**Fighting Fire with Fire I: Using Film to Counter Film Propaganda**

 **Abstract:** In this article, I explore how efficacious film can be in countering propaganda in film. To set up the discussion, I first sketch out a simple theory of propaganda, under which propaganda can be ranked from completely rational to very irrational, on six different dimensions. These are the degrees to which the propaganda is: evidence-based; truthful; broadly logical; transparent; properly targeted; and transparent.

 I then review in detail the main propaganda film, *Gasland*. This film was a highly successful documentary that attacked the production of natural gas by hydrofracturing, called in America “fracking.” *Gasland* succeeded in organizing domestic opposition to fracking, actually blocking it in the Delaware River Basin system. The film was also influential abroad, leading to fracking bans in France, Bulgaria, and elsewhere in Europe.

 Next, I review in detail two counter-propaganda films—that is, in this case, two pro-fracking documentaries: *Truthland* and *FrackNation*. *Truthland* is a short documentary that aims at rebutting many of *Gasland’s* major claims. It was funded by the fracking industry, and had limited distribution but it succeeded in refuting much of the longer and better-funded anti-fracking film.

 A much more successful film in terms of both general distribution and efficacy of rebuttal was the much longer pro-fracking documentary *FrackNation*. It critiques all of *Gasland’s* major points, in vivid detail. Since it was crowdfunded, it couldn’t be dismissed on the grounds that that it was biased because of being industry-backed.

 I conclude by explaining why the pro-fracking documentaries did not result in a major change in public opinion.

**Introduction: A Brief Theory of Propaganda**

In this essay, I want to briefly outline a simple theory of propaganda which lays out six criteria for assessing the rationality of propaganda. I will then examine three propaganda documentaries to illustrate how propaganda films can be effectively rebutted by counter-propaganda films. My texts for this essay are: *Gasland[[1]](#footnote-1)* (2010); *Truthland[[2]](#footnote-2)* (2012); and *FrackNation[[3]](#footnote-3)* (2013).

Let’s start with a brief exposition of a fairly simple theory of propaganda. Language has all manner of uses—to inform, to move, to entertain, and so on. But we often use language to persuade others to do something we want them to do or support a party or ideology we want them to support. Rhetoric is speech[[4]](#footnote-4) aimed at persuading others. Two major forms or branches of rhetoric are marketing and propaganda. Marketing is rhetoric aimed at getting people to buy a product, i.e., particular goods or services. Propaganda is rhetoric that is aimed at getting people to support a leader, political party, or ideology.

Now, the term “propaganda” is typically used today as something inherently irrational, manipulative, or deceitful. Considering the history of the 20th century and the sort of propaganda generated by the Nazi and Communist Regimes’ ministries of propaganda, it is understandable why the term is used pejoratively. But I think we ought to hold to the original meaning of the term, by which it not an oxymoron to speak of “rational propaganda.” If we are to keep to that original meaning, however, we must outline the criteria by which we distinguished rational propaganda from deceitful or irrational propaganda. (These rules apply equally to the evaluation of marketing.) I will only sketch out these criteria briefly, since I discuss them at length elsewhere.[[5]](#footnote-5)

Under this theory, there are six criteria for judging whether propaganda is reasonable or deceitful. Note that each of these is on a varying scale, as opposed to an “all or none” binary choice. First, the message should be **evidence-based**. This means that messages that involve simple repetition, or using question-begging epithets, or loaded questions, are for that reason irrational or deceptive. Second, the message should be **truthful**. Thus, the degree to which a message contains false or partially false claims is the degree to which it is deceitful. Third, the message should be **broadly logical**. That is, the evidence offered should, if true, support the claim advanced. So, to the degree that a message contains fallacious reasoning, to that degree is it irrational. Fourth, the message should **not** be **coercive**. So, for example, if demonstrators supporting a candidate openly carry guns, to that degree they are irrational. Fifth, the message should be **transparent**, meaning that the target audience should know that they are being subjected to an attempt to persuade them of something. So, burying anti-Semitic messages in what is presented as a musical comedy would be deceptive by this criterion. Sixth, the message should be **properly targeted**, that is, aimed at mentally competent adults. Putting a campaign poster in an Alzheimer’s assisted-care facility would be deceptive by this criterion.

So, under this theory of propaganda, propaganda can range from fully rational to quite deceptive, and anywhere in-between, on (at least[[6]](#footnote-6)) six different scales. This tool allows us more accurately assess propaganda.

Now, three other points need to be made. First, all media can be used to propagandize. Newspapers, magazines, radio, TV, plays, novels, cinema, and so on can all be used to convey propaganda.

Second, just as in war there is attack and counter-attack, so there is propaganda and counter-propaganda. Propaganda is messaging aimed at getting a target group to support a person, party, cause, or ideology. Counter-propaganda is aimed at refuting some pre-existing propaganda. To critique or refute a piece of propaganda is to attack it as being deceptive on one or more of the six criteria.

Third, focusing specifically on film, while any genre of film (musicals, film-noir, crime dramas, romances, and so on) can be—and often are—used to propagandize, documentaries are especially suited for propaganda. A documentary purports to inform the audience of truth of some matter (historical, scientific, biographical and so on). There is the presumption of truth in the audience about what they are watching. And while many documentaries are reasonable about their subjects, many are deceptive to at least some degree.

***Gasland:* Anti-Fracking Propaganda**

Let us now look at the three documentaries. All are recent American films. All are about “fracking.” i.e., hydraulic fracturing, a technique for extracting petroleum and natural gas from shale rock. The US first invented and subsequently has embraced this technology, and it has enabled the US to very rapidly move to the top as world producer of those commodities which are so central to modern industrial economies. However, many people have come to believe that this technology is harmful. These three documentaries explore this issue at length.

*Gasland*, produced in 2011 and widely viewed shortly thereafter on HBO, is highly critical of fracking. It was written and directed by Josh Fox, who also narrator the movie. The film opens with Fox wearing a gas mask, and holding a banjo, as we cut to a hearing of energy company executives telling Congress that fracking presents no major environmental problems, and doesn’t contaminate drinking water, reports to the contrary notwithstanding.

Fox shows us a small house in a small town in Pennsylvania in which he was raised. The stream behind the house flows into the Delaware River. He then shows Pete Seeger singing “This Land Belongs to You and Me.” He tells us that in 2009 he received a letter from an energy company saying that his land was above a huge formation of shale, the Marcellus Shale formation, and offering to lease his land to sink fracking wells on it. The money just for signing would have been about $100,000. He decided he wanted to learn more about fracking. He learns (he tells us) that the 2005 energy bill pushed through Congress by Dick Cheney (the villain of this film) exempted the fracking industry from of dozens of environmental laws, including the key acts from the 1970s. Fracking operations expanded rapidly, since much of America’s land has shale deposits beneath it.

Fox then explains what fracking involves—drilling vertically down, and then horizontally out, then breaking open rock with a mixture of water, sand and chemicals. This “fracking fluid” contains over 596 chemicals such as—and here we see intertitles with chemical names such as 2-(Thiocyanomethylthio)-bensothiezole, and Ethylbenzene—a “known carcinogen.” And drilling a well takes between one to seven million gallons of water. And they can frack the same well up to 18 times.

Fox notes that fracking started with the Western states, then spread into the South. There are 450,000 wells, requiring up to 40 trillion gallons of water, infused with fracking liquid. Now the companies want to spread the practice to the East—Pennsylvania, New York and so on.

We follow Fox as he drives to his Pennsylvania family home, where he tries to get an interview with corporate leaders at Halliburton and other oil companies. However, none of the oil executives will talk to him. This conveys to the viewers that the corporate leaders are simply too cowardly or unable to defend their fracking practices. Fox then drives to the nearest town with significant fracking operations, Dimock, Pennsylvania. Cabot Oil Company was doing the drilling. One resident, Pat Fornelli, reported that the water from her well had turned bad. She indicates on a hand-drawn map a number of neighbors whose well-water had also turned bad. Fox interviews Ron and Jean Carter, who say they allowed a well to be drilled in their yard, and that led to their well-water becoming infused with natural gas—we see a report purporting to show the levels—and that gas had never been there before. Fox visits Norma Fiorentino’s house, whose water well had exploded on New Year’s Day. Debbie May, another neighbor, reported that her water had turned bad, and that her pets’ fur started falling out. When she pointed this out to Cabot Oil Company attorneys, they told her that she was using too much Lysol cleaner. Debbie worried what would happen to her children in the future.

