment for homes, schools, shops, hospitals, offices, and factories.

Billions Live in Darkness

Incredibly, this is what life is still like every day for 2 billion people in developing countries. Viewed at night from outer space, Africa really is the Dark Continent: only 10 percent of its 700 million people regularly have electricity. While 75 percent of South Africa is now fully electrified, only 5 percent of Malawi, Mozambique, and other African countries are so fortunate.

Much of poor and rural Asia and Latin America is in a similar predicament.

Instead of rolling blackouts, neighborhoods have rolling power in most of Africa. “In the western part of my country, families get electricity maybe three hours every two weeks,” said Pastor Abdul Sesay, a Sierra Leone native who now resides in Maryland. “Eastern communities get it maybe once a month.”

“A revolutionary nuclear energy technology is being designed and built in South Africa with suppliers and partners in many other nations.”

Instead of turning on a light or stove, millions of women and children spend their days gathering wood, grass, and dung to burn in primitive hearths for cooking and heating. Instead of turning a faucet, they spend hours carrying water from distant lakes and rivers that are often contaminated with bacteria.

Reliable Power Needed

Pollution from these household fires causes 4 million deaths a year from lung infections. Tainted water and spoiled food cause intestinal diseases that kill another 2 million annually.

The dearth of electricity also means minimal medical facilities, manufacturing, and commerce—and impoverished countries forever dependent on foreign aid.

Abundant, reliable, affordable electricity is thus a critical priority for developing nations.

Hydroelectric projects offer one solution, coal-fired power plants another. They’re not perfect ecologically, but neither are wind turbines, which require extensive acreage, kill birds, and provide inadequate amounts of intermittent, expensive electricity that cannot possibly sustain modern societies.

Pebble Bed Promise

Now a revolutionary nuclear energy technology is being designed and built in South Africa with suppliers and partners in many other nations. The 165-megawatt Pebble Bed Modular Reactors (PBMR) are small and inexpensive enough to provide electrical power for emerging economies, individual cities, or large industrial complexes.

In addition, multiple units can be connected and operated from one control room, to meet the needs of large or growing communities.

Residual heat from PBMR reactors can also be used directly to desalinate sea water; produce hydrogen from water; turn coal, oil up again, and tar sands into liquid petroleum; and power refineries, chemical plants, and recovery operations at mature oil fields.

Unparalleled Safety

The fuel comes in the form of baseball-sized graphite balls, each containing sugar-grain-sized particles of uranium encapsulated in high-temperature graphite and ceramic. This makes them easier and safer to handle than conventional fuel rods, said Pretoria-based nuclear physicist Dr. Kelvin Kemm.

The new technology also reduces waste disposal problems and the danger of nuclear weapons proliferation. Conventional fuel rod assemblies are removed long before complete burn-up, to avoid damage to their housings, but PBMR fuel balls are burnt to depletion.

Because they are cooled by helium, the modules can be sited anywhere, not just near bodies of water, and reactors cannot suffer meltdowns. If the chain reaction must be shut down, the fuel’s residual decay heat dissipates slowly and naturally.

Economy, Environment Meet

Since PBMRs can be built where needed, long, expensive power lines are unnecessary. Moreover, the simple design permits rapid construction (in about 24 months), and the plants do not emit carbon dioxide.

PBMR technology could soon generate millions of jobs in research, design, and construction industries and millions in industries that will prosper from having plentiful low-cost heat and electricity. It will help save habitats that are now being chopped into firewood and improve health and living standards for countless families.

“I met a guy living in the bush who got electricity and promptly started small wooden chairs, because he could now use electric saws, drills, routers, and lathes.” It’s a story that will be repeated all over the Third World as people gain access to electricity.

[“Pebble Bed Modular Reactor] technology could soon generate millions of jobs in research, design, and construction industries and millions in industries that will prosper from having plentiful low-cost heat and electricity.”

Activists Still Oppose

Not surprisingly, dozens of companies and countries are keenly interested in PBMR technology, and the first pilot plant will go online in 2011. But assorted special interest groups have lined up against it.

George Soros’s Open Society Foundation supports anti-nuclear organizations that oppose PBMR. Danish interests see it as undesirable competition to their wind turbine businesses.

Others assert electricity “destroys” traditional cultures. “If there is going to be electricity,” said activist Gar Smith, it should be “decentralized, small, and solar-powered.”

Poor people everywhere hope these patronizing attitudes will soon be replaced by a recognition that they have an inalienable right to take their place among the Earth’s healthy and prosperous people.

Paul Driessen (pdriessen@eco-imperialism.com) is senior policy advisor for the Congress of Racial Equality and Committee for a Constructive Tomorrow, and author of Eco-Imperialism: Green Power. Black Death (http://www.Eco-Imperialism.com). This article was originally published in the Washington Times and is reprinted with permission.
California

Continued from page 1

The bill aims to reduce California’s greenhouse gas emissions, but analysts predict state residents will pay a high price for the gesture, which will have very little if any measurable effect on global temperatures. A.B. 32 promises to reduce carbon emissions from sources within the state, and from certain sources outside. The act calls for limiting the state’s emissions to 1990 levels by 2020, representing a 25 percent reduction from current levels.

“Typical of many heavy industries around the state, owners of a cement plant in Mojave have already delayed plans for a $400 million expansion and are looking to move to Nevada.”

Called Largely Symbolic
Critics of the bill, signed by the governor on September 9, note A.B. 32 is a costly, largely symbolic act that avoids more pressing environmental concerns.

“If California was sincere about improving public health and the environment, they would clean up their air instead of passing feel-good legislation to appease liberal special interest groups simply for political profit,” observed Sen. James Inhofe (R-OK), chairman of the U.S. Senate Environment and Public Works Committee, Reuters reported on September 1.

A.B. 32 promises to reduce carbon dioxide emissions from sources within the state, and from certain sources outside. The act calls for limiting the state’s emissions to 1990 levels by 2020, representing a 25 percent reduction from current levels.

Economy Likely to Suffer
The potentially major economic and social consequences of the new law explain why it became the most contentious issue of the legislative session’s final week.

The guts of the bill—rolling back California’s carbon dioxide emissions to 1990 levels by 2020—would require massive increases in energy efficiencies. Researchers here and everywhere have been hunting for such breakthroughs since the first oil price shock in 1973, and now they are supposed to come easy?”

Imported Power Targeted
A companion bill (S.B. 1368) will prevent utilities from entering into long-term contracts for electricity generation unless the plants comply with a greenhouse gas performance standard set by the state.

A tax would apply to power imports from other states not meeting the standard, further driving up costs and price volatility of electricity to Californians.

“This measure is fated to go the way of the California Air Resources Board vote in 1990,” wrote columnist Debra Saunders in the September 3 San Francisco Chronicle. “Remember: By 1998, 2 percent of all cars sold in the state would have to produce zero-emissions—and the board looked even more serious by raising the bar to 10 percent by 2003. Newspapers lauded that bill as ‘historic’ and the ‘toughest’ in the nation, too, but you don’t see a whole lot of electric cars on the road, do you?”

Thomas Tanton (tanton@fastkat.com) is vice president and senior fellow at the Institute for Energy Research.


This compelling new book explains why human well-being has improved steadily over the past two centuries due to globalization and its key components—economic growth, technological change and free trade. Goklany offers a realistic assessment of the sustainability of the human enterprise, setting priorities for dealing with such challenges as climate change.

