
The Silent Epidemic

**Coal and the Hidden Threat to Health**

*Alan H. Lockwood*

We will not find “exposure to burning coal” listed as the cause of death on a single death certificate, but tens of thousands of deaths from asthma, chronic obstructive pulmonary disease, lung cancer, heart attacks, strokes, and other illnesses are clearly linked to coal-derived pollution. As politicians and advertising campaigns extol the virtues of “clean coal,” the dirty secret is that **coal kills**. In *The Silent Epidemic*, Alan Lockwood, a physician, describes and documents the adverse health effects of burning coal. Lockwood’s comprehensive treatment examines every aspect of coal, from its complex chemical makeup to details of mining, transporting, burning, and disposal--each of which generates significant health concerns. He describes coal pollution’s effects on the respiratory, cardiovascular, and nervous systems, and how these problems will only get worse; explains the impact of global warming on coal-related health problems; and discusses possible policy approaches to combat coal pollution.

Coal fueled the industrial revolution and has become a major source of energy in virtually every country. In the United States, almost half of the energy used to generate electricity comes from burning coal. Relatively few people
are aware of the health threats posed by coal-derived pollutants, and those who are aware lack the political clout of the coal industry. Lockwood’s straightforward description of coal as a health hazard is especially timely, given the barrage of marketing efforts to promote coal as part of “energy independence.” His message is clear and urgent: “Coal-fired plants make people sick and die, particularly children and those with chronic illnesses, and they cost society huge amounts of money desperately needed for other purposes.”

**About the Author**

Alan H. Lockwood, M.D., is Emeritus Professor of Neurology and Nuclear Medicine at the State University of New York at Buffalo. He is the lead author of a Physicians for Social Responsibility report on coal’s adverse health effects.

**Endorsements**

“Energy policy is health policy. In *The Silent Epidemic*, Alan Lockwood makes clear that coal is a pressing health concern. Just as a microbiology text analyzes bacteria, this book provides a guide for medical and public health thinking about coal. Highly recommended.”
—Howard Frumkin, Dean, School of Public Health, University of Washington

“The Silent Epidemic provides an exacting and sobering account of one of the fastest growing problems confronting our planet—pollution from coal. The analytical breadth as well as the readability of Alan Lockwood’s study make it a unique and powerful resource for health care providers, policy makers and concerned citizens alike.”
—Stanley B. Prusiner, Professor of Neurology, University of California, San Francisco

“Dr. Lockwood’s prose is measured. His tone is dispassionate. And his prognosis is chilling. This book is must reading for environmental scientists and health professionals. It should also be on the bookshelves of energy policy makers, power company executives, urban planners, elected officials, and concerned citizens. Dr. Lockwood’s diagnosis affects us all.”
—Philip J. Landrigan, M.D., MSc., Ethel H. Wise Professor of Community Medicine, Mount Sinai School of Medicine

“How Coal Poisoned Your Tuna Sandwich”

Can too many tuna sandwiches make you sick? Unfortunately, yes. Sierra magazine looks at the plight of Americans -- from preschoolers eating a couple of tuna sandwiches a week to sushi-loving celebrities to low-income anglers -- who have been sickened by methylmercury. The biggest culprit? Coal-fired power plants.


U.S. coal plants pump more than 48 tons of mercury into the air each year, but it takes only one-seventieth of a teaspoon to pollute a 20-acre lake and make its fish unsafe to eat. Although the EPA has proposed a new air pollution standard for power plant emissions of mercury and other toxics, corporate polluters and their allies in Congress are fighting back by attacking the Clean Air Act. http://secure2.convio.net/sierra/site/Advocacy?cmd=display&page=UserAction&id=7016&autologin=true&s_src=111JZZNI02&s_subsrc=non_member&JServSessionIdr004=ouubuk9db3.app224a

COAL ASH SPILL DISASTER
On FSTV, Democracy Now (12-31-11), Amy Goodman rptd. on the largest coal ash spill in U.S. history. The harm of coal burning is not only, though is mainly, CO2. One of 18 coal ash piles maintained by TVA, the dam of this one gave way and flooded the valley and streams downstream. Every coal burning plant has coal ash residue possessing the potentiality for a similar disaster. These ash waste impoundments are highly toxic, yet the EPA has not classified them as such. What is the ash situation at the Arkansas coal burning plants? At Gentry?