Fox says that these cases showed him that fracking causes great harm. We cut to him driving to visit a family that has refused to speak to the press. They won’t allow Fox to film their faces—why, he does not say—so he videos their feet. They report that their water well would burn when turned on because of the venting of natural gas, but don’t want to demonstrate it because they are worried it will burn down the house. Fox got a call from another house, with a woman telling him she was scared about what the oil companies could do to her. At that house, a man hands him a jar of water to test. Fox guesses that it is water that comes up out of the wells laced with fracking chemicals (though where that jar originally came from is not disclosed).

Fox ruminates about the sick animals and the contaminated ground water he has seen, and about the fact that the people in Dimock are too scared to raise these concerns publicly. He decides to not lease his lands, and become a “natural gas drilling detective.”

We cut to Weld County, Colorado. Fox visits Mike Markham and Marsha Mendenhall, who show him a jar of water full of water with thick sediment in it that they claim came from their tap. They were told by an unnamed company that tested their water that no contaminants were in it, and it was not affected by nearby fracking operators. However, they now only buy their water in town. Fox looks at the letter they got from an environmental testing company that says the water is safe. We see Fox confront an official with the company, who refuses to be interviewed on camera. Back with Markham and Mendenhall, Markham shows Fox that the tap water has natural gas mixed in it by lighting it as it comes out of the tap.

Fox next visits a number of other homes where the faucets similarly release natural gas which can be lit.

Fox introduces Weston Wilson, a “whistleblower” working at the EPA. He was working with the EPA when a group of experts issued a report about fracking in Colorado which said that while some of the substances used to frack the shale were toxic, there wasn’t enough evidence to investigate whether they were contaminating the water supply. Wilson wrote a letter to Congress alleging that five of the seven experts on the panel had “conflicts of interest”—which the documentary never specifies, however. Nor does it tell us his field of expertise.

We see a picture of Vice-President Dick Cheney, who from 1995 to 2000 (the year he became Vice-President) was president of Halliburton. He headed the Energy Task Force, which lobbied for energy production, meeting with energy company leaders many times, but with environmentalist groups only once. The result was the passage of the Energy Policy Act of 2005, with what Fox calls the “Halliburton loophole” to the Clean Water Act, allows the injection of hazardous materials around and into underground water supplies. Weston Wilson reappears to tell us, “All science, all data, at this point stopped.” Wilson avers that the burden of proof should be on the industry that what they say they are doing is safe, not on government to show how it is unsafe. The EPA should be investigating these citizen complaints of contaminated water, he says, but it doesn’t, even though at the time this film was made, Barack Obama—a deeply progressive Democrat—was the President. The film never explains this anomaly.

The film mentions one of the chemicals found in fracking fluid, glycol esters, antifreeze used for the life of the well. It causes ailments (listed on-screen), such as testicular cancer, birth defects, and reduction of bone marrow. We see a holding tank of fluid, labeled as extremely toxic. We visit Jeff and Rhonda Walker (in Wyoming) who report that their water turned black after an oil company refreshed a well in their backyard. They sued the drilling company, which settled out of court, paying the Walkers $21,000 to install a reverse-osmosis water filtration system for their water supply. But after they drank the filtered water for some time, Rhonda quit drinking the water after she developed “extreme neuropathy,” the cause of which their doctor could not diagnose. Fox says that glycol esters cannot be removed by reverse osmosis filtration. The Walkers now buy their water from Wal-Mart.

Neighbor Louis Meeks reports that his water “went bad” after a fracking well was drilled on his land by the energy company Encana. He was forced to drill another water-well, but when that well was dug, there was a massive venting of natural gas. Meeks tells us that a judge then ordered Encana to put cement casing around its natural gas well. And Encana brings Weeks fresh water every week.

John and Cathy Fenton have numerous natural gas wells on their property. Their water wells have become polluted, and their cattle are forced to drink that polluted water, they allege. John complains that the fracking operations kill off the grass, spread chemicals, chew up the topsoil, and put pipes all over the place. The fracking workers seem to care little for the property. And they have to live in periods of severe air pollution, causing Cathy to have headaches. She tells us that the fracking has been imposed on them, and any more of it will force them off “their land.” (The film doesn’t explain how there is intensive fracking on their land if they oppose it and own the land).

Fox takes us to one of the biggest fracking fields in the US, the Jonah Gas Fields, in the foothills of the Grand Tetons (in Wyoming). Fax tells us that this huge fracking site, which he says looks like the surface of the moon, is on BLM (Bureau of Land Management) land, land that is “your land and mine.” Fox avers that Dick Cheney convinced BLM to allow massive fracking operations.

Fox then sketches out what he calls the “anatomy of a gas well.” In part 1, “the Rig,” he notes that to set up the well requires 1,150 truck trips by the time the well produces anything. In part 2, “the Pits,” he notes that a well returns about half the water injected in it. This flow back or “produced” water is first emptied into an open pit (before removal by truck) where it can seep back into the ground. (The pit he shows us, however, is lined with black plastic, which would seem to be aimed at stopping seepage.) In part 3, “Evaporation Sprayer,” Fox says that before the produced water is removed, it is sprayed into the air so that the water will evaporate. But this also spreads the chemicals used in fracking, some of which are toxic. In part 4, “Venting,” we are told that each well site has a separator that evaporates water from the natural gas as it comes out of the ground. This again (Fox tells us) results in harmful chemicals mixed in with the gas to be put into the air. Part 5, “Condensate Tanks,” tells us that each fracking site has condensate tanks holding produced water and pollutants. The tanks give off harmful chemicals, including ozone, “which burns holes in your lungs.” A recent report by the Department of Environmental Quality said that the air quality in Sublette County was now worse than that of LA. Fox notes that these fracking wells are in the migration path or several endangered species have declined since the 2005 energy law.

Fox next takes us to Garfield County, Colorado. It was one of the first areas to have widely adopted fracking—so it gives us a vision of what other areas can expect as they allow it in. He cites a recent health study by seven Colorado researchers about possible adverse health impacts of fracking. He talks to Tara, who reports to him the residents who say their health has been harmed. Karen Trulove reported that she no longer wanted to plan her days. Rick, another resident, has benzene in his blood. Tara speaks for the people who cannot speak for themselves, because they signed non-disclosure agreements—again, meaning that they had sued energy companies and settled out of court. Tara tells us that that Dee Hoffmeister, her friend, never signed a non-disclosure agreement. Dee tells us that when the fracking started on her land, her house was engulfed in a fog of chemicals. She developed pains in various parts of her body. Worse yet, after some time, the well in Dee’s yard exploded, and the whole rig burned to the ground. She became sick and had to go to the hospital. Six of her grandchildren developed asthma. Fox heard numerous other similar reports.

Fox meets with Dr. Theo Colborn, winner of five Rachel Carlson awards, “Time Magazine Hero of the Environment” and former EPA advisor, who has studied the chemicals used by the fracking companies (the exact nature of which the fracking companies do not reveal, the film tells us, because the mixtures are trade secrets). Colborn says the neurological effects of exposure to these chemicals can be insidious and irreversible. As she says this, several people report, what they claim has been caused by some of the chemicals: loss of smell; loss of taste; loss of arm mobility; brain damage; and pain in the extremities. She adds that the EPA can’t monitor chemicals if they don’t know what they are.

Lisa Blackcloud shows us contamination at Divide Creek, where she says 115 million cubic feet of gas was vented into the atmosphere. Her father Robert shows us that gas is still bubbling into the creek by lighting it. She says the leak of natural gas killed a lot of wildlife, and after two years of drinking that creek water, the father died of pancreatic cancer. She tells us that Encana Corporation received the largest fine in Colorado history, $370,000. Fox breaks down when he looks the creek because it reminds him of home. Lisa shows him frozen bodies of small animals she says died from the pollution. (However, none of the bodies were examined in a lab.)

Fox shows us footage of fracking operations all over New Mexico, Oklahoma, and Arkansas. He shows huge refineries next to cemeteries, apparently polluted lakes, areas where land sludge in waste pits are next to homes and says that there are “too many stories to recount” of people allegedly harmed by fracking. We see him once again try to interview energy company executives, again with no luck.

So, Fox drives through Texas, where the fracking revolution first spread. He quotes Dr. Al Armendariz, and air quality specialist at SMU, who tells us that there are about 10,000 fracking wells around the city of Fort Worth. He reports that his research shows that the total emissions by the by the fracking wells is equals to or greater than the total emissions of all vehicles on the road in the city—about 200 tons a day produced by each source. And Fox shows us one reason for the emissions from the fracking wells: hydrocarbons given off by the condensate tanks. He visits Dish, Texas, whose mayor tells him of all the toxic chemicals released into the air by fracking operations. The studies commissioned by the town show dangerously high levels of hydrocarbons.

