SLATE
BLUSHING MODERATORS

SCHOOL

How the Oil and Gas Industry Has Broken Climate Education

This has been going on for decades, with no sign of stopping.

BY KATIE WORTH

NOV 16, 2021 • 5:00 PM

MChe Lee on Unsplash

One early spring day I was sitting in the science department of an Arkansas middle school when a representative of the state's oil and gas industry walked in. She was there to talk to the seventh graders.

Her name was Paige Miller, a petite blond with a short shag cut and big silver jewelry. She told me she ran Arkansas Energy Rocks!, an initiative of the Arkansas Independent

Producers and Royalty Owners, which describes itself as "the voice of Arkansas's oil and natural gas community." Twenty attentive tween faces watched as she cued up a PowerPoint presentation.

Arkansas, she told the students, had the good fortune of being an energy state. She described the layer cake of earth and minerals under the students' feet and pointed to diagrams showing which of those layers are soaked in fuel. She showed them pictures of the technology that sucks that fuel out. Twenty-five of the state's 75 counties produce either oil or gas, and some 33,000 people are employed in that production. Arkansas is a landlocked state, but some Arkansans even work on offshore oil rigs, she said. They fly to the rigs on helicopters, work for two weeks, then get two weeks off.

"Does that seem like a good schedule? Half time?" she asked the students.

"Mm-hmm!" the kids chorused.

"So how much do they pay you?" asked one student.

"The average starting salary on an offshore drilling rig is $100,000 a year," Miller said.

"Wow!" whispered another student.

"Fossil fuels have been very important to mankind," she said, and launched into a list of ways that that is true. She showed the students a pie chart of the nation's energy sources. Fossil fuels made up the majority of the pie. Each renewable energy source constituted a slim slice. But using fossil fuels comes at a cost, she told the students. "The problem with fossil fuels is carbon emissions," she said, without elaborating on the nature of that problem. "But somebody's going to have a problem with all of these energy sources," she said. "Geothermal power works well but it's expensive. Wind power a lot of people don't like because they say it kills birds. A lot of people don't like hydropower because they say we shouldn't be damming up bodies of water. With solar, if there's a tornado, what happens to the solar fuel?"

"It goes away," the students said.

"You're going to find a problem with any one of these sources."

As for the carbon problem, there's not much the U.S. can do about it, she said. "If the United States shut down all fossil fuel usage tomorrow—all of it—the difference it would make in terms of global warming is 0.01 percent," she said, inaccurately. She did not define global warming, but then presented a dark scenario of what might happen if we address it. "There are actually 1.2 billion people on the continent of Africa and the country of India who live every day without electricity. Now think about that—what your life would be like without

electricity. You don't have a refrigerator in your house full of good food being cooled properly. If you have a bad accident, you may not be able to get to a hospital that has electricity in time to save your life. Access to energy is literally the difference between a First World country like the United States and a Third World country like India. The problem is they didn't build out their infrastructure like we have."

So, when you consider energy, you have some real thinking to do, she told the students. "First of all, you need to decide your standard of value. You need to decide: Is human life the most important? Humans getting healthier, wealthier, happier, living longer? Or is pristine nature more important? Do we want to quit building new houses? Stop getting stuff out of the ground? Do we want to leave it exactly as it is? Because that would be difficult. Thankfully, we don't have to choose in this country. We're working on a happy medium at this point."

The students didn't ask any questions, and she moved on. "While there are challenges with fossil fuels and we have to solve those problems, they have provided us with the ability to make lives better all over the world," she said. As she concluded, she gave out pencils printed with "arkansasenergyrocks.com," and encouraged everyone to visit the website.

> Screenshot via Arkansas Energy Rocks!

The phenomenon of fossil fuel companies plying schoolchildren with their messages is decades old. The American Petroleum Institute was making the case for marketing to

children as early as the 1940s, according to archives reviewed by the Center for Public Integrity. A survey of 10,000 Americans had indicated the industry's reputation could use some rehabilitation, and a "well-directed program of public education" could help. To that end, API teamed up with DuPont and by 1954 had trained 600 oil industry workers to give a show-and-tell program called "The Magic Barrel" to schoolchildren. In 1972, General Motors published a booklet to counteract what its pollsters said were children's "negative" attitudes toward auto companies. The booklet featured cartoon characters "Charlie Carbon Monoxide" and "Harry Hydrocarbon" (a "harmless demon") who helped dispel fears that air pollution could lead to serious health hazards. By the next June, the company had distributed 2.1 million copies of the booklet, including to 62,000 elementary-school principals.