News from NCRonline.org
June 10, 2011 National Catholic Reporter
“Documentary exposes America's big dirty secret”
By Sr. Rose Pacatte

Coal is dirty; it's expensive, and modern coal mining devastates the environment and the communities that surround it. Coal mining is dangerous, expensive to the consumer, and disproportionately profitable to the multinational corporations that own the coal mines or licenses to mine. But the greatest harm created by Big Coal is its blow to democracy. This is America's dirty secret.

Read more Or paste this link into your browser: http://ncronline.org/node/25070

RESISTANCE

STEVE HAWK, “THE COST OF COAL,” SIERRA (Nov. Dec. 2012). How people's lives across the nation have been disrupted and damaged by coal and what they are doing to stop it.

WORLD BANK FUNDS AFRICAN COAL
Amy Goodman 4-9-09? reported that despite its stated commitment to reducing climate change, the WORLD BANK is loaning $3 and one half billion to Africa for coal generated electricity. It will be the 4th largest coal plant in the world, and will require a more coal mines. In response, Desmond D'Sa of S. Africa and "Keep the Coal in the Hole" campaign (Hansen's approach) is organizing in opposition.

Farewell to Larry Gibson, an Appalachian Hero

Matt Wasson, iLoveMountains.org, matt.wasson@ilovemountains.org via uark.edu to jbennet

Dear Dick,
This past Sunday, an Appalachian hero and a tireless warrior against mountaintop removal coal mining passed away. For decades, Larry Gibson stood up to threats and intimidation, spoke to thousands of people about the destruction of his homeland, and inspired a nationwide movement to take up his cause of creating a safe and prosperous future in Appalachia. In fact, if you are receiving this email, then directly or indirectly, you are one of the people Larry inspired.

Larry's journey to becoming an Appalachian hero began in the late 1980s, when one of the largest mountaintop removal mining operations in Appalachia started up near his home on Kayford Mountain in Raleigh County, W.Va., adjacent to a cemetery where generations of his ancestors were buried. He could have made millions of dollars selling his land to the coal companies but refused every offer. Larry would often say to people who visited Kayford Mountain or attended his many speeches around the country:

“Let me ask you this: What do you hold so close to your own circle of life that you would not put a price on it? What would it be for you? For me, it is the mountains and the people of Appalachia.”

As the mountains around Larry's home were systematically demolished, his land became an island in the sky, surrounded on all sides by tens of thousands of acres of a post-apocalyptic landscape left behind by a rapacious industry that cared only about its own bottom line. It was one of the few places where people could experience mountaintop removal up close and where reporters could take pictures and shoot videos for news stories. Thousands of people, including me, had their first life-changing glimpse of an active mountaintop removal mine while standing among the gravestones of Larry's ancestors on Kayford Mountain.

Larry was wounded more deeply than most of us can ever understand by witnessing the slow destruction of the land on which generations of his family had played in the woods, hunted game, gathered herbs, raised their children and were buried when they died. And yet, remarkably, Larry never got discouraged — even after all the acts of intimidation and violence he experienced. Maybe the mountains, forests and streams near his home could not be saved, but he was committed to making sure that others' homes would not suffer the same fate.

When we launched iLoveMountains.org six years ago, we encouraged people to spread the word to their friends and family with an animated map that showed the growth of the iLoveMountains movement. In honor of his inspiration and leadership, Larry Gibson's home on Kayford Mountain was the center of the map from which the national movement spread. Today, more than 100,000 people have taken action to end mountaintop removal on iLoveMountains.org and the movement is still growing.

So you see, whether you knew him or not, Larry Gibson is part of why you have joined the struggle to end mountaintop removal. And if Larry's dream of ending mountaintop removal and bringing a safe and prosperous future to the communities of Appalachia is to be fulfilled, it will be because you have taken up his torch and continued his fight.

In recent years, Larry and members of his family formed the Keeper of the Mountains Foundation, an organization that supported his speaking tours and maintains the community park he constructed on Kayford Mountain. We hope you will visit the Keeper of the Mountains website, read the tributes to him, make a donation if you can, and find out how you can help this important organization continue Larry’s work.

And after the elections in November there may be new opportunities to end mountaintop removal, or we may face new threats to the progress you have helped create in recent years. Whatever the outcome of the election, the people of Appalachia will need your commitment and your energy more than ever.