We meet next Wilma Subra, chemist and MacArthur “Genius Award” winner, in Louisiana. She tells him that the oil producers dump toxic chemicals in the ocean, which settle to the bottom sediment, which then gets spread back over the land by hurricane storm surges, as does chemicals from the storage tanks associated with drilling.

Fox now shows us a map of the dense US river system, and superimposes the shapes of the various shale fields, suggesting that most of the water supply in the US is at risk of severe pollution by fracking. Back at his home, he gets a call by the lab that he hired to analyze the jar of water he was given in Dimock earlier. Sure enough, it contained various chemicals, such surfactants. He suggests these surfactants are released by fracking, and was responsible for a large fish kill in Dunkard Creek in Washington County, Pennsylvania. The Pennsylvania Department of Environmental Protection, however, said that there was no proof that the chemicals came from fracking operations.

Fox interviews one “John Hanger, Secretary”—and oddly brief way of referring to the Secretary of the Pennsylvania Department of Environmental Protection. Fox asks him whether his pro-fracking comments in the past mean that Hanger believes that fracking cannot cause water contamination, to which Hanger replies that no energy source is “perfect”—all means of getting energy have environmental costs. But he says that 39 homes in Dimock use independently tested and none of the wells showed contamination by fracking chemicals. When Fox asks him whether he would care to drink the sample he bought from Dimock, Hanger responds that in the four Dimock households where there was contaminated by migrating gas, the water supply has been replaced. Hanger again says there are some costs to fracking. When Fox presses him by saying that he (Fox) lives on a stream and worries whether these costs will fall on him, Hanger hands him a card and says call if Fox sees any signs of pollution, and ends the interview.

Fox tells us that a few months after the interview, the Department suffered the worst budgetary cuts in its history, amounting to 350 full-time positions—in the middle of what could be the biggest push for fracking in Pennsylvania history.

Fox then tells us that the Delaware River watershed system supplies the water for over 15.6 million people. But the fracking companies have leased enough land in the area to sink 50,000 wells—though no drilling has yet occurred.

We cut to hear James Gennaro, a licensed geologist, NYC Councilman, and Scott Stringer, Manhattan Borough President, describe the proposed to allow fracking in upstate New York crazy and a crisis. But Fox tells us that in spite of public the State Department of Environmental Conservation was “unresponsive” to his queries. At a press conference held by Fox and Gennaro, none of the press appeared. At a Congressional hearing, the fracking industry defended the practice, and critics opposed it. Fox concludes his film saying that legislation to control fracking is before Congress, and it is our call as a democracy to tell our legislators what to do. He finishes by noting that fracking is being discussed in Europe and elsewhere, and playing his banjo again.

Let’s briefly characterize *Gasland*. Start with the point that it is obviously propaganda. It is clearly not merely meant to inform us about fracking, but to get us to vehemently oppose fracking, and to push Congress outlaw it. Is the film aimed at pushing solar power? Part of the problem here—and this is the point of what John Hanger said to Fox—is that Fox doesn’t tell us in the movie what he thinks is a better source of power, except for a one-sentence endorsement of solar power.

A number of factors work together to make the film effective propaganda. It presents a number of ordinary people reporting what they’ve see or experienced first-hand, and various experts telling us about their expert opinions. All of this testimony leads the audience to believe that fracking causes many problems, including:

* Fracking causes natural gas to flow into water supplies, resulting in faucets and wells catching on fire;
* The exact ingredients of fracking fluid is kept secret from the public, but clearly contains toxic substances such as carcinogens;
* This fracking fluid is polluting the drinking water communities, resulting in widespread illness, from hair loss to cancer;
* Fracking requires vast and inordinate amounts of water to produce power;
* The managers of fracking companies refuse to talk to journalists, showing that they are hiding information;
* Fracking companies have succeeded in getting their industry completely exempt from government oversight and regulation;
* Fracking operations lead to massive amounts of air pollution, which again is causing people to get illnesses such as bleeding noses, asthma, allergies, and so on.

All of these accusations are accompanied by a musical score (with Pete Seeger singing and Fox playing the banjo) guaranteed to appeal to progressive environmentalists.

*Gasland* was well-received by film critics and environmental groups. In 2010, it won the Environmental Media Association Award for Best Documentary. It was nominated for the Writers’ Guild of America award. It won the 2011 Primetime Emmy for Best Nonfiction Directory (plus was nominated in three other categories) at the 2011 Emmy Awards. It also earned a nomination for an Academy Award for Best Documentary in 2011.It premiered at the 2012 Sundance Film Festival, earning the Special Jury Prize for Documentary. And it was especially influential in Europe—with the geopolitical cost of helping make most of the European countries dependent on Russian natural gas.

But the film was equally strongly criticized, by a number of scientists and energy industry experts. Much of this critique was done in media other than film—magazine and newspaper articles, radio interviews, podcast interviews, and public lectures. However, there were two documentaries produced quickly on the heels of *Gasland*’s release: *Truthland*, and *FrackNation*. Let’s examine those, looking at how they refuted or attempted to refute *Gasland*. We will see that the way these rebuttal documentaries critique the original is by indicating how it egregiously violates the criteria for rationality of propaganda.

***Truthland* as Counter-Propaganda**

Let us start with *Truthland.* Like *Gasland*, it is not a simple informative documentary, but a propaganda one—a counter-propaganda movie, to be exact. This short was made by Pennsylvania high-school science teacher and farmer Shelly Depue. She decided to follow-up on all the major claims made by Josh Fox in *Gasland.* The result is what is termed a “non-broadcast film production”—that is, a film or video made by a group or organization but not distributed broadly (i.e., in theaters or streaming venues such as Netflix).

Depue (who narrates her own film) opens by telling us she was motivated to make the film after seeing *Gasland* on HBO, and seeing how it frightened her family—they live on a farm, and they allowed a fracking company to put a well on it. She decided to get answers to the issues raised.

The first observation Depue makes is that faucets and ponds have long been known to catch fire when ignited, even when no fracking is taking place. She talks to her neighbor Patricia Harasynczwk, who recalls seeing her pond catch on fire from a lighted match when she was a child—long before fracking ever existed. She takes Depue to a nearby creek that has bubbles in it, and shows that they can be lit as well. Depue notes that this means that Fox’s “documentary” (she uses “air-quotes” here) has at least some misrepresentations in it. This is why she decided to make her film.

Depue points out that there while her own property has been drilled, neither her family nor her farm animals have suffered any effects. Her family helps her formulate a list of questions to investigate empirically (she turns out to be a science instructor at the local high school). The list of questions includes: is water from a well with nearby fracking wells safe to bathe in or to drink? Is water infused with flammable gas common even where no fracking operations are taking place? Do fracking companies routinely break the environmental laws? What is the effect of fracking on pets and livestock? Are the wells walls strong enough to keep us safe?

So she takes off in her Chevy. In the background of this film is country music.

She heads first to Harrisburg—the Pennsylvania state capitol—to interview John Hanger, the man so disparaged in Fox’s documentary. Hanger begins by noting that *Gasland* was deceptive propaganda aimed at shutting down the fracking industry, and it was effective in arousing fear. To the question whether fracking is harmless, Hanger answers that it is not a simple question. He starts by categorically denying one of Fox’s claims: Hanger says there is no documented case ever of fracking fluids injected into a well coming back up to contaminate water sources. But he adds that like other major industrial process, fracking needs to be strongly regulated. Natural gas is a much cleaner fuel than coal or oil, our two alternatives—but he adds that it is not perfect. All sources of energy have some impact on the environment.

Depue next visits Professor Joseph Martin of Drexel University’s department of environmental engineering, in Philadelphia. She asks him about natural gas containing water wells. He starts his reply by making a powerful point: no fracking company would welcome any gas migrating into nearby wells or springs, precisely because the gas is so valuable. She asks him how it compares in environmental impact to coal mining (historically a major industry in Pennsylvania), to which he replies that compared to strip mining, the impact of fracking on the land is miniscule. And again, he makes some telling economic points. First, few people if any who profess environmental concerns propose that we give up our current high standard of living—at least for themselves! Second, nobody has yet come up with a more economically efficient way to heat homes than by natural gas. He also notes that the risky period in drilling is short, and if you tightly regulate the process so the gas doesn’t migrate, and you completely seal the well after drilling, the gas will only go through the pipes and into the industrial system.

Depue next sets out to visit Terry Engelder, professor of geosciences at Penn State University. As she drives, she notes that while she is no expert on fracking, neither is Fox—he is a movie producer who lives in New York. Engelder is an expert on fracking.