In the midst of the 1970s oil crisis, Exxon's public affairs department partnered with Walt Disney Educational Media Co. on comic books about energy conservation. In one, *Mickey Mouse and Goofy Explore Energy*, the pair get in trouble when their car runs out of gas on a fishing trip. On their walk to the service station, they learn about supply and demand from a smiling nuclear symbol called "Enny, the spirit of energy!" Another comic book was included as an insert in a 1978 issue of the National Education Association's journal, which reached 1 million teachers.

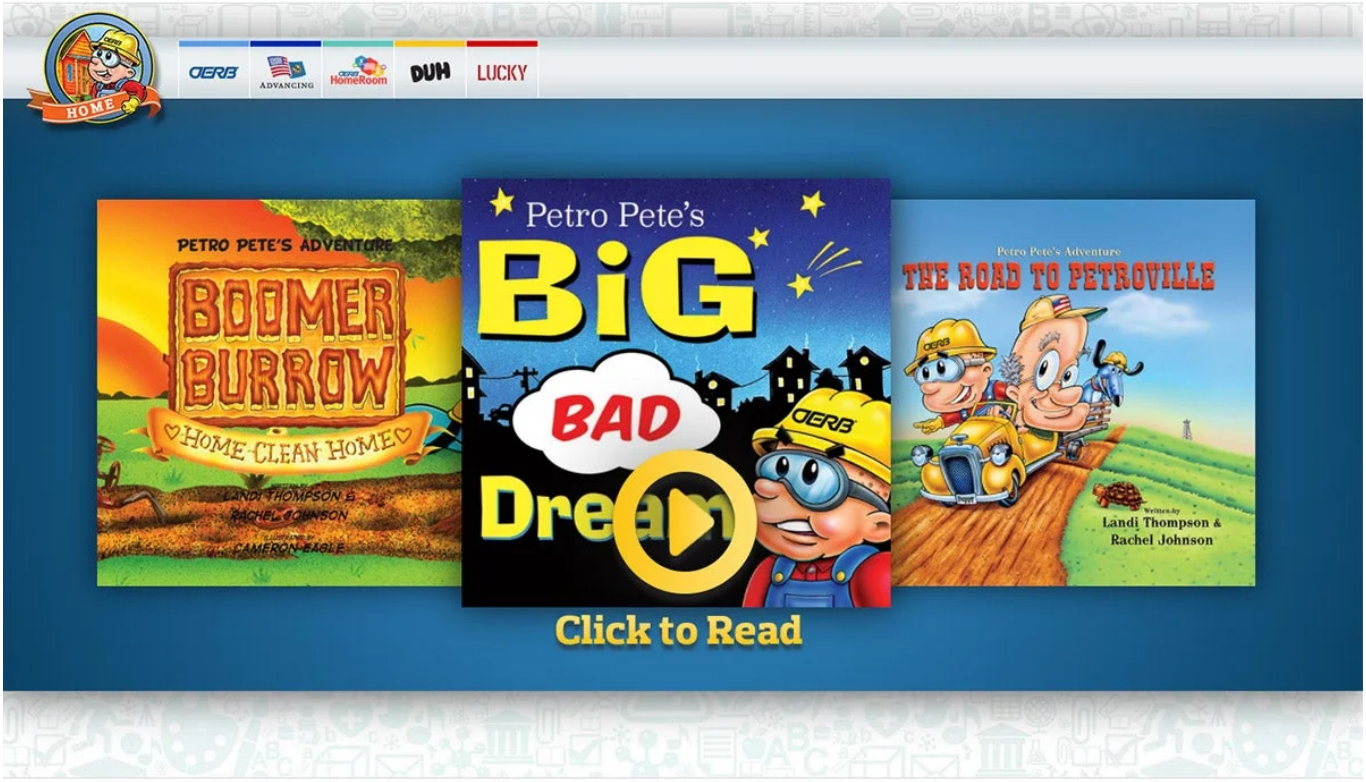
Much more strident commentary on the crisis came from the petroleum company Amoco (later merged with BP). It produced a 26-minute film titled *The Kingdom of Mocha*, ostensibly to introduce students to economic concepts. In it, the primitive "Mochans," led by a chief called "Big Daddy," become dependent on an energy source—wood. When a war cuts off trade, Big Daddy responds by threatening to impose price controls or even to take over the wood industry, which viewers learn could prove calamitous. The parable—in addition to being flagrantly racist—executed a trenchant attack on 1970s-era U.S. energy policy. Amoco claimed that more than 20 million schoolchildren watched it.

