



TED NACE

ILLUSTRATIONS BY LINDA ZACKS

Stopping Coal in its Tracks

Loosely affiliated activists draw a hard line—and hold it



ON A CHILLY NIGHT IN FEBRUARY 2007, a criminal justice consultant named Nancy LaPlaca sat on a bare bench under the bright lights of the Denver County Jail. Four other women sat sullenly beside her, two arrested for public inebriation, a third brought in on suspicion of crack possession, the last for driving while intoxicated. In her day job, LaPlaca had seen many such rooms. But now she was on the wrong side of the bars.

LaPlaca had begun the evening at the Denver Marriott, relaxing in the hotel bar with friends after the close of a small conference that she and her group, Coloradoans for Clean Energy, had organized for activists from across the country who are opposing new coal-fired power plants. Next to her chair she had carefully placed her NO NEW COAL PLANTS sign so that it

with the nonprofit Appalachian Citizens Law Center, a law firm in Prestonsburg, Kentucky, that represents miners suffering from black lung disease; Mano Andrews, a Hopi/Dine native affiliated with the Western Shoshone Defense Project in Nevada and the Save the Peaks Coalition in Arizona; and Leslie Glustrom, a biochemist in Boulder, Colorado, opposing Xcel Energy's

No New Coal Plants appears to be a single-issue environmental group—but without the office, board, letterhead, or bank account. “Swarm” might be a better term.

faced the wall, after a request to do so from a hotel manager. A utility industry conference was taking place in the same building, and the manager was eager to avoid offending the executives and engineers in attendance. But as LaPlaca prepared to leave, she briefly turned her sign so it was visible to the bar.

“Suddenly,” she later recalled, “there was this 250-pound policeman in my face demanding to talk with me privately. I told him that whatever he had to say, he could say in front of my friends. And that’s when he grabbed me.”

AFTER HER NIGHT IN THE POKE on charges of trespassing and disturbing the peace, LaPlaca returned home and read the latest messages posted on the No New Coal Plants e-mail list, an Internet watering hole initiated in April 2006 by Philadelphia organizer Mike Ewall. Ewall founded the group Energy Justice in 1999 and has organized electronic mailing lists around other issues, including tire incinerators and nuclear power. Whatever the topic, the elements of each list are identical: messages from any member are forwarded to the entire group, responses may be directed either back to the group or to the original author, and archives of group messages are kept on the Energy Justice website.

Of course, to be useful to participants, a list has to achieve a critical mass, and for the first few months messages among No New Coal Plants participants were few and far between. But by midsummer 2006, Ewall had recruited several dozen members and the list had taken on a life of its own. Over the next year, it grew to include 140 people. A few, such as Matt Leonard of Rainforest Action Network in San Francisco, and Ted Glick of the U.S. Climate Emergency Council in Takoma Park, Maryland, are staff members with national environmental groups. Others, such as Drusha Mayhue in Bozeman, Montana, are volunteers with the Sierra Club or other membership-oriented groups. Most, however, are involved with small, locally based, mainly rural groups. Typical among these are Greg Howard, an attorney

Comanche 3 coal plant. Most members of the list live in areas that have already felt the effects of coal projects and are facing more development. Elisa Young, an activist in Meigs County, Ohio, can count four coal-fired power plants within ten miles of her home and faces five more that are planned. Mary Jo Stueve grew up in Minnesota across the South Dakota border from the Big Stone I power plant; she’s now a staff member with South Dakota Clean Water Action, fighting a proposed second unit of the plant.

For the list participants, No New Coal Plants serves as research assistant, clipping service, and water cooler. Postings announce conference calls, float ideas for group projects, celebrate victories. “This is hard work, with low pay and lots of frustrations along the way,” says Alan Muller, a member who serves as the one-man staff for Green Delaware. “I can’t stress enough the encouragement factor as a main value [of the list].”

At first glance, No New Coal Plants has every appearance of a single-issue environmental group, if “group” is the right word for an entity with no office, no board of directors, no letterhead, no bank account, no organizational structure. “Swarm” might be a better term.

As fighting forces, swarms both preceded and eventually vanquished the orthogonal ranks of legionnaires that forged the Roman Empire. In a swarm, the emphasis is not on discipline, experience, and orderliness but rather on fighting spirit and individual initiative. Swarms are known for their tactical flexibility, sometimes using guerrilla-style harassment, as did the farmers who routed the British at Lexington and Concord; other times prevailing with overwhelming numbers in the manner of the Arapaho, Lakota, and Northern Cheyenne fighters who overran the U.S. Seventh Cavalry at the Little Bighorn.