Tragically, Larry did not live to see the end of mountaintop removal coal mining, but together
we can honor Larry's memory and see his dream of a safe and prosperous Appalachia fulfilled.  
For Larry Gibson and the Appalachian mountains and communities that he loved,  
Matt Wasson

Has Big Coal Lost Its Power?  
Jeff Goodell, Rolling Stone, March 17, 2012  RSN
"The most surprising thing about the speech was what Obama didn't say: 'coal.' There were no odes to 'clean coal,' no false promises about the number of jobs coal mining will provide in the future, no bullshit about how America needs coal to keep the lights on." READ MORE  http://www.readersupportednews.org/opinion2/271-38/10493-has-big-coal-lost-its-power

Coming Clean: Breaking America's Addiction to Oil and Coal  
By Michael Brune
For interview requests, contact Orli Cotel: orli.cotel@sierraclub.org.

Michael Brune, executive director of the Sierra Club, has seen firsthand the devastation caused by the BP oil disaster in the Gulf. Nationally recognized as one of today's most inspiring and effective environmental leaders, he previously served as executive director of Rainforest Action Network for seven years. Brune lives with his wife and their two young children in Alameda, California. More...

The catastrophic release of oil into the Gulf of Mexico by BP's Deepwater Horizon well has been a wake-up call, bringing home to Americans in a very personal way —more powerfully than statistics on peak oil or global warming—the message that we must end our destructive dependence on dirty fuels. We want to move our country toward a clean-energy future, and this book provides a road map for how to get there.

Author Michael Brune, executive director of the Sierra Club and former head of Rainforest Action Network, distills all his activist skills and passion into this book. He shows us how we, as motivated citizens, can put our convictions into practice and strategically pressure corporations and our government to change their energy priorities. His vivid reports track the myriad ways our thirst for ever-scarcer oil and coal harms communities like those along the Gulf coast, corrupts policy and finance, and wrecks havoc on the Earth and its climate. He also describes the most promising developments in renewables, biofuels, and efficient design. In a new Afterword to this edition, Brune recounts his personal experiences working on the scene in the Gulf region, and offers an inspiring vision of the clean-energy future within our reach.

Praise for Coming Clean
"Brune artfully exposes the shameless tactics employed at every level of the energy supply chain by those intent upon maintaining the status quo. Sharing proven methods to jump-start the necessary paradigm shift away from fossil-fuel
dependency, Brune offers an enlightened yet impassioned manifesto on how to achieve clean energy." — Booklist

"A trove of information [from] an experienced political activist and straight-talker." — Publishers Weekly

"A clearsighted indictment of our ugly marriage to fossil fuels. Brune... doesn't fail to name names and throw some light on both the plunderers and restorers of American energy." — Orion

FILM

TRUE COSTS OF COAL
Malcolm Cleveland just sent me this excellent article. It's titled "Full cost accounting for the life cycle of coal." It bears out a theme that I've tried to preach for years: Most of our environmental problems will be solved when we include the environmental and health overheads in the cost of all products. In a market economy, this is the only way to guarantee a reasonably healthy environment. According to this article, accounting for the health and environmental impacts of coal conservatively doubles to triples the price of electricity from coal, making renewables economically competitive. The article is published by the highly respected New York Academy of Sciences. Cheers - Art

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Coal is currently the predominant fuel for electricity generation worldwide. In 2005, coal use generated 7,334 TWh (1 terawatt hour = 1 trillion watt-hours, a measure of power) of electricity, which was then 40% of all electricity worldwide. In 2005, coal-derived electricity was responsible for 7.856 Gt of CO\textsubscript{2} emissions or 30% of all worldwide carbon dioxide (CO\textsubscript{2}) emissions, and 72% of CO\textsubscript{2} emissions from power generation (one gigaton = one billion tons; one metric ton = 2,204 pounds).\textsuperscript{1} Non–power-generation uses of coal, including industry (e.g., steel, glass-blowing), transport, residential services, and agriculture, were responsible for another 3.124 Gt of CO\textsubscript{2}, bringing coal's total burden of CO\textsubscript{2} emissions to 41% of worldwide CO\textsubscript{2} emissions in 2005.\textsuperscript{1}

By 2030, electricity demand worldwide is projected to double (from a 2005 baseline) to 35,384 TWh, an annual increase of 2.7%, with the quantity of electricity generated from coal growing 3.1% per annum to 15,796 TWh.\textsuperscript{1} In this same time period, worldwide CO\textsubscript{2} emissions are projected to grow 1.8% per year, to 41.905 Gt, with emissions from the coal-power electricity sector projected to grow 2.3% per year to 13.884 Gt.\textsuperscript{1}