Today, fossil fuel–funded educational programs aimed at children are abundant. A nonexhaustive search found such programs in Alaska, Arizona, California, Colorado, Florida, Illinois, Kansas, Kentucky, Michigan, Montana, Nevada, New Mexico, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Utah, Virginia, West Virginia, Wisconsin, and, of course, Arkansas. Not all have Paige Millers traveling classroom to classroom. More common are free curricula, sponsored activities, and scholarships. Some promote safety: The Missouri-based utility Evergy, for instance, created an online game to teach students to recognize electrical dangers.

Industry education programs in Kansas, Ohio, Illinois, and Oklahoma are actually supported and sanctioned by those states' governments. The most sophisticated is the Oklahoma Energy Resources Board, a "privatized state agency" voluntarily funded by oil and gas companies. The OERB has produced a series of videos by "Professor Leo," a goofy Bill Nye

knockoff who educates students about the state's oil and gas resources. Teachers can ask for "Petro Pros" to come speak to their classes, or tap into a library of glossy lesson plans ready-made for any age or subject.

For the K–2 crowd, the agency sends copies of children's books featuring characters like "Freddie Fuelless," "Oliver Oilpatch," and "Petro Pete" to elementary schools across the state. In one, *Petro Pete's Big Bad Dream*, the titular character drifts off to sleep wondering what the world might be like without petroleum products. He awakes to find his school clothes, toothbrush, and bike tires missing. He blames his dog and heads to school in his pajamas. At lunch, ice cream spills out of the soft-serve machine as liquid and there's not a soccer ball to be found. Finally, his teacher figures out what has happened: "It sounds like you are missing all of your petroleum by-products today!" she says. "Having no petroleum is like a nightmare!" Petro Pete declares, before waking up and realizing it was all just a dream.



Screenshot via OERB

The OERB has spent roughly $50 million on K–12 education since 1996 and reached an estimated 3.3 million students. Ninety-eight percent of Oklahoma school districts use OERB materials. One obvious driver of this popularity is the agency's largesse: Teachers who spend a half-day in an OERB training seminar are rewarded with at least $300 worth of classroom lab equipment. In a state where funding for education has run so low that some districts cut their school week to four days, 17,000 teachers—more than a third of Oklahoma's teaching force—have participated in the training.

Some funding for energy education comes from the U.S. Department of Energy. Its grants often go to conservation programs, like Montana's "SMART Schools" competition, which rewards schools that conserve energy. But taxpayer money has also been used to promote industry interests. In one such instance, elucidated by an Austin American-Statesman investigation, a federal grant seeded a program called the Energy Education Project. The project was the brainchild of Texas state Rep. Jason Isaac, who had spotted a question in his child's schoolwork that asked, "Which of the following fossil fuels causes global warming: oil, gas, coal, or all of the above?" Isaac, who sits on the board of the Texas Natural Gas Foundation and whose campaigns received $43,501 in donations from the oil and gas industry between 2013 and 2017, said the question made his blood boil. "It should have been none of the above, in my opinion," he told the Statesman. "It's such a biased question. It's making their minds up for them. It's very negative. You're striking fear in children that oil and gas and coal are bad."

In years past, some energy education efforts blatantly rejected climate science. In 2002, the American Petroleum Institute launched the domain www.classroom-energy.org. That site is now defunct, but much of it is still available on Internet Archive's Wayback Machine. In addition to industry promotions—lesson plans like "Discover the Wonders of Natural Gas" and "There's a Lot of Life in a Barrel of Oil"—the site devoted a page to climate: "It is estimated that all human activity, including all combustion—for transportation, building heat, power generation, industrial manufacturing—generates less than five percent of total atmospheric carbon dioxide," it states incorrectly. (When the site was launched, humans were responsible for about 19 percent of the carbon dioxide in the atmosphere; twenty years later, we lay claim to about 28 percent of it.)