The contrast between No New Coal Plants and Big Coal is obvious, but the contrast between such low-profile, leaderless entities and the large national groups typically identified with the environmental movement is equally striking. The largest of these groups, sometimes known as Big Green, include the Natural Resources

Defense Council, Environmental Defense, and the National Wildlife Federation. Typically based in Washington DC or New York and sporting annual budgets in the tens of millions of dollars, these groups, not unlike the corporate and governmental entities they oppose, are hierarchical, highly organized, and reliant on trained and seasoned attorneys, scientific experts, and lobbyists. Yet the “Twigs,” as some small-scale activists have taken to calling themselves in a pointed distinction from Big Green, have lately taken more militant positions and have, in many cases, been more effective in stopping new coal-fired power plants.

IN THE SPRING of 2007, a split between these two currents in the U.S. environmental movement broke into view over the prospect of a vast expansion in the use of coal in the United States. With the encouragement of the Bush Administration and coal subsidies in the 2005 Energy Act (variously estimated at between \$4.8 billion and \$9 billion), the number of coal-fired power plants either newly built or in various stages of proposal or construction had leaped from 92 in 2004 to over 150 in May 2007. Many climatologists noted the expansion with alarm. Speaking before the National Press Club in Washington DC on February 26, 2007, James Hansen, head of NASA’s Goddard Institute for Space Sciences and one of the country’s most widely published and outspoken climate scientists, told the audience that the opportunity to avoid runaway global heating—wherein human-induced “forcings” would trigger enough amplifying feedback loops to ultimately produce “a different planet”—was rapidly fading. To address the problem, Hansen made five recommendations, the first of which was an immediate moratorium on the construction of any new coal-fired power plants until such plants are capable of capturing their carbon dioxide releases.

Coal plants are among the largest industrial facilities on the planet and collectively generate about 32 percent of America’s carbon dioxide emissions. A single 500 megawatt plant can burn its way through a 125-car trainload of coal in two days, releasing into the atmosphere nearly twice the weight of that trainload in carbon dioxide. To offset the global heating produced by that

much carbon dioxide, two million SUV drivers would have to switch to Priuses. Even that comparison understates the consequences of a new power plant, since a car lasts about a decade, while a typical coal plant will continue to spew climate-torquing gasses for sixty years or more. Faced with the new coal boom, four groups—the Natural Resources Defense Council, Environmental Defense, the National Wildlife Federation, and the Clean Air Task Force—prominently advocated an approach that centered around a technical fix with the ungainly acronym IGCC/CCS,

for Integrated Gasification Combined Cycle with Carbon Capture and Sequestration.

While coal gasification technology is not new (it helped power the German air force during World War II), its use for electrical generation is relatively recent. Four such plants are now operating in Europe and the United States, all built with government subsidies. Because it involves converting solid fuel into gas prior to combustion, IGCC technology is more readily suited than conventional coal plants for capturing waste products. As much as 88 percent of the coal’s carbon dioxide can be

captured in an IGCC plant, along with 99 percent or more of its sulfur oxides and particulates, and 95 percent of its mercury. Once the carbon dioxide has been removed from the exhaust stream, it can be liquefied under pressure and injected into deep underground formations. Over a dozen IGCC plants are under development in the United States. Currently leading the pack is EURORA Group’s Cash Creek, Kentucky, facility, which could go online as early as 2011. But notably, none of the demonstration plants in operation, nor any of the proposed IGCC plants, actually includes carbon capture and sequestration.

The most outspoken advocate for IGCC/CCS has been David Hawkins, director of the Climate Center at the Natural Resources Defense Council. According to Hawkins, IGCC/CCS would allow the United States to continue using coal without heating the planet, since plants using the technology could store the captured carbon dioxide in geological formations thousands of feet underground. Hawkins’s support for IGCC/CCS is based on the pragmatic calculation that coal enjoys too much political



support for it to be taken out of the climate equation. In April 2007, he told the Senate's Energy and Natural Resources Committee that "we will almost certainly continue using large amounts of coal in the U.S. and globally in the coming decades." For that reason, he concluded, "it is imperative that we act now to deploy CCD [carbon capture and disposal] systems."