$19.95 • paperback • 1-930865-98-8
$29.95 • hardback • 1-930865-99-6

Available in bookstores nationwide, by calling 800-787-1241 or visiting www.cato.org

INTERNET INFO
Number of Atlantic Hurricanes Below Normal

2006 season casts doubt on warming

By James M. Taylor

As the 2006 hurricane season passed its midpoint, hurricane and tropical storm activity was below normal, and forecasters predicted below-normal activity for the rest of the year as well. The 2006 season cast doubt on prior assertions that a recent spike in Atlantic hurricanes was tied to global warming.

"Information obtained through 31 August 2006 shows that we have so far experienced only 18 percent of the average full season Net Tropical Cyclone (NTC) activity," reported hurricane experts William Gray and Phil Klotzbach of the Colorado State University Tropical Meteorology Project in their updated hurricane forecast, published September 1.

"We significantly over-estimated August activity," Gray and Klotzbach reported. "In an average year, 38 percent of the seasonal average NTC of 100 occurs before the end of August."

Gray and Klotzbach predicted lower-than-normal Atlantic hurricane activity through the rest of 2006.

The lower-than-normal activity in the Atlantic Ocean this year puts it back in line with the normal activity that has persisted in the Pacific, which had not experienced the hurricane spike seen in the Atlantic in recent years.

"As the 2006 hurricane season passed its midpoint, hurricane and tropical storm activity was below normal, and forecasters predicted below-normal activity for the rest of the year as well."

Technology Detects More Storms

Throwing further cold water on the asserted link between global warming and the past few hurricane seasons is a study published in the July 28 issue of Science, which concluded modern technology is enabling us to locate and measure the full strength of hurricanes that would have escaped detection prior to advanced satellite and radar technology.

The study noted hurricane seasons in the past were likely much more eventful and notorious than had been documented, and that the past few hurricane seasons have not been as remarkable as global warming alarmists claim.

The study's author, National Hurricane Center research meteorologist Chris Landsea, pointed out many storms that would be measured as Category 4 or 5 major hurricanes today were not even designated as hurricanes just a few decades ago.

As an example, Landsea noted a 1970 storm that killed 300,000 people in Bangladesh is "not even being counted as a hurricane" because of a lack of technology available at the time. That storm would likely be documented as a Category 4 or 5 major hurricane if it hit today.

"If you miss that one, it shouldn’t be shocking if you’re missing a whole bunch of others that didn’t even hit land," Landsea told the July 27 Miami Herald.

More Storms Found, Measured

Landsea pointed out that today’s technology finds and measures hurricanes all over the globe that were not even tracked a few decades ago. Only two geostationary satellites tracked hurricanes in 1975; eight substantially more powerful geostationary satellites track and measure hurricanes today.

The new technology not only locates more hurricanes out at sea that would have been missed in the past, but also is able to pry deeper into the hurricanes themselves to measure maximum wind speeds that escaped detection in the past.

As a result, hurricanes measured at Level 3 a few decades ago will now be measured at Level 5 in many cases today.

"More satellites with improved imagery mean that you get ‘stronger’ hurricanes without the hurricanes changing at all," said Landsea.

James M. Taylor (taylor@heartland.org) is managing editor of Environment & Climate News.

IS THIS GLOBAL WARMING?

The global average temperature (top) for August was 0.24°C above normal. The Northern Hemisphere’s temperature (middle) was 0.41°C above normal. The Southern Hemisphere’s temperature (third) was 0.06°C below normal.

INTERNET INFO

Klotzbach, P. and Gray, W., Forecast of Atlantic Hurricane Activity for September and October 2006 and Seasonal Update through August, September 1, 2006, http://newsinfo.colostate.edu/news/542457115/misc/full%20version%20090106%20final.doc

Climate Expert: We Have the Technology to Set Global Temperature Warmer or Cooler

Patrick Michaels, Ph.D. was one of the first climatologists to cast doubt on alarmist global warming theory. His 1992 book, Sound and Fury: The Science and Politics of Global Warming, built a still-growing momentum of science-based skepticism regarding politically motivated global warming junk science.

Michaels is a senior fellow at the Cato Institute, a visiting professor at Virginia Tech University, and a research professor of environmental sciences (currently on sabbatical) at the University of Virginia. He is a past president of the American Association of State Climatologists and was program chair for the Committee on Applied Climatology of the American Meteorological Society. Michaels is a contributing author and reviewer of the United Nations Intergovernmental Panel on Climate Change (IPCC).

An interview with climatologist Dr. Patrick Michaels

By James M. Taylor

Taylor: Nobel Prize-winning scientist Paul Crutzen is the latest scientist to advocate the release of sulfur dioxide particles in the upper atmosphere should we ever wish to cool the Earth in response to anthropogenic global warming. Does this proposal surprise you?

Michaels: This proposal is nothing new. Crutzen is not the first scientist to propose this, nor will he be the last. However, having a scientist who has already won a Nobel Prize regarding atmospheric ozone research speak out in favor of this solution will certainly build additional momentum for the idea.

Taylor: To your knowledge, when did scientists first begin to seriously study altering the Earth’s climate to human advantage?

Michaels: As early as the 1970s, Russian climatologists and our own Central Intelligence Agency were very concerned about climate change. A 1974 CIA report called Potential Implications of Trends in World Population, Food Production, and Climate warned about international food shortages and other strategic issues related to anticipated global cooling.

Among the proposals the CIA bandied about to warm the planet and stave off the impending ice age was placing smoke generators on commercial aircraft wings. Another suggestion was to scatter dust all over Greenland to melt the ice cap and decrease the Earth’s solar reflectivity. Another idea was to place sulfur-burning flares on aircraft.

Taylor: Are today’s global warming fears different from the preceding global cooling fears?

Michaels: Two things in particular should make people pause and think before rushing to enact the costly, socially disrupting measures sought by global warming alarmists: First, this is the same news media and the same environmental activist lobby that so alarmingly warned about global cooling such a short time ago. Second, the alarmists’ proposed solution—dramatically cut fossil fuel use—is exactly the same solution that was proposed to fight global cooling.

How can cutting fossil fuel use both warm and cool the globe?

Taylor: So is the sulfur dioxide proposal unnecessary?

Michaels: The key thing here is that Crutzen is admitting—and keep in mind that very few people will admit this, out of fear of being pilloried by environmental activists and their media allies—that there is very little the Kyoto Protocol or other proposed carbon reduction schemes can do to limit any projected global warming. Kyoto will mitigate only 0.07 degrees Celsius of warming per half century, which is an amount too small to measure.

So I would argue that when the public fully grasps that “inconvenient truth,” you will see more and more proposals for climate engineering.

While the proposal may or may not be “necessary,” it is a useful option in a broader discussion. I often tell my classes, and propose in public lectures on climate change, that the real issue for the twenty-first century is not “how much will the planet warm,” which we can fairly confidently say will be at the low end of IPCC estimates, but “what do we want the temperature to be?”

We really do have, in a crude manner, the ability to set the surface temperature of the Earth to within 1 or 2 degrees Celsius of where we want it to be. The debate should be, “Where do we want to set it?”

Taylor: If we were to totally remove human influence, or use proposals such as sulfur dioxide releases to neutralize all human influences, what would our planet’s climate be?