The Rocky Mountain Coal Mining Institute, whose tagline is "Promoting Western Coal Through Education," had a "Global Warming Quiz" on its website as recently as 2020 that began with the disclaimer: "Caution: This section contains sound science, not media hype, and may therefore contain material not suitable for young people trying to get a good grade in political correctness."

In more recent materials, when climate change is discussed, it tends to be ignored or mentioned in passing. For instance, the U.S. Department of Energy's site for teachers, "Energy Literacy: Essential Principles for Energy Education," mentions the subject to say that issues like climate change "highlight the need for energy education." But after using the issue to contextualize its own relevance, the curriculum does not define or discuss it. The Rocky Mountain Coal Mining Institute's educational materials talk about clean coal but have nary a mention of climate change. Likewise, Anchorage, Alaska's Campbell Creek Science Center's site features dozens of educational resources, but I couldn't find any discussing climate change. Anchorage's average winters are 8 degrees Fahrenheit warmer than they were 70 years ago.

The biggest player in the energy education scene these days is the National Energy Education Development Project, a $4.7 million nonprofit established in 1980 whose mission is to "promote an energy-conscious and educated society." Its sponsors and affiliates include energy interests of every stripe, from the American Wind Energy Association to Shell. A portion of the group's funding comes in the form of state and federal grants.

The organization hosts teacher trainings, runs student workshops, and maintains a large catalog of classroom materials. NEED spokesperson Emily Hawbaker told me that "renewables and energy conservation makes up the majority of what we do."

I reviewed dozens of educational materials on NEED's site to see how they handle the crisis that scientists and economists expect to transform the world's energy future, but found sparing discussion of it. A set of "Energy at a Glance" fact sheets fails to mention climate change once, as do the 39 science fair project ideas NEED offers. In a page called "Helpful Energy Sites," the group links to many of its affiliates—including the American Petroleum Institute—but provides no links to information about climate change.

NEED's main curricular offering is a collection of "Energy Infobooks": hundreds of pages of materials and activities introducing learners to energy. Among them are a two-page booklet on climate change for middle school kids and another two-pager for high school kids. None of NEED's 14 pages of lessons on petroleum discuss the fuel's influence on the climate, or even mention carbon dioxide. Among the materials on fossil fuels, climate change only substantively appears in a booklet on coal, which provides a reasonable explanation of the greenhouse effect and notes that burning coal adds carbon dioxide to the atmosphere. But from there, its language can only be described as industry-friendly. In a section on "cleaner coal" (a concept long promoted by the industry in an effort akin to the merchandising of "safer cigarettes"), it talks up the promise of carbon capture, a much-studied technology that has never met success in practice. The nation's sole carbon capture coal plant was mothballed in 2021.

In the past, NEED's discussion of climate change was far worse. A lesson for primary and elementary students called "Energy Stories and More," published in 2014 and available on the site until 2017, said that "some scientists think it's too soon to tell if the Earth is really warming. They think a little warming might be a good thing for the Earth. What do you think?"

I asked NEED's executive director, Mary Spruill, why such language would exist in modern curricula for children. She said they've had to handle the subject delicately out of respect to educators worried about teaching the "controversial" subject. "Many of our teachers will say, 'You know what, I might get pushback if I try to teach that.' So we do our best to make sure everything is in a format that teachers are going to be able to teach in the classroom with little pushback from anywhere and really make it work for the students." In fact, she

said, NEED had just developed a grant-funded curriculum with partners in Rhode Island about heat islands and health impacts of climate change. “And even in that project, we were told that some districts are still saying ‘nope’ to teaching curriculum like this. Others are saying, ‘Yes, give it to me, let’s do it.’ So I think that’s why you’ll often find qualifiers.” I pointed out that scientists would push back on the idea that one should water down science education to accommodate the politics of some adults. “I think it’s a fair point you’re making,” she said, and added she would ask her staff to review the materials’ language.