Proponents of coal gasification typically call it "clean coal," though Hawkins and other environmentalists avoid that term. After all, using IGCC/CCS would not eliminate destructive strip-mining or mountaintop-removal practices. And critics have other objections: a big one involves how much we don't know about sequestering carbon dioxide underground. While such pumping has been done to facilitate oil extraction by repressurizing oil fields, it has never been attempted at anything close to the scale that would be required to render the coal industry climate-friendly. According to MIT's 2007 "Future of Coal" study, capturing and compressing just 60 percent of the carbon dioxide produced by U.S. coal-fired power plants would demand a new pipeline network big enough to move 20 million barrels of liquefied carbon dioxide each day from power plants to suitable sequestration sites (which depend on particular geology)—a volume equal to all the oil piped daily throughout the country. Sequestration sites would have to be honestly administered, closely monitored, and tightly sealed. Such demanding technical requirements led journalist Jeff Goodell to write that "the notion of coal as the solution

to America's energy problems is a technological fantasy on par with the dream of a manned mission to Mars."

But there's a more straightforward objection to IGCC/CCS: cost. The cost of building such plants is expected to be around 40 percent higher than conventional coal plants. And the cost of operating them would also be higher, since huge amounts of power are needed to separate and liquefy carbon dioxide, then pipe and pump it underground—in all, each plant would have to burn about 25 percent more coal to generate the same amount of electricity for market. Once those expenses are totaled up, this way of using coal may end up being more costly than solar thermal power plants or wind turbines backed up by natural gas generators that would make them as reliable as coal plants.

As it waits for IGCC/CCS to reach commercial readiness, Big Green has signaled a willingness to make deals with industry over new coal plants. The most widely reported compromise was reached in March 2007 between two large environmental groups and an investor group led by private equity firm KKR, which was in the process of buying Texas utility TXU Corp. In return for a promise by the new owners to cancel eight of eleven planned new coal plants in Texas, the Natural Resources Defense Council and Environmental Defense agreed to drop their opposition to the remaining three. Many grassroots environmentalists complained that the deal was nowhere near sufficient. Climate scientists were calling for a full halt on new

Can We Do Without Coal at All? Yes.

In November 2005, S. David Freeman gave a speech titled "Nuclear Power and the Global Warming Agenda" at a conference in Warrenton, Virginia, sponsored by the Nuclear Power Research Institute. In the speech, Freeman advocated abandoning both coal and nuclear power altogether in favor of a society-wide transition to renewable energy. Freeman is no wild-eyed idealist. Over the course of a five-decade career in the electricity business, he has variously served as California's energy czar and as head

of the Tennessee Valley Authority, the Sacramento Municipal Utility District, the Los Angeles Department of Water and Power, and the New York Power Authority. He also served as President Carter's energy advisor.

After the speech, Arjun Makhijani, an electrical engineer who had once worked for Freeman at TVA, confronted him at the podium. Makhijani dismissed his no-coal, no-nuclear proposal as tantamount to economic suicide: "You are proposing a course that is so costly that it would drive

every industry we have to China." Freeman challenged Makhijani to conduct a full technical review of the scenario, and Makhijani spent the next year doing exactly that. The resulting book-length analysis, *Carbon-Free and Nuclear-Free: A Roadmap for U.S. Energy Policy* (RDR Books, 2007), makes Freeman's case. "I surprised myself," said Makhijani. "I was sympathetic toward Freeman's vision, but until I looked into the numbers for myself, I didn't think the facts supported it. Now I do."

coal, not a slowdown, they said. If this was the environmental movement's batting average on a good day, it wasn't good enough. A correspondent to *Texas Monthly* wrote: "I feel like I'm in some colonial third world outpost watching helplessly as my fate is being decided by a bunch of rich white guys with Marks-a-Lots in a map room thousands of miles away."

Law in St. Paul, Minnesota. She went to work representing small towns and local groups in transmission-line permitting and other utility-related cases. As a girl, she had played "power engineering office" on a desk made from a red crate, imitating her father, a mechanical engineer who had designed power plants for Great River Energy and other utilities. Now that child-

"If you want to kill a power project, focus on economics," says Carol Overland, who has a talent for exposing the financial weak spots of proposed power plants.