In the United States, coal has produced approximately half of the nation's electricity since 1995,\textsuperscript{2} and demand for electricity in the United States is projected to grow 1.3% per year from 2005 to 2030, to 5,947 TWh.\textsuperscript{1} In this same time period, coal-derived electricity is projected to grow 1.5% per year to 3,148 TWh (assuming no policy changes from the present).\textsuperscript{1} Other agencies show similar projections; the U.S. Energy Information Administration (EIA) projects that U.S. demand for coal power will grow from 1,934 TWh in 2006 to 2,334 TWh in 2030, or 0.8% growth per year.\textsuperscript{3}
To address the impact of coal on the global climate, carbon capture and storage (CCS) has been proposed. The costs of plant construction and the “energy penalty” from CCS, whereby 25–40% more coal would be needed to produce the same amount of energy, would increase the amount of coal mined, transported, processed, and combusted, as well as the waste generated, to produce the same amount of electricity.\(^1\)\(^2\) Construction costs, compression, liquefaction and injection technology, new infrastructure, and the energy penalty would nearly double the costs of electricity generation from coal plants using current combustion technology (see Table 2).\(^3\)\(^4\) http://onlinelibrary.wiley.com/doi/10.1111/j.1749-6632.2010.05890.x/full

CONTACT FERC
Dear Dick,
Tell the Federal Energy Regulatory Commission to stand up for clean energy!
https://mail.google.com/mail/?hl=en&shva=1#inbox/12c2e335345f743b

The Federal Energy Regulatory Commission (FERC), an agency within the federal government, has an enormous impact on whether our country moves beyond dirty coal over the next couple years and invests in clean energy. Currently, when regional organizations under FERC’s authority make decisions about our electric transmission system, they often completely ignore public policy like state renewable energy standards and rules under the Clean Air and Clean Water Act. Which means all of our progress to build a movement towards creating new jobs and protecting the health of our communities could be lost by this obscure agency that most people haven’t even heard of. Contact FERC today to ensure we move from coal to affordable clean energy! Fortunately, FERC is accepting public input through the end of this week as to whether they should include public policy goals in their planning process. They need to hear an overwhelming yes from us!
The regional organizations under FERC’s authority could be the number one obstacle to getting off coal, directing ratepayer funds to prop up dangerous and expensive coal plants that we don’t need. Or FERC could be our champion, requiring those organizations to take into account efficiency and clean energy goals when making their electric transmission plans. It's up to us.
Send a quick message to FERC and ask them to stand up for clean energy!
https://mail.google.com/mail/?hl=en&shva=1#inbox/12c2e335345f743b
Thank you,
Bruce Nilles  Sierra Club Director of Conservation
P.S. After you take action be sure to spread the word to your friends and family!
Sierra Club
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A report on the EPA COAL ASH Hearings in Dallas, TX of 8 September 2010 by Nathan Wilson
A little after noon on the 7th of September; David Orr, John Gray, Jacob George and I forged ahead on a trip through torrential rainstorms to Dallas to speak out for regulation of the toxic waste known as Coal Ash, the remaining poison which has not been dispensed and mixed with our air from the burning of coal. The Coal Ash is currently unregulated and treated the same as other disregarded refuse. The ash is either piled up on the site of the coal plant making mountains, disposed of in landfills or sometimes mixed into concrete where it can be formed into a non toxic output. There is 130 Million Tons of coal ash produced every year in America.

EPA's Website said this:
The proposal opens a national dialogue by calling for public comment on two approaches for addressing the risks of coal ash management under the nation's primary law for regulating solid waste, the Resource Conservation and Recovery Act (RCRA). One option is drawn from authorities available under Subtitle C, which creates a comprehensive program of federally enforceable requirements for waste management and disposal. The other option includes remedies under Subtitle D, which gives EPA authority to set performance standards for waste management facilities and would be enforced primarily through citizen suits. A chart comparing and contrasting the two approaches is available on EPA's Web site.

Dallas was one of 8 hearings on Coal Ash. In Dallas, on one side were people who have lost family and friends because of coal ash causing carcinogens to the air they breathe and the water they drink along with a large number of allies speaking for Coal Ash to be regulated federally with Subtitle D of the Regulation and on the other side were proponents from the Concrete Industry advocating for Subtitle C.