Engelder explains the basics of fracking. She asks him to comment on Fox’s movie, and he replies that its main flaw is innuendo, by which he means faulty causal reasoning: there is gas in the water, there is a fracking well in the vicinity, so the fracking must cause the gas in the water. But there are other explanations for the presence of gas, such as methane from decomposing plants. He reports that there are between one and two million wells in the U.S., and he cites a recent study that shows no cases over 60 years of fracking where fracking fluid has contaminated water supplies.

Next, we meet Gary Hanson, geology professor at Louisiana State University, and director of the Red River Watershed Management Institute. He tells us that in a study of 10,000 wells that have been micro-seismically mapped, they all work at depths well below where the water tables lie. He flatly denies that water contamination from fracking is a “huge problem.”

Depue travels next to Texas. She talks to a black minister who says that his parish experienced none of the problems (noise, pollution, and so on) that fracking is supposed to cause. She decides to talk to someone who is an environmentalist activist for his views. She interviews Jim Marston, the director of the Texas regional office of the Environmental Defense Fund. Marston’s view is nuanced: natural gas may be a bridge fuel to a better energy source, and many natural gas producers do an excellent job of extracting it without environmental harm, while others are not as good at doing that. Most of the problems in fracking come from poor well construction, not (as Fox suggests) the fracking of the rocks *per se*.

Depue checks on another claim put forward in Fox’s film: that fracking uses an inordinate amount of water. So, she visits Dr. Michael Webber, associate director of the Center for International Energy and Environmental Policy at the University of Texas, Austin. Webber agrees that drilling a fracking well requires 2 to 8 millions of gallons of water, but that is not a lot when you consider how long the well produces gas. He shows us a chart showing water used per megawatt hour of electricity generated, and while deep shale natural gas uses 232 gallons per MWH, integrated gasification of coal uses 516 gallons, coal steam turbine uses 620 gallons, nuclear steam turbine uses 704 gallons, and concentrating solar power use 750 gallons. Webber concludes by noting that there are three perspectives that enter into evaluating any method of generating energy: the economic; the environmental, and that of national security. Natural gas looks good from any reasonable balanced perspective.

Now, Depue drives to Colorado, where much of *Gasland* was filmed. She wanted to ask ranchers whether fracking is harming their families or their livestock. Chuck Sylvester, who owns a large ranch, reports no problems with his water. In some areas, he notes, there was methane bubbling up through water, but that phenomenon has occurred long before there was any fracking drilling going on. As an example of this, she interviews Robert Sandel, who shows that his faucet lights up explosively when he turns it on and lights it—yet there are no fracking operations where he lives.

She returns to Pennsylvania, and goes to the town where much of Fox’s film was made: Dimock. She interviews Loren Salsman, who tells us that when he bought his home, there was already methane infusing the water and it had a high level of iron. When the fracking company drilled a well nearby, they did not do a great job cementing (sealing) it, and the methane increased. He called the fracking company, and they came back and resealed his well—upon which the gas levels returned to normal. When she asks what the problem in Dimock is, he replies that there are eleven residents suing the fracking company for 3 to 5 million dollars each.

From the economic point of view, Walter Brooks (a local resident) says that area of the state experienced high unemployment, but the fracking industry brought in a lot of jobs, and the royalties from the fracking wells allowed farmers to pay their bills. We cut to a bumper sticker on a tractor that reads, “Gas saved our A$$.”

Wondering how common it is that fracking wells don’t get properly sealed, Depue talks with Scott Roberts, the former Deputy Secretary for Mineral Resources Management for the Pennsylvania Department of Environmental Protection. As she notes in an intertitle, he’s retired, so doesn’t care who he offends. He shows us the proper construction of the pipe system: the core pipe through which the extracted gas flows is surrounded by cement, contained by a second pipe, which in turn is sealed by cement, contained by a third pipe, which is also sealed in cement, then surrounded by a fourth pipe, which is sealed by cement. To show her how sturdy it is, he puts high explosives in the center pipe, and (as they crouch behind a berm) the explosives are set off. The result is a huge flame through the center pipe, but no visual damage to the piping or casing.

Returning home, she calls Fox and his producers to see if they want to say anything to rebut her material, but there was no reply. This is richly hypocritical, considering that *Fox* repeatedly insinuated that the failure of fracking company executives to talk to *him* indicated *their* bad faith. She also notes that his complaint that the fracking companies won’t reveal what is in their fracking fluids is outdated: the information is now readily available on the internet, and it shows that the chemicals added to the water and sand—and constituting less that 1% of the fracking fluid—are chemicals you find in materials you buy for your house. To cap it off, Depue shows EPA administrator Lisa Jackson telling us that done properly, fracking is perfectly clean. Jackson is credible: she was the head of the Federal EPA under Obama, so hardly a stooge of the oil industry, and she is by training a chemical engineer. Depue shows us a newspaper article reporting that the EPA found that Dimock’s water supply to be safe. Depue ends by saying that Fox’s claim that fracking causes gas to infuse into water supplies was a lie—he knew it was false. She notes that he has gotten HBO funding to do another HBO “expose” documentary about fracking.

The movie ends by noting that while the production was funded by oil companies, Depue was paid nothing to make the film, and, none of the experts cited were paid anything. She also gives thanks to Phelim McAleer and Ann McElhinney, the producers of the third film I will be reviewing here.

How was *Truthland* received? Well, it was a non-broadcast film, meaning that it was never shown on HBO, Netflix, or the other big streamers. It was mainly available through YouTube and through its website, and as a DVD though Amazon. But in 2013 it did win both a Telly Award (for Non-Broadcast Production Film in Public Relations) and a Pollie Award (from the American Association of Political Consultants, for Best Non-Broadcast Video in Public Affairs). Reviews of the film were divided along predictable political lines. For example, Jim Willis of the Marcellus Daily News—a petroleum industry publication—said that “*Truthland* is a devastating rebuttal of most if not all of the inaccuracies in Josh Fox’s fictional film.”[[7]](#footnote-7)

On the other hand, Suzie Gilbert of Shalereporter.com was particularly scathing in her attack[[8]](#footnote-8). She starts by making fun of the “twangy” country music score of *Truthland*. Of course, she has no problem with *Gasland’s* very twangy banjo folk music—could the difference be that country music is usually associated with political conservatives, while Seeger and folk music are associated with political progressives? Gilbert says that *Truthland* is not a real movie but is only an “infomercial”—but she doesn’t explain why Fox’s *Gasland* equally an infomercial for “renewable” energy. Gilbert calls Depue “chirpy,” but why doesn’t she call Fox “alarmist?” Gilbert snarkily mocks Depue and her family for having a Deer’s head on their farmhouse wall, even while accusing Depue of—snarkiness.

Again, Gilbert in effect accuses Depue of lying when Depue says she (Depue) was not compensated for making the film, because Depue admits that fracking companies had drilled on her land, so presumably paid Depue royalties. But this is clearly disingenuous: being compensated for having wells drilled on your land is what all the farmers interviewed in the documentary had in common. Only Depue did the work and braved the insults of the anti-frackers to produce a very watchable film. Producing a piece of counterpropaganda powerful enough to arouse the ire of anti-fracking ideologues would merit separate compensation, wouldn’t one think?

Of course, coming in for the biggest portion of Gilbert’s anger is the fact that funding for *Truthland* came from a biased source: “[It] was financed primarily by Energy-in-Depth, the public relations arm of the Independent Petroleum Association of America…” But why shouldn’t the industry being so monomaniacally attacked in *Gasland* fund the creation of an opposing view? Would HBO ever itself produce another documentary defending fracking? And again, neither Depue nor any of the experts who testify in *Truthland* received any energy industry money. More importantly, while Gilbert and other critics of *Truthland* are eager to attack its funding, they never ask who or what organizations funded *Gasland.* (Our next film will raise this issue).

*Truthland* succeeds fairly well in rebutting most of Fox’s claims. Let’s restate *Truthland*’s main criticisms of *Gasland*, by showing how it uses the criteria given at the beginnings of this essay.

Start with truthfulness. Depue’s film presents numerous credible ordinary citizens testifying about what they’ve seen and experienced, and credible experts offering their expert opinions. All of this leads the audience to the opinion that *Gasland* is untruthful in many of its claims.

* Fracking isn’t the only cause of natural gas in the water supply—it is often just naturally occurring;
* The chemicals used in fracking fluid are “secret”—they are easily found on the internet;
* There are no documented cases where fracking fluids have made their way back to the surface or contaminated water supplies;
* Fracking fluid has not been shown to harm people or animals;
* Fox is not a concerned resident of rural Pennsylvania, but of New York City;
* Not all landowners who have done to allow fracking on the land are unhappy with the result—in fact, most are quite happy, because it brings in extra money;
* Fracking does not we more water than all other methods of generating power—it uses considerably less, in fact;
* The chemicals in fracking fluid are not rare, cancer-inducing chemicals, but chemicals found in most households.