But whether the TXU deal was shrewd or foolish, one thing it clearly lacked was anything that might inspire and build a mass movement against climate change. In contrast, the message of the Twigs is simple and compelling: no new coal plants.

CONTEMPTUOUS OF FIXES and half measures, those in the anti-coal swarm believe they can kill new coal plants even though they lack the resources of the larger groups. Typical among these activists is Carol Overland, an attorney based in Redwing, Minnesota. After working as a truck driver for over a decade, Overland sold her house in the early 1990s to finance a law degree from William Mitchell College of

hood game has turned into a career represented by floor-to-ceiling shelves constructed from two-by-fours and filled with power company feasibility studies.

Overland was one of the earliest participants on the No New Coal Plants list and remains one of the most prolific. She has a talent for exposing the financial weak spots of proposed power plants, and she has coached others on the list: "If you want to kill a power project, focus on economics."

Overland had for over a year been probing into a proposed coal plant, Mesaba, in northern Minnesota, that most environmental groups were unwilling to challenge because it featured the new IGCC technology. Located near Bovey and owned by

To reach the goal of eliminating carbon emissions by 2050 without resorting to nuclear energy, the Makhijani scenario relies on economy-wide efficiency improvements along with combinations of diverse renewable sources: solar thermal, solar photovoltaic, hydroelectric, wind, geothermal, and biomass. Improved integration of the electrical grid (including "smart grid" improvements that, for example, allow vehicular batteries to perform a system backup role) allows for intermittent sources of power,

such as wind and solar, to be efficiently exploited. The scenario does not rely on any IGCC/CCS technology.

While the technical points of Makhijani's scenario will be debated, the renewable technologies he relies upon are for the most part already in commercial use, and the available solar, wind, and biofuels capacities of the United States are indisputably large. The question, it seems, is more a matter of how rapidly renewable technologies can be scaled up than whether those technologies are feasi-

ble. Makhijani argues that societies can accomplish deep and rapid transformations in their energy systems. France, for example, cut its reliance on coal from 35 percent to 5 percent between 1961 and 1986. To a large extent, the pace of change is dictated less by technical or economic barriers than by political ones. And in overcoming the latter, a sense of possibility along with a clear goal—such as the carbon-free, nuclear-free objective proposed by Makhijani—are key elements of success. — *T.N.*

Excelsior Energy, Mesaba would generate 603 megawatts of electricity for the Minnesota utility Xcel Energy. To help Overland, other list participants supplied her with internal reports on coal prepared by Wall Street investment banks and with feasibility studies performed in other states. Eventually, Overland discovered that the costs of Mesaba had been quietly escalating. While the U.S. Department of Energy had originally placed the cost of the plant at \$1.18 billion, that number had reached \$2.2 billion, not including necessary transmission line upgrades or carbon capture, transportation, or storage.

The more information Overland received, the more she became convinced that an aggressive assault on the cost estimates for Mesaba might be the key to derailing the project. In order to build the plant, Excelsior Energy needed the state of Minnesota to approve a power purchase agreement (PPA) between Excelsior and Xcel. In a brief to the Public Utility Commission, Overland claimed that Mesaba should not receive the PPA because it did not qualify as a “least cost project” under Minnesota’s statutes; given the revised cost projections, Mesaba’s electricity wouldn’t be as cheap as expected. In April 2007, a panel of administrative law judges agreed, recommending to the Minnesota Public Utilities Commission that the PPA be denied on economic grounds.

Taking a clue from Overland’s strategy, other activists began exchanging the latest cost studies on IGCC. Even before the Minnesota PUC ruled on Mesaba, coal plants were under attack from the Twigs in Colorado, Florida, Delaware, Ohio, South Dakota, North Carolina, Texas, Arizona, and Iowa.

Matt Leonard of Rainforest Action Network, who focuses on exploiting the increasing nervousness that Wall Street banks display toward large coal projects, noticed a “ratcheting” phenomenon: “Whenever activists fighting a coal project in one place are able to get regulators or banks to commit to a certain set of restrictions or conditions, the campaigns against other projects make those conditions the new baseline that must be met or beat. Successes in blocking coal plants are piggybacking from one to the next.”