Michaels: Before the Industrial Revolution, we were in the middle of the Little Ice Age. This is not the case throughout the Northern hemisphere, where for several hundred years winters were longer and summers were cooler than they were before or since. It is quite possible that this is the “natural” climate that would be continuing today if not for human influence.

Indeed, the 1945-1975 cooling might well have continued to this day if not for the intervention of carbon dioxide. We can see that since 1975, far and away most of the warming has affected winter temperatures, while late summer temperatures have actually cooled from the mid-1960s through roughly 2000. That is very consistent with projected human-induced greenhouse warming.

Because the summers have continued to cool, it is reasonable to assert that the cooling temperatures that we feared so much during the 1970s would have continued if not for recent anthropogenic warming.

This leads to the question, is recent human-induced global warming so bad? Which takes us back to the real question we should be asking ourselves, where do we want the Earth’s temperature to be?

Taylor: What do you think is the answer to that question?

Michaels: For several millennia, from about 9,000 to 3,000 years ago, large high-latitude areas in the Northern Hemisphere were warmer than they are today. That period accompanied the rise of civilization. Before recent climate hysteria, that period was referred to in climate textbooks as the Climate Optimum, because of its effect on civilization.

This Climate Optimum was accompanied by global temperatures above the temperatures that we currently have. And, importantly, this Climate Optimum did not result in the massive warming of Greenland and Antarctica or the disappearance of the polar ice caps.

Or do you want to set the temperature to where it was for 95 percent of the last 100 million years, which is warmer than the Climate Optimum and several degrees warmer than it is today? After all, Antarctica’s ice cap only began to build up about 30 million years ago.

CONTINUED on right
CONTINUED from left

This whole issue is a reasonable subject of debate.

Taylor: Given today’s media hysteria about global warming, will this discussion ever really take place? If so, when?

Michaels: This is a timely subject, and although Crutzen tends to over-exaggerate global warming potential, his proposal brings the terraforming discussion more into the mainstream. This is a subject that will increasingly be discussed because people who look at the data know that there is very little that can be done in terms of Kyoto-style carbon dioxide limitations to alter the temperature trajectory of the planet. So, increasingly, direct intervention will be considered.

“Having a scientist who has already won a Nobel Prize regarding atmospheric ozone research speak out in favor of [releasing sulfur dioxide to mitigate warming] will certainly build additional momentum for the idea.”

There are two monumental developments currently taking place in science. One is being noticed by virtually everyone, while the other is being noticed by virtually no one. The first is that we are perfectly capable of determining the genetic makeup of the planet by the genetic engineering of plants and animals. That is the one that everybody knows about.

The one that nobody knows about is that we are increasingly developing the technology to allow humans to control the planet’s climate as well as its genetics.

I believe this is a reasonable time to begin this discussion. But in scientific circles, this discussion has been going on since at least the 1960s. Science is getting better and better at this.

Taylor: What is the best manner in which to have this discussion?

Michaels: There must be a change from impolite and intemperate attacks to a reasonable exchange of data and ideas. The people who are most concerned about global warming must acknowledge the truth that there is very little that can be done from a carbon-cutting point of view.

The point is that if you don’t like what is going on, then it may be time to consider alternative options. This will become more prominent in public discussions as people increasingly admit that proposed public policy options are ineffective. Eighty percent carbon dioxide reductions are impossible given current technology.

---

Himalayan Glaciers Are Growing ... and Confounding Global Warming Alarmists

By James M. Taylor

Glaciers are growing in the Himalayan Mountains, confounding global warming alarmists who have recently claimed the glaciers were shrinking and that global warming was to blame.

A new study of the Karakoram, Hindu Kush, and Western Himalaya mountain ranges by researchers at England’s Newcastle University shows consistent recent growth among the region’s glaciers.

Researchers found cooler summers are failing to melt winter snows, which are themselves becoming more frequent, resulting in advancing ice sheets.

The study was published in the September 2006 issue of the American Meteorological Society’s Journal of Climate.

Warming Scares Debunked

The study puts another nail in the coffin of recent claims by global warming alarmists that global warming is causing dramatic shrinkage of Himalayan glaciers. A March 14, 2005 report from the activist group World Wildlife Fund (WWF) claimed, “Himalayan glaciers are among the fastest retreating glaciers globally due to effects of global warming.”

The WWF said its report “reveals the role of retreat of Himalayan glaciers accelerating as global warming increases.”

Importantly, noted WWF, the reported glacier retreat “will eventually result in water shortages for hundreds of millions of people who rely on glacier-dependent rivers in China, India, and Nepal.”

CNN, Reuters, ABC News, and National Geographic, among others, unquestioningly and uncritically reported the WWF assertions, despite WWF’s clear status as an advocacy group.

The uncritical coverage surprised many analysts, because objective evidence indicated Himalayan glaciers were not melting at all. A March 13, 2005 article in Insurance Digest released one day before the WWF report reported Himalayan glaciers had fully recovered from prior retreats.

Despite the objective evidence to the contrary, Himalayan glacier-melting stories continued through the spring of 2006. National Geographic, for example, reported on March 10 that glaciers were shrinking throughout the Himalayas and that “these water supplies could eventually dry up as the glaciers melt due to global warming.”

“Glaciers are growing in the Himalayan Mountains, confounding global warming alarmists who have recently claimed the glaciers were shrinking and that global warming was to blame.”

Warming Still to Blame?

With the Newcastle University study now validating the Insurance Digest report, National Geographic and others are doing an about-face, reporting the glaciers are growing rather than shrinking ... and blaming global warming for the growth of the glaciers.

“Some glaciers in Pakistan’s Upper Indus River Basin appear to be growing, and a new study suggests that global warming is the cause,” reported National Geographic News on September 11.

And just as the media had previ-ously reported shrinking glaciers would threaten the water supplies of hundreds of millions of people, they now claim the water supplies of millions of people are threatened by growing glaciers.

In an August 24 article titled “Global warming boost to glaciers,” BBC News reported, “the findings are significant, because temperature and rain and snow trends in the area impact on water availability for more than 50 million Pakistanis.”

Alarmist Claims Doubted

“These claims are incredible for many reasons,” said Competitive Enterprise Institute Senior Fellow Marlo Lewis. “First, the water supply doesn’t come from the glaciers. It is not glacial melt that feeds local water supplies, but the melt from annual snowfall. Annual snowfall is increasing in the region.

“Second, it seems that no matter what happens in the world, it is always claimed that global warming is to blame and that the change will be for the worse,” Lewis added. “That speaks to an agenda that will be asserted regardless of what happens in the real world.”

Lewis concluded, “Third, if shrinking glaciers create water shortages, as the global warming alarmists claimed last year, then how can growing glaciers create water shortages, as they claim now? The alarmists need to pick a story line and stick with it. Saying that anything that ever changes in the world is bad and is caused by global warming is scientifically suspect on its face.

“That is not how science operates, it is how propaganda operates,” Lewis added.

James M. Taylor (taylor@heart

land.org) is managing editor of Environment & Climate News.
Growth in Biofuels Catches Congress’s Attention

By William L. Kovacs

In response to healthy government subsidies and mandates, the biofuels industry is expanding at a rapid pace. Already it is a multibillion-dollar enterprise.

But along with this growth, there are divergent views among policymakers and stakeholders concerning where the industry can or should be going and how much growth it is reasonable to expect over time.