As to the point (raised by the Marcellus Daily News reviewer) that Depue’s film doesn’t counter every charge raised by Fox’s film, there are two important points to be made. First, Depue’s film doesn’t address every charge against fracking made by *Gasland.* However, to be fair, *Truthland* is only 1/3 the length of *Gasland.*

Second, it is a common dictum of law that “Falsus in uno, Falsus in omnibus”—meaning “false about one thing, false in everything.” As Justice Ito put the dictum, “A witness who is willfully false in one material part of his or her testimony is to be distrusted in others.”[[9]](#footnote-9) More simply: if you are found to be lying about one major aspect of an issue, you should be suspect as a liar about the whole issue.

So in Fox’s case, he makes a big deal about faucets igniting as a sign of contamination by fracking operations. That such a claim, so central to his case, is demonstrably false—as even he apparently admits it is—should lead us to distrust his whole case. Add to this the fact that when questioned about it, Fox has the temerity to say that it is “irrelevant,” which is especially disingenuous.

Now consider logicality.

* Fox’s film shows us several characters who claim that they and/or their animals became sick in various ways after fracking operations started, and Fox’s film insinuates that this is due to the carcinogens in fracking fluid or migrating gas. But this is blatant fallacious thinking—*post hoc ergo propter hoc* reasoning to be exact. Just because fracking is started near or on your land and you later develop some disease, you cannot logically conclude that the fracking was the cause. You would have to rule out all other possible causal explanations for the correlation of the fracking and the disease.
* Even more importantly, most viewers of Fox’s film by itself likely will not notice the point that many of the people reporting being harmed by fracking are or were litigants in lawsuits against various energy companies, only that they signed nondisclosure agreements. Depue’s film makes this point clear, and makes it clear that not all who agreed to fracking operations on their land felt abused, threatened or poisoned. This is important, for one of the factors we use in judging any witness’s testimony is whether that witness is biased—especially, biased financially. Litigants in lawsuits certainly are that.

Now consider transparency.

* Anyone who views both Fox’s and Depue’s documentaries is apt to notice the difference in transparency between the two. Depue identified herself clearly at the beginning of her film as a science teacher and resident of a small town in Pennsylvania. She and her family run a farm upon which there are fracking well operations, and she has not been paid for her views. Fox leads us to believe that he, too, resides on his family farm in a small town—but in fact, while he grew up in Pennsylvania, he is now a resident of New York City.
* Moreover, while Depue acknowledges at the outset of her film that it was funded primarily by energy companies—although she notes that neither she nor the experts cited in the film were paid by those companies or anyone else for their opinions—Fox never tells us who funded his film, nor whether he or any of the experts cited in his film were paid for their appearances, and if so, by whom.
* Again, watching Depue’s documentary in conjunction with Fox’s, we pick up on another transparency problem with *Gasland.* Throughout much of the film, Fox appears on screen wearing a gasmask, subliminally conveying to the audience that fracking well operations invariably give off toxic fumes at toxic levels.
* And by repeatedly playing the banjo—after showing populist/environmentalist icon Pete Singer at the opening of the film—Fox subliminally conveys to the audience that he is similarly committed to the environment and the people.

***FrackNation* as Counter-Propaganda**

Let us turn to the third film. *FrackNation* opens with clips showing reporters and politicians making fearful comments about fracking, and we cut to the film’s director, investigative journalist Phelim McAleer in Copenhagen at a climate change conference. He says of his occupation, “Asking the powerful difficult questions is a great job.” He gives a brief sketch of his background, including being a reporter in Northern Ireland during the times of internecine violence, as later working for the UK Sunday Times, the Financial Times, and the Economist.

McAleer notes that for many years most people thought we were running out of energy, but then the process of fracking was developed, leading to a dramatic if not unlimited increase in the supply of natural gas. He quotes Terry Engelden, professor of geosciences at Penn State, as saying the discovery of how to extract natural gas from shale rock as one of the great advances in energy production. We see a graph showing US shale gas production soaring from about 2 trillion cubic feet in 2007 to 10 trillion cubic feet in 2022, and projected to hit 12 trillion cubic feet in 2028.

But, McAleer notes, despite this good news, fracking is viewed with suspicion by many people, because the film by Josh Fox, *Gasland*,has made people around the world think that fracking leads to water pollution, gas seepage into water, and people being poisoned by this technology. This has led to fracking being banned in New York, Bulgaria and France.

McAleer points out that it took him only five minutes on the internet to discover that the most dramatic claim in Fox’s documentary—about fracking leading to flammable gas in people’s faucets—was highly dubious. So McAleer flew to Chicago, where Fox was screening *Gasland*, to ask Fox about the point. Fox’s response revealed a profoundly defensive hostility: he demanded to know where McAleer was from, and who he represented—a classic *ad hominem* attack. But McAleer was persistent: he said that there were reports in 1976 about gas in wells, before any fracking occurred. Fox angrily (and oxymoronically) replied that there were reports in New York in 1936 about wells catching fire, too, but he didn’t include that information because it was (again) irrelevant.

When McAleer put this exchange on YouTube and Vimeo, Fox had it pulled down for allegedly violating his film’s copyright. But McAleer was able to get YouTube to restore access to the clip, and in *FrackNation* he calls this for what it was: Fox attempting to censor it. McAleer says this led him to ask, what was Fox attempting to hide? So McAleer went to the crowdfunding website Kickstarter and asked the public to fund him to make a documentary about fracking, and the response was amazing—over 3,300 people contributed to fund the film.

Now with the requisite funding, McAleer sets off to the by now legendary tiny township of Dimock. Were people there generally as unhappy with fracking as Fox claimed? (We see the land around Dimock looking lush and verdant—no sign of devastation). McAleer plays a news report of nine residents complaining that Cabot Oil’s drilling contaminated their water, and a court ordered the company to bring in fresh water for those people. Pennsylvania’s Environmental Protection agency put a moratorium on any new wells in a 9 mile box around Dimock until it could study the problem. But McAleer discovered that this ruling is not generally popular in the town—many of the residents are skeptical the fracking wells are causing harm. One resident points to Craig Sautner’s home, a man who claims that all kinds of pollutants—including “weapons grade uranium!”—have been found in his water. When McAleer interviews Sautner, and asks him if he has had any lab test his water, Sautner says he had it tested maybe two years in the past, and he doesn’t remember the exact results, but they may have shown the water to be safe. When McAleer asks if he can get a sample, Sautner can only produce clear water—not the muddy water he originally showed.

Other neighbors tell McAleer that there has always been methane in Dimock’s water. One elderly lady shows McAleer a water well drilled in her yard in 1945, and it has always produced methane—which bubbles off—and water laced with iron and other minerals. They use that water to water their plants. They also have a well for the water they drink—but is also produces water with minerals in it. They drink it with no apparent harm.

Pennsylvania’s bureaucracy then came up with the idea to build a pipeline from Montrose to Dimock—at a cost of $12 million—to bring in water. Many residents of Dimock opposed this project, and they formed a group called “Enough Already!” to fight it. 1,500 residents signed the petition to stop the pipeline, and to protest the negative publicity Fox was spreading about the town. (We see Fox bringing in celebrity Mark Ruffalo to protest fracking). Thus, eleven people are making unproven accusations against Cabot Oil and suing it, compared to 1,500 residents who like Cabot Oil. These figures are nowhere mentioned in Fox’s film, of course.

The committee of 1,500 succeeded in blocking the water line, but the moratorium was still in place and the lawsuits against Cabot proceeded.

We cut to Bryan Systock, a water resources specialist at Penn State, who with a group of researchers found that generally neither conventional gas well drilling nor fracking had any major effect on polluting water wells. As to methane in water, Systock points out that there has been methane in water long before fracking, and that it is caused by any number of things, such as decaying organic matter. McAleer shows us a courthouse fountain that has been burning for over 50 years, and a plaque that tells us that nearly in 1669, Seneca Indians brought the explorer LaSalle toa burning spring. All of this was long before fracking existed.

McAleer then explains fracking broadly. He notes that fracking started in 1947 in Kansas. He reports that with fracking, the number of wells is dramatically smaller than is needed in conventional drilling, and once the drilling site has been covered over (“reclaimed”) the fracked well can produce gas for up to 40 years. The actual fracking of the rock takes only three days.