I asked Spruill her thoughts about partnering with the fossil fuel industry on events like the “Phillips 66 Virtual Energy Education Workshop,” a professional development seminar that pays teachers a stipend (or reimburses their schools for a substitute teacher) and sends participants home with a $300 kit called “The Science of Energy.” She prickled. Many industries get involved in education, she said. She brushed off the characterization that NEED’s goal is to promote industry messages. “We don’t sit in meetings and create marketing materials,” she said. “We’re a nonprofit. When we’re able to find a sponsor willing to sponsor something, we are grateful. We could not get teachers into workshops if we didn’t have someone willing to

sponsor them.”

When I contacted NEED several months later to fact-check this material, they again pushed back on the characterization that the organization is a mouthpiece for its sponsors or that it downplays global warming. To the contrary, wrote spokesperson Hawbaker, the team is “very passionate about putting out quality resources that engage students in becoming responsible energy consumers, and yes, taking action to tackle climate change. … It’s probably very easy for you to assume we have a bias and engage in irresponsible efforts, simply because of a sponsor you noted on our sponsors list. However, this is simply an incorrect assumption. … Partners do not come to us for puff pieces, PR stunts, or marketing messages, because we will only present the science.” Furthermore, she wrote, “it may be true that some partners we work with have played a part in creating the problems we wish to change as a society, but if we don’t allow them to participate in making positive change, are we doing all we can to help?”

I heard Mary Spruill’s reasoning again and again: Our underfunded schools need all the help they can get; public-private partnerships infuse money into education; the fossil fuel industry is not alone in making educational materials for schoolchildren. All those statements are true and have been for a long time. As documented in the 1979 book *Hucksters in the Classroom*, at the same time elementary school principals were opening their mailboxes to find Charlie Carbon Monoxide, home economics teachers were opening theirs to the recipe book *Cooking With Dr. Pepper* and the film *Mr. Peanut’s Guide to Nutrition.* More than 40 years later, attend any teaching convention and you’ll find yourself wandering massive halls filled with booths. From many of them, private companies

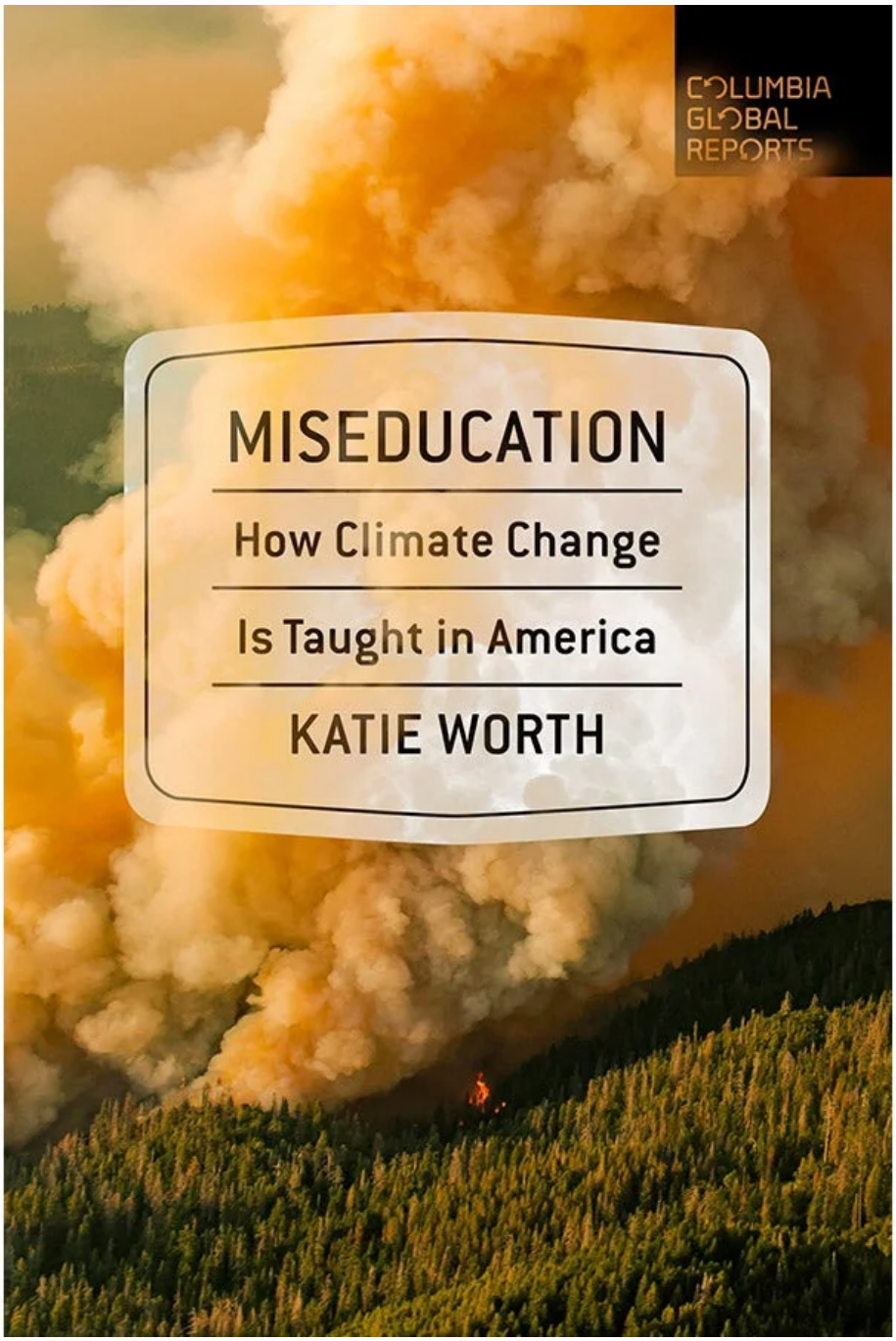
distribute free educational materials. Proponents of such programs say educating students about industry not only helps out resource-hungry educators, it can make students aware of potential careers.