I spoke about my landlord who worked as a welder in several Coal Plants, Oil Rigs, and Nuclear Plants for 35 years. While he was exposed to Coal Fly ash sporadically, many of his friends stayed on the same job and died from various painful cancers quickly. My landlord was unable to attend so, I went in his place and read a letter that he wrote and told the EPA that coal flyash is lethal Toxic Waste. I wasn't the only one who had testimony; there was a fairly sizable group from a town in Oklahoma which has a 15 acre site for piles of Coal Ash which runoff and poison there water along with blowing away from the dump site and into lungs of the people. There were several people with cancers and defects attributed to the coal ash dump which has uncovered dump trucks full of coal ash delivered several times daily to it.

The concrete industry countered agreed that coal ash is dangerous but, spoke out for Subtitle C which is the less stringent regulation because they feared a backlash if the coal ash were to be considered "Dangerous". There arguments sickened me. The concrete industry was a minority in Dallas and I have read reports where they were a minority in the other hearings to.

Both ways of regulating Coal Ash are weak and will not take effect for some time, continuing to expose thousands of people to harm. I was very excited to be a part of this historic hearing and was glad to see Coal ash being looked at and not ignored like we have done for the last 30 years.
WIND VERSUS COAL
Jeff Deyette, Assistant Director of Energy Research, Climate & Energy Program

A large wind power project is being proposed for my area, and a number of local people, including some I would normally consider "green," have concerns about it. Are there serious reservations in the scientific community regarding wind energy?
-K. Hansen, Wrightstown, WI.

No energy source is without impact. But the health and environmental costs of wind power are minimal—especially when compared to other sources of energy like coal—and are far outweighed by the benefits wind-generated electricity provides. The scientific community sees wind and other sustainable energy technologies that don't produce air or water pollution, or global warming emissions, as a critical part of the solution to climate change and other environmental problems. MORE

Do you have a question for UCS scientists? Submit your question today.

BILLIONS OF DOLLARS FOR COAL

Forty-eight states generate electricity by burning coal, threatening our health and dumping heat-trapping emissions into the atmosphere. Coal companies would have you believe that this fuel source is a smart financial decision, but a new UCS report, Burning Coal, Burning Cash disproves this claim. If you live in Georgia, in 2008 you spent $2.62 billion to import coal—$540 per person, while only spending $1 per person on efficiency measures that could reduce coal use! If you live in Massachusetts, one-quarter of your electricity comes from coal and most of that is purchased from far away Columbia! In fact, 38 states spend tens of billions of dollars annually to import coal. This choice sends money out of state or across the globe, rather than investing in home-grown energy and efficiency measures that would cut pollution and keep cash circulating in the local economy and creating local jobs. Did your state make the list?

The Union of Concerned Scientists is the leading science-based nonprofit working for a healthy environment and a safer world.

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DICK'S TRIP TO SWEPCO'S FLINT CREEK PLANT AT GENTRY, 2010.

I visited SWEPCO's coal generating plant at Gentry Monday. At the end of the paved road, across from the endless line of coal cars, I sat in my car to contemplate the huge pile of coal, the black plant behind them, and the smoke stack looming upward behind all, with Hansen's, McKibben's, and other scientists' criticism of coal in my mind. I'd like to see a large photo of the plant at OMNI. In every way we can imagine, we should shine the light on the disaster that is coal, keeping the focus on warming, as McKibben urges. especially because public understanding is declining! Thanks to the IPCC and the many scientist book authors, we know what the problems are, so it's our task to be engaged and persevere.
Here are 3 actions which we have not yet tried.

At an event, have one or more persons speak or read 5 to 10 minutes each comment followed by 5 to 10
minutes discussion break for an hour or more on various aspects of warming. 
Sponsor a Global Warming party for kids at Skatorium.
Insert warming into science education training at UA and teaching there and in the schools.
I'll add: Swepco's Flint Creek Plant Dismal Day (Day of Shame).
A major advantage of creating new angles and modes of persuasion is that news media define news as something new, and these provide them a breaking story.
But above all we must keep up the protest.

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Dick Bennett 
My blog:
War Department/Peace Department
http://jamesrichardbennett.blogspot.com/
Newsletters
http://www.omnicenter.org/newsletter-archive/

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