In the spring of 2007, Leonard began keeping a list of derailed coal projects, and the list grew rapidly. In May, Green Delaware’s Alan Muller, a former consultant to DuPont on incinerators, reported the nixing of NRG Energy’s proposed 630-megawatt Indian River coal-fired plant. Data from Minnesota that Muller’s organization provided to the Delaware Public Service Commission had helped convince regulators that a wind farm with natural gas turbine backup made more economic sense than an IGCC coal plant. “Carol’s numbers drove the nail in the NRG coffin,” said Muller.

Next to claim success was a Florida couple, Bob and Jan Krasowski. Bob, a contractor, and Jan, a schoolteacher, had taken advantage of a regulatory provision allowing ordinary citizens to intervene directly in Florida Public Service Commission hearings on power plants. In the permitting process for the proposed Glades coal-fired power plant, located on the northwest shore of Lake Okeechobee at the edge of the Florida Everglades, mainstream environmental groups—including the Florida Wildlife Federation, the Sierra

Club, and the Natural Resources Defense Council—had adopted a complex position. In a memo to the PSC, lawyers for mainstream local and national groups wrote that “[although] there is no need for . . . any type of coal plant by FPL [Florida Power and Light], an IGCC plant in Florida can provide electricity at a lower cost than the proposed . . . coal plant.”

To the Krasowskis, the “no . . . but” position taken by Big Green was a mixed message that mistook the rapidly changing attitudes of Floridians—threatened both by hurricanes and rising sea levels—toward global warming. Convinced that regulators would be receptive to unequivocal assertions by anti-coal forces, the Krasowskis simply demanded that Glades be cancelled and replaced with conservation programs like those already implemented in other states. In the end, it was the Krasowskis’ grassroots perspective that prevailed with the Florida PSC in a 4–0 vote that caught most observers off guard.

“We weren’t surprised,” said Bob Krasowski. “We knew that



the commissioners are politically attuned; they have their ear to the ground. And we knew how Florida was leaning. Being in the schools, Jan hears what kids are saying, and that's a pretty good indicator of where their parents are at. As for myself, I constantly hear people in the construction trades talking about how global warming is going to raise insurance rates."

TO SOME ACTIVISTS, the spat over IGCC/CCS is an example of the healthy give-and-take found in any large movement. John Thompson, director of the Coal Transition Program for the Clean Air Task Force, one of the leading advocates of IGCC/CCS, said diplomatically, "In the environmental movement, there's never unanimity about how to address every problem. Differences of opinion are helpful, especially since we're all in agreement over the fact that drastic reductions in carbon emissions will be necessary by midcentury."

When questioned more closely, however, Thompson's position hardens: "Look, we need to move forward and get the infrastructure for carbon capture and sequestration in place now. And we can't look at this from a U.S. perspective only. The largest coal company in the world isn't Peabody Coal any longer; by the end of next year [China's] Shenhua will probably be the world's largest coal producer. We have to get CCS working in this country so that we have a technology that we can provide to China and India. If environmentalists at the grassroots simply want to fight and stop every single coal plant, then IGCC technology will never develop to a workable level. We'll then have locked ourselves into the melting of ice sheets and widespread extinctions."

To Alan Muller, however, the central fact is that the country has woken up to climate change and Big Green has failed to recognize the opportunity. "The environmental fat cats were caught with their pants down," he said. "Now they're still arguing incremental change—some better way to use coal. They should be talking about much more fundamental change."

Can the environmental movement muster the necessary clout to overcome the combined forces of Big Oil and Big Coal? To Big Green advocates like Hawkins and Thompson, it's a fantasy to think that America won't continue using coal and oil. To grassroots activists like LaPlaca, Oberland, and Muller, the fantasy lies in the opposite assumption: believing that the world can survive without a radical shift away from fossil fuels. "Big Green has the resources," said Muller, "but the grassroots is where it's happening in terms of leadership, in terms of work, and in terms of results. To anybody who's following this, I'd say don't bet too much money on coal right now." ✎

To learn more about the anti-coal movement in the United States, visit www.orionmagazine.org.

Northern Lights

Night, Ontario,
the boy lay on his back
in the field of freshly cut hay.
Light
lifted his body.
Swung it sideways.
Pulled it nearly to the farthest stars.
Then rolled a wheel
so wide, so thick
he felt his chest
could break.

Years passed.
Six decades, seven,
what luck allowed, a body
whole but patched.

Tonight
by this hearth fire
he begins to whittle
an object:
a small windmill
the interstellar winds
might turn.

—William Gilson