McAleer then takes up Fox’s claim that fracking companies were able to get themselves exempted from all environmental regulations. He replies that fracking has always been done under tight regulation by hundreds of state and local laws. It takes 2 to 3 years to get all the necessary permits before you can drill a well. The 2005 Federal bills on fracking did not eliminate any of these state and local environmental laws—it just kept them local. That bill passed with bipartisan support. Even then-Senator Obama voted for the legislation.

McAleer next visits Ron White, a farmer in Montrose, Pennsylvania, where there are lots of fracking wells. [McAleer’s film doesn’t mention the irony here: the eleven residents of Dimock, who claim their water was poisoned by fracking, found a judge who required Dimock bring in water by pipe from—Montrose!] White’s own house is only 400 yards from the fracking wells, but he is fine with the setup, since the dairy business is down, and the well’s royalties paid for new milking equipment, maintenance of the old tractors, and many other of their bills. And there have been no negative effects, even in their water supply.

McAleer then shows us a map of the Delaware River Basin, where Josh Fox claims to live, and where he claims he was offered a lucrative lease to allow fracking on his land, which started him on a crusade to ban fracking. McAleer went to ask the farmers who lived that area about fracking. He talks with Marian Schweighofer, whose farm has been her family for seven generations now. She helped organize a group of local landowners—1,100 property owners, who control over 100,000 acres—who took the time to investigate fracking carefully. They agreed to allow it, but they collectively designed their own lease. As farmer Carl Shabas put it, the natural gas and farming industries can get along together—after all, the first oil wells were drilled Pennsylvania over 100 years ago. Their lease has been used as a model by may other farmers around the county. But as Mike Uretsky—local Pennsylvania landowner and NYU professor—notes, right as the landowners were signing up, *Gasland*, appeared. Uretsky says that it was very influential, very effective propaganda, even though “most of the content happens to be totally wrong and has been discredited.”

The environmentalists got the Delaware River Basin Commission to shut everything down. One farmer said that since then, it has been 3 years of living hell to get anything done. Another farmer noted that the moratorium has been economically devastating to the farmers. As it is, farms are going out of business and getting replaced by large areas of track housing. How is that good for the environment, the film asks. To maintain the bucolic scenery, the open space, that farming allows positively requires fracking. Farmers whose families have owned the land for 150 or 175 years are in danger of losing them because farming doesn’t pay enough to keep the farm going are rescued by fracking.

McAleer asks, how could thousands of people have had their lives devastated by one ruling of one agency based hundreds of miles away? So he visits the official in charge, Carol Collier, the Executive Director of the Delaware River Basin Commission, to interview her. He says she “seems to have inappropriate ties josh Fox and the anti-fracking movement.” He points out that she had agreed to a fundraiser for *Gasland*, and only withdrew when the farmers hurt by the ban pointed it out. She replies that she had been asked to sit on a panel, but not told that is was a fundraiser. When she found out what it was, she backed out, and not because she was shamed into it by the farmers. When McAleer shows her that she is listed in the credits for Fox’s film, she says she didn’t know that “Josh” (she refers to him in this familiar way) had listed her. When McAleer presses her on her record in office, she abruptly ends the interview, saying that “Next time I’ll check on background and credentials.” He shows his press credentials to her, and she says she wants to check on his “background.”

As McAleer and his cameraman go to their car, Collier sends the agency attorney out to the parking lot to try to confiscate the film—vividly demonstrating that Collier had something to hide. McAleer pulls no punches here: he says that “this was really bad news for the farmers in the Delaware River Basin. Josh Fox and powerful governmental officials robbed them of their livelihoods. And all of this happened because of the story Josh Fox tells in the opening of his film.”

McAleer then turns to examine that story—namely, that Fox had received a lease in the mail from a natural gas company to lease his land. But McAleer completely debunks the story by showing that the lease Fox shows is actually a model lease designed by neighboring farmers, not in the fracking companies. We see a number of the affected local farmers complaining that the coverage oof fracking in the news media has been one-sided, deceptive, or out-right prevarication.

McAleer talks to independent journalist and media expert John Entine. Entine was a network TV producer for 20 years, working for ABC and NBC news. He was the investigative producer for major news shows like “20/20” and “Prime Time Live.” Entine has spent the last 20 years writing about the nexus between the mainstream news media, public policy, and NGOs (i.e., special interest organizations such as environmentalist and other activist groups). Entine explains that the reason stories like the shale gas one gets distorted is that the news media want sensationalist film that manipulates emotion—like what Josh Fox produces. Entine calls this “trash journalism.”

Entine singles out for special contempt a series of stories that appeared in the *New York Times* that essentially condemned shale gas as being far worse than coal for its harm to the environment, a series that made it into debates in the British Parliament, because of the prestige of the *Times* has—it supposedly vets all of its stories and verifies the facts. But in this case, the newspaper had not verified the stories, and when the newspapers own ombudsman (Arthur Brisbane) examined the stories, he was so appalled by their factual inaccuracy that he wrote two Sunday *New York Times* saying so. The ombudsman criticized his own newspaper for biased and manipulative reporting, tendentious reporting of the facts, and getting key facts incorrect. Entine concludes by saying that the shale gas revolution is a “gift from God,” and we run the risk of setting back progress 50 years if we allow anti-fracking hysteria to shut the industry down.

McAleer journeys to London to talk to a journalist who has done a lot of research on energy issues, James Delingpole, Delingpole say that from the point of view of energy efficiency and environmental friendliness, it is the best technology available available—“a miracle.” The only reason it hasn’t been developed in Europe is because of the “disingenuous objections” which are being raised by the environmentalist movement. Here Delingpole raises a suspicion about funding: could it be that Russia, which (at the time this movie was made) supplied all of Europe’s natural gas, is funding the anti-fracking propaganda campaign to keep this promising technology from liberating Europe form that dependence on Russian natural gas.

McAleer interviews Neil Buckley, Eastern European editor for the Financial Times, who says he was recently at a dinner hosted by Vladimir Putin. Putin became visibly disturbed when one of the journalists raised the issue of shale gas. Putin claimed that aerial photos of areas of the US that have had fracking operations showed widespread environmental devastation. And Putin pointed to France, which has already banned fracking. Buckley ends by noting how ironic it was that the Russians—never known for taking much care with the environment—suddenly waxed environmental.

Delingpole notes that all of Eastern Europe is totally dependent on Russian natural gas, and Buckley adds that Russia has a proven record of using natural gas as a “tool” of diplomacy. Buckley points out that while the Soviets never cut off the gas supplies to Europe, Putin’s Russia has twice done so. This is causing some European countries to re-think their opposition to fracking.

Here McAleer takes us to Poland, where he talks with 85-year-old Sabina Rzeczkowska, a pensioner who fought in WWII and survived the Cold War. She reports having to spend over half of her meager pension on energy. That money foes directly to Gazprom, McAleer notes, so it’s like the Soviets never left. She says that if the Poles had their own source of energy, Polish life would be easier and more prosperous.

In its discussion of Russia’s likely funding of anti-fracking propaganda, McAleer’s film is eerily prescient about the use Russia would make of Europe’s dependence on Russian natural gas. It moved from using gas as a tool of diplomacy to using it as an outright weapon. And ironically, just a year after *FrackNation* was made, Russia announced a joint venture between Shell and Gazprom (Russia’s main natural gas company) to start fracking in Siberia.[[10]](#footnote-10) This also was the year Russia first invaded Ukraine, sizing the Donbass region and Crimea.

We see Josh Fox talking again, now in Los Angeles. He tells his audience that there is fracking in Baldwin Hills, and in the public park there, people—including young children—are breathing “noxious fumes,” and getting sick from the air in Baldwin Hills. So he takes his crew there, and interviews people jogging and hiking through the park. They all report that the air is clear and fresh.

McAleer notes that Josh Fox makes the same claim about the air in Dish, Texas. Fox says that Texas has 10 pipelines crossing the state with 10 billion cubic feet, and Dish has an air concentration of benzene 55 times “the public health standard.” The fumes enter people’s homes, giving the residents nose bleeds and brain damage. Fox mentions Calvin Tillman, Mayr of Dish, who says that the air in the city was contaminated, causing runny noses, nausea, allergies, and more. Tillman ordered in air quality study, which showed “…very high levels of known and suspected human carcinogens and neurotoxins.”

But McAleer asks whether this report is accurate. He interviews Bryan Shaw, Chairman, Texas Commission or Environmental Quality, who says the agency—the second largest environmental protection agency in the country, second only to the federal EPA—has been to Dish 120 times, collected and analyzed 50 air samples, and none of them showed levels of any noxious contaminants that would cause concern. The Texas Health Department sampled residents’ blood and urine, and the town’s drinking water, and found no dangerous levels of any toxins.