Continued Growth Projected
With world oil prices high, producing transportation fuels such as ethanol from biomass appears a more attractive proposition than ever before. The U.S. Department of Energy’s Energy Information Administration projects that in 2030 annual U.S. demand for ethanol use in transportation fuels should range—depending on world oil price projections—somewhere between 10 and 15+ billion gallons annually.

This level of production roughly corresponds to anywhere from 5 percent to 9 percent of the expected U.S. gasoline pool in 2030. That amount of ethanol production is not trivial in economic terms. With ethanol futures already above $2.50 a gallon and almost certain to go higher, ethanol production represents a multibillion-dollar opportunity. As a result, stakeholders are busy promoting industry growth.

Political Fights Loom
That has brought on political fights over issues such as subsidies, support for research and development initiatives, favorable tax treatment, loan guarantees, partnership arrangements, and other considerations sure to play out in forthcoming sessions of Congress.

Despite high gas and oil prices, many (though not all) biofuels stakeholders believe continued legislative supports are essential for attracting and maintaining investment interest within the industry. In a number of instances, current legislative supports will expire during the next few years.

The 1992 Energy Policy Act (EPAct1992) provided tax deductions for the purchase of alternative fuel vehicles and required that a percentage of vehicles in agency and company fleets be capable of operating on alternative fuels. Biodiesel and ethanol have also been advantaged by elements of the Energy Policy and Conservation Act (signed into law by President Gerald Ford in 1975), which established national fuel economy standards, as well as the 1990 Clean Air Act Amendments, which require promotion of low-emission vehicles (biodiesel and ethanol have low sulfur content).

Other legislation also props up the biofuels industry. These measures include federal funding for biorefineries, renewable energy development, and biodiesel education programs in the 2002 Farm Security & Rural Investment Act, which expires in September 2007.

“In response to healthy government subsidies and mandates, the biofuels industry is expanding at a rapid pace. Already it is a multibillion-dollar enterprise.”

In addition, the Volumetric Ethanol Excise Tax Credit gives a federal tax credit to ethanol blenders, which expires at the end of 2010, and provides a tax credit of up to $1 per gallon for the sale and use of biodiesel fuel, which expires at the end of 2008.

An EPAct2005 provision establishes a renewable fuels standard requiring use of 7.5 billion gallons of renewable fuel in gasoline nationwide by 2012. The Energy Information Administration projects U.S. ethanol consumption to be above 10 billion gallons annually by around 2013. Additionally, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA) provides funding for alternative fuel transit buses and establishes an additional tax credit for the sale of alternative fuels.

Legislation Taking Shape
There has been no shortage of initiatives aimed at biofuels industry inter-

Biofuels Industry on the Move

There is plenty of evidence of activity in the biofuels industry.

Archer Daniels Midland Company (ADM) is the world’s biggest ethanol producer, with production accounting for 17 percent of current worldwide ethanol industry profits. ADM has begun building its first biodiesel plant in Velva, North Dakota.

Petro-Canada, Canada’s second-largest petroleum refining and marketing company, is working with Iogen, another Canadian firm, to co-fund cellulose biomass-to-ethanol technology. Goldman Sachs and Royal Dutch Shell are major investors in Iogen.

Genencor has joined a French consortium looking to produce ethanol from pulp mill waste. Novozymes is also involved in improving processes to convert cellulose to ethanol.

BP and DuPont have teamed up to develop and market nine million gallons annually of biobutanol produced from sugar beets. Unlike ethanol, biobutanol can be transported in existing pipeline infrastructure.

Cargill, Genencor, West Central Cooperative, John Deere, and Alliant Energy participate in the biofuels market in various ways. Wal-Mart is considering selling corn-based ethanol at gas stations it operates. Microsoft has acquired a 25.5 percent stake in Pacific Ethanol. Earth Biofuels is supplying a petroleum diesel terminal to Willie Nelson Biodiesel Co.

Chevron has acquired a 22 percent stake in Galveston Bay Biodiesel LB to build a 20+ million gallon per year biodiesel facility in Galveston, Texas. Similarly, Shell Oil is also involved in biodiesel, having formed in July 2006 Motiva Enterprises, a joint venture between Shell Oil and Saudi Refining. Motiva has begun blending biodiesel with petroleum diesel at its terminal in Dallas.

Recently, BP announced plans to invest $500 million over the next 10 years to create the Energy Bioscience Institute, which it describes as “the world’s first integrated research center dedicated to applying biotechnology to the energy industry.”

U.S. automakers are also engaged. DaimlerChrysler, Ford, and General Motors recently pledged to double production of vehicles capable of running on renewable fuels, to two million cars and trucks produced by 2010.

The automakers said they would develop more flex-fuel vehicles, some that can use biodiesel, and others that can run on E85 (an 85 percent ethanol/15 percent gasoline blend).

There are already more than five million flex-fuel vehicles on the road in the United States. The auto industry initiative could add another million such cars and trucks shortly.

— William L. Kovacs
The 2007 Farm Bill may well play a pivotal role in extending government support for the industry. Already, the Senate Agriculture, Nutrition, and Forestry Committee has held hearings about industry growth prospects. Some committee members see biofuels as a domestic resource capable of reducing dependence on foreign oil.

Proposed expansions of the energy section in the farm bill could yield additional incentives for biofuels projects. There may be a push for other incentives, such as an extension of the biodiesel tax credit through 2010. Future sugar policy also will likely be a topic of interest, as countries such as Brazil produce ethanol from sugar and some senators are concerned about proposals to lift the tariff on sugar imports.

One ambitious legislative proposal that may be considered calls for increasing ethanol use to 30 billion gallons by 2025, and an increase in use of biodiesel and alternative diesel to 250 million gallons in 2008 and 2 billion gallons in 2015.

How all the competing stakeholder interests and legislative initiatives will ultimately influence what transpires on the Hill is far from evident; the devil is in the details that have yet to emerge.

“How all the competing stakeholder interests and legislative initiatives [on biofuels] will ultimately influence what transpires on the Hill is far from evident; the devil is in the details that have yet to emerge.”

The Heartland Institute is an independent nonprofit organization founded in 1984. Contributions are tax-deductible under Section 501(c)3 of the Internal Revenue Code.

Please return form to: The Heartland Institute 19 South LaSalle Street Suite 903 Chicago, Illinois 60603 fax 312•377•5000.

Memberships

- $29
- $49
- $99
- $49
- $99

Additional Contributions

- $1,000
- $100
- $250
- $25
- $36

- My check in the amount of $____ is enclosed.
- Charge $____ to my  • Visa  • MC  • Am Ex

ACCOUNT NUMBER  EXPIRATION DATE

SIGNATURE

NAME  HOME PHONE

TITLE/COMPANY  WORK PHONE

ADDRESS

CITY/STATE/ZIP

☐ Please send me additional information about The Heartland Institute.  ☐ Please send me information about advertising in ECN.
Elusive Particles of Truth: EPA’s Proposed PM 2.5 Regulations

By Daniel R. Simmons, Esq.

This may come as a surprise, but air quality is improving in the United States. By all measures, air pollution is falling ... at the same time our economy, population, and energy use are growing.

According to the U.S. Environmental Protection Agency (EPA), between 1970 and 2004, gross domestic product increased 187 percent, vehicle miles traveled increased 47 percent, and the U.S. population grew by 40 percent. Yet over that period, total emissions of the six principal air pollutants dropped by 54 percent.