The trouble is that public-private partnerships don't always result in quality education. An organization of educators called the Climate Literacy and Energy Awareness Network, co-founded by the National Oceanic and Atmospheric Administration's Frank Niepold and largely funded by grants from that agency, surveyed some 30,000 lesson plans and resources about climate change available for free online. It found only 700 acceptable for use in schools. The rest were outdated or scientifically unsound. Teachers can be excused for not always discerning the good from the bad, said researcher Eric Plutzer. "You can imagine that a teacher who is overworked and asked to solve all of society's problems will be open to curricula that other people write—especially one with a nice lesson plan with visuals and suggestions for student exercises." The industry education programs can thus exploit the trusted relationship between a learner and their teacher in order to implant their messages into the minds of children.

In the class Paige Miller spoke to, the teacher was deferential to the guest and expressed no critique or counterpoints to what she was saying. Not surprisingly, the students didn't either. To be sure, Miller's presentation included accurate information about the science of fossil fuel extraction, but it ignored the science of that extraction's impact on the world. It downplayed the outsize contribution Americans make to atmospheric carbon levels. It talked about the birds killed by windmills without mentioning that as many as two-thirds of American bird species may be extinguished by climate change this century. It talked about the high salaries of offshore drillers but not of the average Tesla employee. It tendered a condescending, colonizing view of the "Third World," then inaccurately presented fossil fuels as the solution to its problems (there are many reasons why some impoverished regions lack electricity, but none of those reasons involve the adoption of renewable energy). When Miller asked the children to choose between human well-being and "pristine nature," the students would be forgiven for equating fossil fuels with human well-being, when in fact unmitigated fossil fuel use will not only shatter whatever is still pristine in nature but will also exact a bitter toll on the well-being of humans.

What's more, this presentation took place in Helen Tyson Middle School in Springdale, Arkansas, home to the largest enclave of Marshallese people on the continent. As the class wrapped up, I asked the teacher to point out the Marshallese children in her class. She pointed out five, a quarter of the students present.

Adapted from *Miseducation: How Climate Change Is Taught in America* by Katie Worth, with permission from Columbia Global Reports.



Miseducation: How Climate Change Is Taught in America

By Katie Worth. Columbia Global Reports.

$15.99 from Amazon

SLATEGROUP

Slate is published by The Slate Group, a Graham Holdings Company.