McAleer then takes up the case of Stephen Lipsky, of Parker County, Texas, who sued a fracking company for $6.5 million., alleging fracking had poisoned his water. Lipsky teamed up with Alison Rich of Wolf Eagle Environmental Engineers to produce a video of flaming water and a set of test results of his water to support his case. But it turns out that the video was faked—they deliberately pumped gas into the water to produce the fire. The judge ruled that Rich and Lipsky conspired to produce false evidence, and that Rich’s claims that she was an engineer and a PhD. Were fraudulent as well. It turns out that Rich was the “specialist” who Mayor Calvin Tillman employed to produce the damning but completely false reports about the water and air quality in Dish, Texas. However, McAleer adds, despite being exposed as a conspirator in producing fraudulent evidence and faking her credentials, Josh Fox still relies on her work in his anti-fracking crusade.

Next, McAleer takes up the question of the chemicals used in fracking. Here he travels to UC Berkeley to interview Bruce Ames, Professor of Biochemistry and Molecular Biology, and an expert on the causes of cancer. He has won numerous awards, such as the National Medal of Science, the Japan Prize, and the Tyler Prize for Environmental Achievement. When McAleer shows Ames a clip from *Gasland* where Fox says that fracking fluid contains 596 chemicals, from the unpronounceable to the unknown, Ames replies that you could say the same thing about a cup of coffee. When McAleer notes that the chemicals all have “scary names,” Ames observes that the names of chemical compounds only sound scary to a person who doesn’t know biochemistry. As Ames puts it, “If I gave you all the long names of chemicals in cabbage that give cancer to rats in high levels you could get scared, but there is really no danger in eating cabbage.” (As he says this, the film actually lists the killer cabbage chemicals).

Ames explains here that the government defines a carcinogen as a chemical that if fed to a lab rat at maximum tolerated dosage over a lifetime causes cancer. Half the chemicals ever tested this way are carcinogens by this definition. But they are only carcinogens at high doses—“That means it’s the high dosage that’s causing it, but they’re scaring you about a low dose.” In short, Ames concludes, anyone who says that fracking causes cancer doesn’t know what he is talking about.[[11]](#footnote-11)

We hear Fox telling an audience that all over the US, cancer rates have been falling, except in one place, in the Barnett Shale region of Texas. But McAleer notes that an Associated Press story debunks that claim. McAleer reports that Prof. Simon Lee, of the University of Texas, David Riser, an epidemiologist at the Texas Cancer Registry, and Susan G. Coleman for the Cure, have found no evidence of a spike in cancer in the Barnett Shale Region. Scaring people with totally unfounded stories about fracking causing cancer, McAleer says, is at best shoddy journalism.

McAleer then takes up the recent claim by fracking opponents that fracking causes dangerous earthquakes. Regarding this, McAleer interviewed Prof. Ernest Major in the Department of Earth Sciences at UC Berkeley. Major says categorically that fracking has the least chance of inducing earthquakes. Other forms of energy extraction—especially geothermal energy—carry far more risks of inducing earthquakes.

To Fox’s suggestion in *Gasland* that we should turn to solar panels to supply our energy needs. But McAleer rebuts this suggestion by observing that solar panels require huge amounts of rare earth metals to make the panels, and 95% of those come primarily from China, which produces them in a very environmentally dirty way, with lots of toxins involved. The same holds for wind turbines—they, too, use massive amounts of rare earth metals—and they also are very efficient bird-killing machines. And McAleer quotes a journalist specializing in energy policy, Robert Bryce, that to cover just the marginal increases in global demand for electricity, we would need to build 100 square miles *a day* in new wind turbines.

Back on the road, McAleer receives interesting news about Dimock. The Pennsylvania Department of Environmental Protection had just announced the results of the extensive tests it has run on the drinking water supplies in Dimock, including the well of Craig and Julie Sautner. The Department announcement on this score was categorical: “…there is no evidence Pennsylvania of fracking eve having contaminated drinking water.” Now, the wasn’t good enough for the Sautners, who demanded that the Federal EPA test the water. The Federal EPA agreed, and the EPA—after repeatedly testing a variety of wells in the area—found nothing alarming about the water.

McAleer caustically summarizes all of this: “So, 1,500 people on Dimock said their water was fine. Pennsylvania’s Department of Environmental Protection confirmed this. And now the [Federal] EPA has announced there’s nothing wrong with the water.” McAleer tried to ask the Sautners whether they were now prepared to drop their lawsuit. But a visibly enraged Julie Sautner met McAleer and his film crew on the highway, and threatened him with a lawsuit, called him a lying, un-American turncoat, and told him she was armed. She also called the police—who of course let him go.

It is now clear to the viewers that the Sautners are hiding information. Through a Freedom of Information Act request, McAleer was able to get the actual recording of the EPA trying to tell the Sautners that their water tested clean, but the furious couple became abusive and belligerent—with the very EPA that they had themselves demanded to test the water. The viewer is forced to conclude that the Sautners are prevaricating, motivated by their desire to win a lawsuit.

McAleer here makes an eloquent plea for people to appreciate the role inexpensive energy plays in making life secure and enjoyable. Energy should never be taken for granted.

Towards the close of the film, McAleer tries to get an interview with Josh Fox. But when McAleer calls Fox, Fox hangs up on him, and refuses to answer any of his calls. Undaunted, McAleer goes to a talk given by Fox in Los Angeles. Fox again refuses to talk with McAleer, repeatedly turning his back on McAleer. Fox has one of his people grab the cell phone from McAleer’s assistant, and has security escort the crew out of the building.

The film ends by observing, “Because of *Gasland*, fracking has been banned in many places around the world. Josh Fox still refuses to be interviewed about the inaccuracies in *Gasland.* Despite this, HBO has commissioned him to make a sequesl.”

*FrackNation* premiered on screen in New York on January 7, 2013 and in LA on January 11, 2013. The cable channel AXS.tv bought the rights to show the film, and it was aired on January 22, 2013.

There were a number of positive reviews of the film. Jeanette Catsoulis of the NYT said that the movie was well-researched and balanced.[[12]](#footnote-12) Christopher Campbell, writing for Movies.com, noted that the film was not industry funded, and felt that the film was engaging, and certainly made the point that journalists should have been more skeptical about the factual claims made in *Gasland.[[13]](#footnote-13)* Kyle Smith, writing for *The New York Post*, said that McAleer should have won an award for countering the fear-mongering in *Gasland.[[14]](#footnote-14)* And even *Variety* complemented McAleer’s film for fairly rebutting *Gasland*, and presenting the technical information about fracking.[[15]](#footnote-15)

But of course, there were negative reviews. John Anderson wrote that the film’s staged confrontations were manipulative, especially that of Carol Collier, which he said “…seems pointless, except as an effort to get an anti-fracking official to look like she’s got something to hide.”[[16]](#footnote-16) However, McAleer would likely have two solid rebuttals to Andersson here.

First, Anderson doesn’t note that staging confrontations is a major feature of Josh Fox’s film. We see this tactic in use when Fox tries to get an interview with corporate executives at Halliburton and elsewhere early in the film. We see thus tactic in use when Fox confronts an official for a lab that tested some water and found it safe. We see it again when Fox tries to interview energy company officials after he tells us that there are “too many to recount” of people harmed by fracking. And we see the tactic in use in full force when he sandbags John Hanger in exactly the same way McAleer sandbags Collier.

Second, McAleer does indeed show that she has something to hide—viz., her apparent allegiance with Fox, and her manifest bias against all frackin operations, when she is supposed to be a fair-minded regulator of the Delaware River Basin.

Critic Miriam Bale wrote that the film is only as reliable as a “Wikipedia entry,” because some of the facts McAleer cites he got from a quick internet search, and his funding source is crowdfunding (as is Wikipedia’s).[[17]](#footnote-17)

Again, I think that McAleer would reply to Bale with two points. First, McAleer showed how easy it would have been for Fox to verify that natural gas infuses water supplies all around the country, even where there is no fracking, and that such natural gas leakage has been known for centuries. He didn’t rely or quick internet searches for his whole film, naturally.

Second, the fact that *FrackNation* was crowdfunded means that it was funded neither by any energy companies nor by any environmentalist NGOs—nor Russian secret agencies.

One further reply to Bale would be that no, *Wikipedia* is *not* generally viewed as unreliable by most scholars. It is fairly trustworthy and widely used.