But despite more than three decades of continued air quality improvement, and without compelling evidence of the need to do so, EPA wants to regulate a certain type of pollution—particulate matter—more strictly than ever.

Because air pollution controls are costly, this means EPA is considering requiring states to figure out how to reduce particulate matter beyond EPA’s 1997 particulate matter rule, beyond the sulfur dioxide (SO2) and nitrogen oxides (NOX) emissions rule, and beyond EPA’s 2005 Clean Air Interstate Rule.

According to EPA’s own estimates, this will cost billions of dollars.

“...at the same time our economy, population, and energy use are growing.”

Tighter Standards Proposed

In 1997, EPA revised the National Ambient Air Quality Standards (NAAQS) for particulates to create a new standard for fine particulate matter (PM 2.5). Even as states are working to comply with those rules (the deadline for compliance is 2010), EPA on December 20, 2005 proposed a new rule to establish new standards for fine particles.

EPA is proposing to lower the current 24-hour standard for PM 2.5 from the current level of 65 micrograms per cubic meter to 35 micrograms per cubic meter.

If the rule is finalized, this would require states to figure out how to reduce particulate matter beyond EPA’s 1997 particulate matter rule, beyond the sulfur dioxide (SO2) and nitrogen oxides (NOX) emissions rule, and beyond EPA’s 2005 Clean Air Interstate Rule.

According to EPA’s own estimates, this will cost billions of dollars.

Particulate Matter Defined

What is fine particulate matter? In a word: dust. Specifically, it is very, very, very, small particles of dust. This dust is made of particles of matter up to 2.5 microns in diameter (a micron is one-millionth of a meter). To have an idea of how small PM 2.5 is, the letter “i” in typical newsprint measures 400 microns across.

There are hundreds of types and sources of particulate matter, originating from both natural and manmade sources. Any activity that involves combustion or generates dust releases particulate matter into the air.

Natural sources of particulate matter include volcanoes, forest fires, water mist, and wind lifting dust off dry earth. Humans create particulate matter when we crush rocks or burn things such as wood, coal, or gasoline. PM 2.5 can also form through chemical reactions and droplets in the atmosphere.

EPA’s Rule Significant

EPA’s proposed tighter rule for PM 2.5 matters because it will be costly and will likely not result in any health benefits. According to the consulting firm Environmetrics, national compliance with EPA’s proposed PM 2.5 regulation would cost between $20 and $60 billion a year—on top of the $13 to $20 billion in costs for nationwide attainment at the current standard.

Not only would it be costly to meet the requirements of the new regulation, but when EPA designates an area as a non-attainment area under the Clean Air Act, it discourages industry from moving in and locating in those areas. Also, a non-attainment designation makes it more difficult for existing industries to expand, costing even more jobs in the local economy.

As if that were not bad enough, non-attainment areas lose federal highway and transportation dollars.

Regulations Damage Health

In addition to the detrimental effect on jobs, EPA’s proposed tightening of the PM 2.5 standard will also likely have a detrimental indirect effect on people’s health. For example, as Harry	

CONTINUED on right
CONTINUED from left

Alford, president of the National Black Chamber of Commerce, has stated, "The biggest health risk to African Americans anywhere, is poverty."

Higher costs, imposed because of pollution controls, will ultimately be paid by people in the form of higher prices, lower wages, and fewer choices. When people have higher incomes they spend a portion of the increased income on things that improve their health, such as better health care, safer cars, and healthier food. Poorer people do fewer of these things, and as a result, their health suffers.

Risk experts estimate that every $17 million in regulatory costs leads to one additional death. In other words, if EPA's new PM 2.5 rule costs $60 billion a year, statistics say it will cost 3,500 lives because of the costs it imposes on society.

The most important point is that regulations are not pure risk-regulation exercises, but require society to make tradeoffs. Because a new PM 2.5 regulation would be so costly, EPA needed to present some solid evidence for why this rule should be imposed on Americans. But EPA's justifications for its proposed rule are weak.

Problems with EPA's Studies

In crafting its proposed PM 2.5 rule, EPA staff relied exclusively on observational epidemiological studies to show the purported cause-and-effect relationship between PM 2.5 and health. Some studies show a small correlation between particulate matter and premature mortality; others do not.

This methodology implicitly assumes the researchers can and have controlled for all of the possible externalities (confounding factors) that would influence health. Such studies tend to overstate the effects the researchers are trying to find.

EPA relies heavily on an American Cancer Society (ACS) study and the Harvard Six Cities study. But a follow-up and reanalysis of the ACS study by the Health Effects Institute found some strange results. They found that PM 2.5 kills those with no more than a high school degree, but not those with at least some college education; it kills men, but not women; and it kills the moderately active but not people who are very active or sedentary.

These results are bizarre if we are to believe the ACS study has controlled for all of the factors that could influence health. These results suggest there are other factors at play and that the health effects are not necessarily the result of PM 2.5.

This is not the only problem with the ACS study. When the Health Effects Institute controlled for people moving into and out of cities, the apparent effects of PM 2.5 declined by two-thirds and became statistically insignificant. This suggests the health effects EPA is trying to attribute to PM 2.5 could be better explained by things that cause people to move, such as economic factors.

The Harvard Six Cities study has similar problems. It found PM 2.5 was not associated with increased mortality for people with more than a high school education. Again, this result is bizarre if we are to believe that PM 2.5 itself is a killer.

EPA's Claims Contradicted

A recent review of toxicological and clinical studies, published in Regulatory Toxicology & Pharmacology, found:

"Toxicologic data on typical forms of pollution-derived PM strongly suggest that current ambient concentrations in the U.S. are too small to cause significant disease or death. We review here the results of inhalation studies using concentrations of ambient particles, diesel engine exhaust particulate matter, and sulfate and nitrate salts, and find no evidence that moderate concentrations are lethal. The expectation that lives will be saved by reducing ambient PM 2.5 in the U.S. is not supported by the weight of scientific evidence, although other bases for regulating PM may be justifiable."

Unreliable Experiment Used

Even clinical studies that appear to lend support to EPA's claims of the dangers of PM 2.5 at normal ambient concentrations do not stand up to scrutiny. The Journal of the American Medical Association (JAMA) published a study in December 2005 that claimed to show PM 2.5 at current ambient levels harm Americans. The study asserted current ambient levels of PM 2.5 are associated with heart disease. But the report itself showed the results were not statistically significant.

Furthermore, to find any effect caused by particulate matter, the authors used laboratory mice that were specifically bred to be susceptible to heart disease.

Air pollution expert Joel Schwartz explained the problem of using these mice:

"The very reason for using these grossly unrealistic mice to study PM 2.5 is that PM 2.5 does not kill regular mice or other animals at concentrations relevant to EPA's rule."

"If you design an artificial mouse that can't regulate its fat or cholesterol levels, it isn't any surprise that even a minor environmental insult can cause it some health problems. But this doesn't tell you much about the effects of low-level air pollution on regular mice or on people."

"[If EPA's new PM 2.5 rule costs $60 billion a year, statistics say it will cost 3,500 lives because of the costs it imposes on society."

Study's Results Self-Contradictory

In fact, it is easy to assert the JAMA study actually finds PM 2.5 is not dangerous at current ambient levels. As Schwartz explained:

"PM 2.5 has such minute health effects that to even get PM 2.5 to cause an increase in heart disease you need mice specially engineered to have unrealistically stupendous cholesterol levels, you have to feed them a high-fat diet, and you have to expose them to unrealistically high acute doses of PM 2.5 five days a week, every week, for a quarter of their lives. Based on the JAMA mouse study, the current PM 2.5 NAAQS are health-protective with plenty of room to spare."

This quick review is by no means a complete catalogue of the problems with the studies EPA relies on for its PM 2.5 rule. Schwartz has more information in his Comments on EPA's Proposed Rule, National Ambient Air Quality Standards for Particulate Matter, and a number of industry groups contributed to very statistically sophisticated comments to EPA in a paper titled, Comments on Behalf of Industry Trade Associations on EPA's Transition to New or Revised Particulate Matter National Ambient Air Quality Standards, Advance Notice of Proposed Rulemaking.

Particulate Matter Variables

Even if we assume the EPA-cited studies have no problems and PM 2.5 is dangerous at current ambient levels, we should not assume all kinds of particulate matter are equally dangerous, as EPA assumes in its proposed rule. In 2004, the National Research Council wrote, "In the committee's judgment, that assumption greatly oversimplifies complex biological phenomena that are influenced by PM and other pollutants. There are numerous physical and chemical characteristics of particles that are potentially relevant to their toxicity; however, to date, there is little information on the relationship between health outcomes and specific particle properties or source types."

In short, EPA should know which particles are hazardous, if any, before regulating. Anything else will be overly broad regulation.

The extreme cost of the regulations, coupled with the shaky science upon which the proposed rule rests, should give EPA pause in the current case. EPA should not regulate particulate matter more stringently unless it has new, compelling evidence of harm at current ambient levels.

Daniel R. Simmons (dismmons@alec.org) is director of the Natural Resources Task Force of the American Legislative Exchange Council.
Environmental Disasters: The Rest of the Story

By Samuel Aldrich and Jay Lehr

Crying "fire!" in a crowded theater is irresponsible, perhaps illegal. But spreading terror among citizens by claiming Alar will cause cancer in children, by claiming drinking water is unsafe, and by claiming pesticide residues in food are hazardous to your health is not even a misdemeanor.

Perpetrators of environmental and food safety scares, and even outright hoaxes, are never held accountable for the personal tragedies that result from business failures and the unwarranted fear and alarm they spread. They are, in fact, often praised by the news media as consumer advocates and protectors. They are never forced to retract earlier statements that proved later to be false.

Paul Harvey makes a career of presenting interesting news items and then telling "the rest of the story"—which always dramatically changes the original impression. The rest of the story needs to be told for many environmental and food safety scares, and even outright hoaxes, are never held accountable for the personal tragedies that result from business failures and the unwarranted fear and alarm they spread.

Three Mile Island

The news media continue to call the accident at the Three Mile Island power plant in Pennsylvania the worst nuclear disaster in U.S. history. Contrary to the image likely created in the minds of many readers, TV viewers, or radio listeners, that is good news!

Why? Because the "worst" nuclear disaster caused no deaths among humans and animals and caused no lingering health effects.

No residual contamination has been found. The radioactive material released was trivial and far below the level at which any undesirable effects on humans would be expected. The danger of a complete meltdown followed by dangerous releases was near zero.

The official report stated the most serious impact of Three Mile Island was the hysteria created among the local people by the news media.

Confusion Understandable

Reporters on the scene may be excused for the unnecessary hysteria they created. It was a totally new experience for them. Details were difficult to obtain. The information supplied by plant management personnel changed frequently. Each new report seemed to increase the seriousness of the accident.

As a result of new—and in many cases unnecessary—regulations put into place as a result of the Three Mile Island scare, the estimated time for construction of nuclear plants in the United States doubled, and the cost rose from $400 million to as much as $7 billion. Accordingly, nuclear power plant construction came to a screeching halt.

There is no excuse for perpetrating the myth that Three Mile Island was a public disaster. For nearly a generation the many advantages of nuclear power have been denied U.S. citizens, including conservation of fossil fuels, less black lung disease among coal miners, and fewer miners killed in accidents.

The good news is that the tide of resistance to growth in nuclear power has passed its peak. For nearly 30 years since the Three Mile Island incident, 103 nuclear plants have been operating in the U.S. with no serious incident. Operators of three dozen nuclear plants indicate they plan to seek extensions of their permits to operate.

Other nations moved ahead in safe, economical, and environmentally friendly nuclear power production while the United States stood still. While nuclear energy supplies 80 percent of electric power in France, anti-nuclear activists have thus far prevented new plant construction in the United States. That may soon change, as poll after poll shows the American public overwhelmingly supports more nuclear power production.

PCBs Banned Unnecessarily

PCBs were widely used from 1929 to 1977 as a safety improvement over highly combustible mineral oil in electrical equipment insulation. After 46 years of use, the U.S. Centers for Disease Control and Prevention reported that rates for extremely high doses of PCBs developed liver cancers.

Based upon the flimsy evidence of that single study, Congress banned PCBs in 1976. Twenty-four years after that first research report, the same disease was diagnosed in persons whose blood levels were much lower. Since then, literally thousands of studies have been published showing that there was no real-world association of PCBs with human cancer or any other disease.

The second study focused on 7,075 persons who worked in factories that manufactured PCBs between 1946 and 1977. Some persons had blood levels of several thousand parts per billion (ppb), compared to the 4 to 8 ppb blood levels typical of other U.S. citizens. After 31 years of very high exposure to PCBs, cancer rates among the factory workers had not increased.

Despite that research, Clinton administration EPA Administrator Carol Browner claimed PCBs in water "probably caused cancer in people" and posed a "serious threat to public health."

Unnecessary Dredging Ordered

Browner was attempting to justify EPA's decision to require General Electric, at an estimated cost of $46 million, to dredge the Hudson River to remove moderate concentrations of PCBs that were already on their way to entombment beneath the river bottom.

Ten years after the study, New York State biologists show the PCB content in fish 100 miles downstream has already fallen within the federally accepted level, which has a huge built-in safety factor.

EPA's decision to force this expensive and unnecessary dredging is a prime candidate for righteous indignation.

Oil Spill Cleanups Harmful

Major oil spills have occurred at Valdez, Alaska, along the coasts of Texas and California, and in many other places around the world. Each spill receives intensive media attention. However, the most serious effects have been localized, though impacts on migratory birds spread beyond the sites of spills.

The rest of the story regarding oil spills is that scientists who have studied them around the world agree that in nearly all cases the best treatment is no treatment at all, with the possible exception of initial containment.

The components of oil that are most hazardous to fish and other wildlife are highly volatile: They dissipate into the air before any remedial action can be taken.

Treating shorelines with oil removal methods removes unsightly compounds to the depth of a few inches but kills the natural organisms that are capable of decomposing the oil. The result is that the lower layers remain contaminated several years longer than if untreated. Millions of dollars have been wasted in futile clean-up attempts.

Coming up: In future issues of Environment & Climate News, we will tell the "rest of the story" about the ozone hole, radon, saccharin, acid rain, Alar, asbestos, and nitrogen fertilizers.

Jay Lehr, Ph.D. (lehr@heartland.org) is science director for The Heartland Institute. Samuel Aldrich is an emeritus professor at the University of Illinois. His groundbreaking book for laymen, Smoke or Steam? A Guide to Environmental, Regulatory and Food Safety Concerns, is available from The Heartland Institute for $12. The table of contents of the book, containing 211 topics, can be downloaded at http://www.heartland.org/smokeorsteam.pdf.
As a result, anti-technology activists can continue to seek patchwork bans and restrictions on genetically enhanced crops on a county-by-county basis.