Finally, critic Mark Olsen attacked McAleer’s film as a “one-sided attack piece.”[[18]](#footnote-18) McAleer could reply here that that Olsen completely missed the point. *Gasland* was an unabashed and transparent hit piece against *all* fracking, no matter how tightly regulated and how carefully done, and no matter how much landowners want the option to allow fracking on their own property. Its cost to many landowners in America—not to mention, in helping keep the Europeans dependent upon Russian energy, the cost to the citizens of Ukraine—is incalculable. It deserves—no, in a democracy, it *requires*—a film stating the other side of the case. The point here is that in the courtroom of democratic public opinion, a prosecuting attorney should be balanced by a defense attorney. Fox clearly is prosecuting the fracking industry; should that industry not have a defense?

The point here is entirely general: in a democracy, impassioned advocates will produce propaganda pieces for one position. This is fine, as long as others are free to make equally impassioned counter-propaganda.

*FrackNation* does an even better job of rebutting *Gasland* than does *Truthland*. For one thing, it is a much fuller treatment of the subject at 1 hour, 42 minutes. Let’s restate McAleer’s main criticisms of Fox’s film, by showing how they use the criteria given at the beginning of this essay.

Start with truthfulness. McAleer’s presents credible ordinary citizens testifying about what they have seen and experienced, and credible experts offering their expert opinions. Again, all of this leads the audience to the opinion that *Gasland* is untruthful in many of its claims.

* Fracking isn’t the only cause of natural gas in water;
* Fox’s allegations that *FrackNation* violated the copyright to *Gasland* (which forced YouTube and Vimeo to take it down) was a falsehood, a flimsy lie to suppress legitimate criticism;
* Despite the impression given *Gasland*, most residents of Dimock are quite supportive of fracking on their land—by a margin of 1,500 to 11;
* Dimock’s water supply had natural gas in it long before there were any fracking operations there;
* The 2005 Federal bill that Fox claims exempted the fracking industry from all environmental regulation did no such thing—it overturned none of the numerous state and local laws governing fracking (it just imposed no new Federal laws);
* Fox would have you believe that then-Representative Dick Cheney was the person who got the bill passed—but in reality, it had wide bi-partisan support, including that of progressive Democrat Barack Obama;
* Fox says he was offered a lease by an oil-company to frack his property, but McAleer proves that he could never have gotten that lease offer from a fracking;
* Fox claims that people in the Baldwin Hills area of Los Angeles, residents are getting sick from noxious fume from fracking, but interviews with local residents contradict this claim;
* Fox claims that the air in Dish, Texas has been tested and shown to contain massive levels of benzene, but the Texas Commission on Environmental Quality has tested the air 50 times, and found no such noxious chemicals;
* Fox claims that cancer rates in the Barnett Shale region have spiked upwards, but McAleer adduces three experts who deny this claim;
* Fox claims that residents of Dimock, especially the Sautners, had their water fouled by fracking, but 1,500 residents of the town deny this claim, as do the Pennsylvania Department of Environmental Regulation and the Federal EPA.

Next, consider logicality. McAleer’s film criticizes much of the reasoning in Fox’s film.

* When McAleer asks one of the people claiming that his water was contaminated by fracking, Craig Sautner, Sautner says that “maybe” he had his water tested by a lab a couple of years ago, and maybe it tested as safe—he doesn’t remember. This witness is palpably untrustworthy;
* To the claim that fracking contains scary chemicals, many of which are proven carcinogens, Prof. Ames points out that these chemicals only cause cancer in high doses, and that fracking operations are not causing cancer.

Finally, consider transparency.

* Fox never discloses in his film itself (but only in the credits) his ties with Carol Collier, supposedly fair-minded Director of the Delaware River Basin Commission;
* Fox never discloses the fact that all of the people claiming harm from fracking in Dimock are plaintiffs in lawsuits (so are biased as witnesses);
* Fox never mentions the 1,500 citizens of Dimock who favor fracking;
* Fox never discloses the 1,100 other property owners in the Delaware River Basin who favor allowing fracking;
* Fox never discloses his link to Alison Rich, discredited “expert” who wrote the disputed reports about Dish, Texas.

**Conclusion: The Impact of these Films**

How persuasive was *Truthland* and *FrackNation* in countering *Gasland*? This is, of course, an ambiguous question. If we mean, did many people whose opinion of fracking become more negative after watching *Gasland* have their opinions reversed after watching one or both of the counter-propaganda movies? Then the answer is, almost certainly not. This is not because of the difference in inherent cogency between *Gasland* and the counter-propaganda films, but it is because of the vast disparity in their original distribution. *Gasland* premiered on HBO to three million subscriber homes, and 250,000 people attended the movie on its 250 city “grassroots” tour. In contrast, *Truthland*, while funded by the energy industry, was only aired on YouTube and its own website, with little if any promotion. And *FrackNation* was not financed by the energy industry at all, but by crowdfunding, and it was available on YouTube and Vimeo, again with little if any promotion. It did get aired on AXS.tv, in January of 2013—but AXS.tv is a sports and music cable channel, *with a viewership far below that of HBO*.

Yet as we saw in reviewing the two pieces of counterpropaganda, both made major relevant criticisms of *Gasland*, which we discussed earlier. And certainly, Josh Fox’s subsequent behavior indicates that the criticism apparently hit home. Fox and his attorneys had *FrackNation* temporarily banned from YouTube and Vimeo, which McAleer was able to have reversed. Fox had his staff eject McAleer from a talk Fox was giving in Los Angeles. And most significantly, the very same year that McAleer released *FrackNation,* Fox subsequently released *Gasland Part II[[19]](#footnote-19)*, an even longer documentary on the same subject.

The reader should note here that I have nowhere in this article taken a position on whether fracking is basically safe or is wise energy policy. To that question, one would need to do much more than watch a few documentaries—especially flawed propaganda documentaries. On would have to actually read scholarly articles with an eye to answering questions that are neither trivial nor obvious such as: What percentage of fracking wells leak toxic liquids or inject natural gas into ground water? Are there precautions that can be taken that make fracking safe, and if so, which ones? Of the roughly 1.7 million fracking wells spread across 36 American states, what percentage have had complaints made against them, and by whom?[[20]](#footnote-20) How does this compare with the dangers of offshore drilling? How about nuclear power? How about wind and solar power, especially if we have to store masses of energy in toxic batteries?

Most importantly: how many citizens of our democracy will decide the issue based upon extensive, open-minded research? And how many will decide after only watching a deceitful TV movie?

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1. *Gasland* Director: Josh Fox; Producers: Trish Adlesic, Josh Fox, and Molly Grandour. (2011) (1 hour 42 minutes). [↑](#footnote-ref-1)
2. *Truthland: Dispatches from the Real Gasland* Director: Shelley Depue; Producer: Energy In Depth; (2012) (35 mins). [↑](#footnote-ref-2)
3. *FrackNation* Directors: Phelim McAleer; Ann McElhinney; and Magdalena Segieda; Producer: Ann and Phelim Media; (2013) (1 hour, 17 mins). [↑](#footnote-ref-3)
4. This includes other forms of symbolic messaging, such as cartoons, pictures, and so on. [↑](#footnote-ref-4)
5. Jason (2022). See chapter 17 (on marketing) and chapter 18 (on propaganda). [↑](#footnote-ref-5)
6. It is possible that there are other criteria that enter the assessment of the rationality of propaganda. [↑](#footnote-ref-6)
7. Willis (2012). [↑](#footnote-ref-7)
8. Gilbert (2012). [↑](#footnote-ref-8)
9. Wikipedia (2023). [↑](#footnote-ref-9)
10. Reuters Staff (2014). [↑](#footnote-ref-10)
11. Parenthetically, McAleer might have noted here the work of Edith Efron, whose masterful work *The Apocalyptics,* written in the mid-1980s as a reply to Rachel Carlson’s *The Silent Spring*, explored the phenomenon of cancer caused by high-dosage chemicals. See Efron (1984). [↑](#footnote-ref-11)
12. Catsoulis (2013). [↑](#footnote-ref-12)
13. Campbell (2013. [↑](#footnote-ref-13)
14. Smith (2013). [↑](#footnote-ref-14)
15. Anderson (2013). [↑](#footnote-ref-15)
16. Anderson (2013). [↑](#footnote-ref-16)
17. Bale (2013). [↑](#footnote-ref-17)
18. Olsen (2013). [↑](#footnote-ref-18)
19. *Gasland Part II* Director: Josh Fox; Produced by: Trish Adlesic, Josh Fox, and Deborah Wallace (2013) (2 hours, 5 mins.) [↑](#footnote-ref-19)
20. Magill (2014). [↑](#footnote-ref-20)