Strong Bipartisan Support
A version of the bill passed the Senate by a 31-to-8 vote in June 2005, but the measure had not been approved by the Assembly by the end of the 2004-2005 session. After an amended version of the bill passed the California Assembly on August 24, 2006 by a greater than 2-to-1 margin, the bill was returned to the Senate.

However, because the amended bill was sent to the Senate with less than a week left in the session, the bill was doomed to failure for lack of timely action.

Opponents Claim Mandate
The bill was introduced after the Berkeley City Council passed a resolution in September 2005 asserting the state government should not allow farmers to grow genetically improved crops. Berkeley Councilwoman Kriss Worthington claimed an anti-biotechnology mandate from the Senate’s inability to act on the Assembly-passed bill.

“It’s a good sign that the Legislature was not willing to give in so easily,” Worthington told the September 12 Berkeley Daily Planet. “If more cities or counties adopt restrictions, it will create momentum for positive state law, instead of a negative state law.”

“By not even bringing S.B. 1056 to a vote, the Senate sent a clear message that enacting pre-emption before state legislation is bad policy,” added Renata Brillinger, director of the anti-technology Californians for GE-Free Agriculture, in the Daily Planet.

Sponsors Vow to Fight
State Sen. Dean Florez (D-Shafter), who authored the bill with fellow Democrat Sen. Barbara Matthews (D-Tracy) and Republican Sen. Bill Maze (R-Visalia), has vowed to continue the fight for “equal opportunity” farming until S.B. 1056 is either enacted or rejected on a floor vote.

With the California legislature expressing its strong support for farmers’ right to choose whether to grow genetically improved crops, the momentum is building for definitive action in the 2006-2007 session.

Biotec Crops Healthy, Safe
Henry Miller, a scientist at Stanford University’s Hoover Institution, pointed out federal oversight by the U.S. Department of Agriculture, and U.S. Environmental Protection Agency ensure genetically improved crops are as safe as or safer than crops that have not been genetically improved.

“Legislation that would ensure all farmers in the state of California have a right to plant genetically improved crops subject to federal health and environmental rules failed to reach a vote before the state Senate’s yearly session ended on August 30.”

“There has never been a single documented case of genetically improved crops harming any person or animal,” Miller said. “To the contrary, biotechnology has allowed farmers to grow more nutritious, healthy, disease-resistant, pest-resistant, and fungus-resistant crops without using nearly as many environmentally threatening chemicals.”

James M. Taylor (taylor@heartland.org) is managing editor of Environment & Climate News.

Environment & Climate News
Publisher Joseph L. Bast
Associate Publisher Nikki Comerford
niki@heartland.org
Managing Editor James Taylor
taylor@heartland.org

INTERNET INFO


Nearly 100 documents on biotechnology agriculture and genetic engineering are available through PolicyBot™, The Heartland Institute’s free online research database. Point your Web browser to http://www.policybot.org and select the topic/subtopic combination Agriculture/Biotech and GMO.

— James M. Taylor
Recyclers Seek to Expand Deposit Laws

By James M. Taylor

People living in one of the 11 states that have enacted bottle deposit laws are all too familiar with the cleaning, sorting, and returning—not to mention the upfront costs—associated with the laws. Now an association of plastic recycling companies wants to require people to go through the same process for many plastic containers.

The Association of Postconsumer Plastic Recyclers (APR) is pushing for legislation that would ban certain plastics and expand bottle deposit laws to include a variety of additional containers.

Consumers Not Recycling

With landfill space available and recycling companies offering consumers little or no money for their recyclable products, recycling rates have lagged in recent years. Moreover, local governments are increasingly hesitant to fund curbside pickup programs. They cite the expense and air quality effects of sending large, polluting trucks to each residential address twice—once for garbage pickup, and again for recyclables.

The lagging enthusiasm for recycling has hurt APR member companies. “Our number one feedback is recycled bottles and we are starving for materials,” Phil Gavin, APR member and national procurement director for the PET recycling plant of Mohawk Industries in Summerville, Georgia, told Crain Communications’ Plastics News.

Mohawk Industries collects one-third of the plastic bottles recycled in the United States and melts them down into carpet fibers. “Without bottles, we can’t survive,” said Gavin. “If the positions we are taking don’t make some of our members happy, that’s too bad.”

Litter Problem Already Solved

Jerry Taylor, senior fellow and director of natural resources studies at the Cato Institute, disagrees with APR’s efforts to help their members through recycling mandates.

“It is wrong for state and local governments to pass laws forcing people to recycle simply because recycling companies don’t want to pay people enough money to make it worth their while,” Taylor said. “In free societies, government has no business forcing people to give their own time and labor merely to help a for-profit company make a buck.”

Taylor added, “The fact that recycling companies need to get government to force people to do business with them underscores the problems with recycling. Recycling participation is low because it makes no economic sense. Why should private citizens bear the financial costs of these programs, rather than the companies who seek to profit off of them?”

Laws requiring deposits be paid on beverage cans and bottles were first implemented in the 1970s as part of the Keep America Beautiful campaign. Most of the states enacting such laws were in the urban Northeast, where curbside and roadside litter was most prevalent.

In the past 20 years, only one state has enacted a new bottle deposit law. Recycling analysts say forcing a new and expanded wave of deposits and coerced recycling is the wrong idea at the wrong time.

James M. Taylor (taylor@heartland.org) is managing editor of Environment & Climate News.

Internet Info


Violations

Continued from page 1

violations were similar to those uncovered at the Texas City plant.

Ignoring Pipeline Corrosion

More storm clouds gathered over BP in late 2005 when the U.S. Environmental Protection Agency (EPA) launched a criminal investigation of BP’s management of pipelines in Alaska’s North Slope. EPA later expanded the inquiry to include the March 2006 spill of an estimated 134,000 to 267,000 gallons of crude oil from a BP-operated pipeline in Prudhoe Bay.

According to Alaska state conservation officials, the pipeline ruptured from internal corrosion, causing what is considered the largest spill ever in the energy-rich North Slope.

Such was the extent of the corrosion in the pipeline that BP in August 2006 was forced to curtail production from Prudhoe Bay, the largest oil field in the United States.

Documents released in September 2006 by the U.S. House Energy and Commerce Committee revealed the position of senior corrosion engineer for BP’s Alaska operations had been left vacant for 15 months. The position was vacant in the months leading up to the March spill and remains unfilled at press time six months later.

Feeling the Heat

Top officials of BP’s U.S. operations were subjected to a severe grilling September 7 by an oversight subcommittee of the House Energy and Commerce Committee. Richard Woollam, BP’s chief pipeline inspection expert in the United States, took the Fifth Amendment under oath rather than explain what he knew about corrosion in the company’s oil pipelines in Prudhoe Bay.

“If a company—one of the world’s most successful oil companies—can’t do the basic maintenance needed to keep Prudhoe Bay’s oil field operating safely and without interruption, maybe it shouldn’t be operating the pipeline,” said committee member Rep. Joe Barton (R-TX).

Under relentless attack from members of both parties serving on the House panel, BP America President Robert A. Malone admitted his company had “stumbled.” Malone acknowledged to the committee, “We have fallen short of the high standards we hold for ourselves and the expectations others have for us.”

Playing Green Card

For BP, the adverse publicity generated by its recent missteps, culminating in the public keelhauling of BP officials on Capitol Hill, undid years of work designed to cultivate an image as an environmentally responsible energy company.

“The reputation of BP, the world’s third largest oil company, has been sullied by a series of developments casting doubt on the energy giant’s ability to carry out routine maintenance, provide for worker safety, and engage in ethical pricing practices for crude oil and natural gas.”

BP had sought to assure the world that it no longer stood for “British Petroleum” but for “Beyond Petroleum.” The corporation reportedly paid the PR firm of Ogilvy Mather $200 million for a television and print media ad campaign praising the company’s environmental stewardship and highlighting BP’s commitment to combating global warming.

“It’s time to turn up the heat on global warming,” read the headline on a BP full-page ad in the Wall Street Journal in August 2005. “We were the first major energy company to take steps to reduce greenhouse gas emissions,” proclaimed another full-page ad in the Journal that year.

Exploiting Regulations

In addition to pouring millions into a PR campaign, BP in the late 1990s teamed up with now-defunct Enron in an attempt to derive advantages from the proposed regulation of greenhouse gases.

BP CEO Sir John Browne joined Enron’s Ken Lay at a White House meeting with President Bill Clinton and Vice President Al Gore in December 1997, a few days after the Kyoto climate change meetings took place.

“Sir John,” an internal Enron memo pointed out, “thinks there will soon be government regulation of greenhouse gases. And companies that have anticipated regulation will not only know how to use it to their advantage, they will also, as Browne puts it, ‘gain a seat at the table, a chance to influence future rules.’

Bonner R. Cohen (brcohen1@ix.netcom.com) is a senior fellow at the National Center for Public Policy Research in Washington, DC.
Prying Open a Mind

The Politically Incorrect Guide to Science
By Tom Bethell
Regnery Publishing Co., November 2005
270 pages, $19.95 paperback, ISBN 089526031X
Available on Amazon.com

Review by Jay Lehr, Ph.D.
This is a marvelous book with religious undertones, reflected in three extremely well-written chapters that attempt to undermine Darwinian evolution while opening a door to intelligent design.

I cannot argue expertly in favor of Darwinian evolution. But at the same time, I cannot conceive of intelligent design in such an imperfect world. It appears oxymoronic to me. Yet I strongly support Bethell’s approach to his argument in this marvelous book.

Bethell is an excellent writer and exhaustive researcher who ties information from those he supports and those he opposes into a coherent whole that is a delight to read.

His approach is the opposite of junk science, which gains pseudo-credence by presenting data selectively for the sole purpose of imposing a single conclusion on the reader. Bethell, by contrast, presents the data unambiguously; he offers his opinion but lets you decide.

“Bethell is an excellent writer and exhaustive researcher who ties information from those he supports and those he opposes into a coherent whole that is a delight to read.”

Dire Warnings Are Suspect
All science based on dire warnings about the future should be suspect, and all such science is almost by definition politicized—if only because democracy as presently constituted responds with undue haste to any claims of crisis.

In 1798, in England, the economist Thomas Malthus warned that the population resonated anew. Biologist Paul Ehrlich foresaw millions of Americans dying of starvation. Now, however, we are beginning to hear of impending under-population problems.

Governments tend to respond to these purported crises without substantial proof, because their incentives are to persuade the public that it cannot do without them. While this may be true of the Departments of Defense, Justice, and State, it is much less obviously true of more recently created agencies, such as the Environmental Protection Agency. EPA and agencies like it proceed with policy making by publicity, according to Bethell: “The problem is even greater than we thought, but don’t worry, we are making headway in solving it. So increase our budget—now!”

Consensus Is Not Truth
Government funding of scientific research has resulted in the notion that a theory can be regarded as true if it enjoys enough support. Over the years, there has been consensus over many theories—including the flatness of the Earth, and that all planets revolve around it. But consensus discourages dissent. Consensus is the enemy of science ... but it is also the “pot of gold” for politics.

The book’s chapter on global warming alone makes it a worthwhile read. Bethell recounts the April 28, 1975 Newsweek story on global cooling, in which the magazine predicted, “the resulting famines could be catastrophic.” To stop global cooling, experts at the time proposed melting the Arctic ice cap. Now we are taught to fear exactly that melting.

Equally good is Bethell’s recounting of the truth about the Chernobyl nuclear accident, which resulted in less damage to human health, by an order of magnitude, than was predicted at the time.

Bethell makes an accurate case for the bright future of nuclear energy in the United States, while at the same time acknowledging the anti-nuclear campaign waged by The Union of Concerned Scientists—which he refers to as “The Union of Concerned Scaremongers.” This is one of the first mainstream books to support what we are rapidly learning about the benefits of small amounts of radiation and the hormesis effect in general—whereby an organism that is given a very low dose of something may then respond to a very high dose in a way dramatically different from what might be expected if the organism had received only the very high dose. This subject is now receiving substantial exposure because of the eminent scientist Edward Calabrese’s recent publications.

In Chapter Five, Bethell summarizes what most sane people know about the benefits of using DDT to prevent malaria. This subject is gaining a mini-foothold in the mainstream press. In our lifetimes, we may yet witness governments doing the right thing and re-approving the use of DDT the world over.

In my opinion, the Endangered Species Act is the worst among many terrible policies to come from the U.S. Environmental Protection Agency. If you cannot fathom why, Bethell explains it to you with great clarity in Chapter Six.

Biased in Favor of Religion
The second half of the book is where Bethell shows openly his bias for all things religious when he comprehensively tackles the genome, genetic modification, the genetic rules of cancer, as well as evolution and intelligent design.

While I tend to disagree with his conclusions in most of these areas, I was impressed with the dispassionate manner in which he presented his side of each issue, opening my eyes to more data than I was previously aware of.

“Consensus is the enemy of science ... but it is also the ‘pot of gold’ for politics.”

My children often tell me I am too opinionated and closed-minded on many issues. They are completely incorrect. They simply do not understand the convictions that arise from absorbing mountains of convincing scientific data. But I am always open to additional data that could alter my position. I cannot say Bethell changed my mind on many issues ... but he certainly pried it even more open.

Jay Lehr, Ph.D. (lehr@heartland.org) is science director for The Heartland Institute.
Want to Reach Local, State, and Federal Elected Officials with your message on mercury?

Buy any size ad in February’s mercury issue and get an ad in the March issue FREE!

February’s Editorial Focus: Mercury

Environment & Climate News is sent to every state and federal elected official in the country (more than 8,500 of them), nearly 8,500 local elected officials, plus environment reporters, subscribers, Heartland Institute members and donors, and allies.

Ad space must be reserved by December 11. Ad materials due December 18. Act today!

For more information please call Jim Rohrlack at 312/377-4000, email jimr@heartland.org

<table>
<thead>
<tr>
<th>Size</th>
<th>BW</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Page</td>
<td>$2,090</td>
<td>$2,723</td>
</tr>
<tr>
<td>Junior Page</td>
<td>$1,232</td>
<td>$1,865</td>
</tr>
<tr>
<td>Half-page</td>
<td>$1,014</td>
<td>$1,647</td>
</tr>
<tr>
<td>Quarter-page</td>
<td>$514</td>
<td>$1,147</td>
</tr>
</tbody>
</table>

Cheaper than direct mail and far more effective!