

Some thoughts on “Pandora’s Promise” and the nuclear debate

By David Roberts on 14 Jun 2013

Nuclear power is a weird, weird thing.

It is the most socialist of all energy industries, propped up by governments everywhere it exists, yet conservatives love it. It is (putting construction and materials aside) carbon-free, yet most environmentalists hate it. It hasn’t grown much, or reduced costs much, or shown any signs of being anything but moribund for decades, yet it is the subject of enduring obsession in the energy world, with one wave of “nuclear renaissance” stories after another. Its most passionate supporters are propagandists, as are its most passionate opponents, and — the weirdest part — virtually everyone who has an opinion is either a passionate supporter or a passionate opponent, which makes for a lot of propaganda all around.

Long story short, writing about nuclear power has always been more trouble than it’s worth, at least for me. No matter what you say, a bitter, endless argument ensues in which no one changes their mind. Ever. At all. There are all sorts of things happening in energy right now that are more interesting than nuclear, so I focus on those.

Regular readers will know I feel roughly the same way about the Breakthrough Institute. BTI “bad boys” Michael Shellenberger and Ted Nordhaus receive a degree of press coverage that wildly exceeds their intellectual contributions and, like nuclear power, have an ineffable power to render everyone involved an unbearable douche canoe.

All of which suggests that the last thing I should be writing about is Pandora’s Promise, a pro-nuclear propaganda film featuring the Breakthrough boys. It’s like a cosmic douche vortex. No one will escape un-douched.

Nonetheless ... it’s making the rounds, and people keep asking (and asking) me about it. So against my better judgment, a few general thoughts on nuke debates and the film.

(Important proviso: I haven’t seen the film, and I doubt I will — I have my limits. So this isn’t a review. From what I’ve heard, it’s quite professionally done. Those interested in the details should, y’know, go see it.)

- Nuclear power is fine, or at least meh, with me. I don’t really get the zealous opposition to it among a certain generation of enviros — I suspect there are cultural currents I don’t grasp, having to do with the ’60s and the Cold War and God knows what else. Perhaps the same cultural currents help explain conservative support of nukes.

I think the pro-nuke folks are generally correct that the health dangers of radiation, and the nuclear power industry generally, have been overblown. By virtually any metric you

choose, nuke plants are hugely preferable to coal plants, which are slaughtering people wholesale even as we speak, with nothing like the same popular passion directed against them. The debate over how many people have gotten sick or died from nuclear power — which mainly reduces to a debate over Chernobyl — is beyond me, but even if you accept the highest numbers, they are fraction of those killed by coal. Plus the whole climate change thing.

Coal is the problem. Insofar as the choice is between coal and nuclear, the answer is obviously nuclear. That's why, generally speaking, I'd rather let the nuclear power plants that are running safely (which is a matter of dispute, obviously) continue running as long as possible. I have defended Germany's plan to shut down its nuclear plants — baseload power plants are ultimately ill-suited to the kind of system it's trying to build — but if it were up to me Germany would go after coal plants with undivided focus, getting to nuclear only after coal was eradicated.

Nuclear or coal is not the choice that faces us going forward, but were I convinced it was, I'd be a big nuke supporter. I am leery of them for several reasons that I'll touch on below, but life is about risk, and the risks of coal and climate change are a hell of a lot worse than the risks of nuclear power.

- Nuclear's main problem is economics, which its supporters seem oddly unwilling to discuss, opting instead for one lay psychological diagnosis of their opponents after another. Based on what I've read about Pandora's Promise, opposition to nuclear power is mainly represented by scratchy old '70s footage of Helen Caldicott. The subject of economics is broached passingly, if at all.

But the reason I and most people I know are not nuke boosters is just that: Nuke plants are hellishly expensive to finance, build, insure, and decommission. It's one of the most expensive ways to reduce carbon emissions and it's not getting any cheaper. If anything, nuclear has exhibited a negative learning curve.

The response to this from supporters usually amounts to, "Yeah, but you can't get all the way there on renewables." This may or not be true. There are credible models of large-scale renewable penetration, but ultimately we won't know until we try. If we reach a point where nuclear power is cheaper than the next increment of conservation, energy efficiency, demand shifting, renewables, cogeneration, and/or storage, then yay for nukes. But right now there are lots of cheaper options and more on the way. Renewables are plunging in price; nuclear prices are static or rising. You don't need a weatherman to know which way the wind blows.

- Bigness is a problem. Right now nukes come in one size, huge, which carries all kinds of risks. The financial commitment is enormous, one reason private investors shy away. The risks of cost overruns (ubiquitous in the industry) or outright abandonment are enormous. The risks of public opposition or changing public policy are enormous, given the span of time it takes to permit and build one. The consequences of failure — attack,

meltdown, leaks, whatever — are enormous, which is why private insurers won't cover them. And the costs and risks of decommissioning are enormous.

Everything about nukes is enormous. Meanwhile, the coming century will be characterized by greater and greater disruption, uncertainty, and flux, for all kinds of reasons, most notably climate change. In that environment, resilience is at a premium, which means a bias toward nodal architecture: smaller units (of capital, of risk, of power generation), smartly networked together, capable of graceful failure and rebound in the face of stress. Nuclear is ill-suited to a role in that kind of system.

Breakthrough has made a full-fledged cosmology out of hippie-punching, to the point that they're now committed to the view that Amory Lovins is high, small is for sissies, and the only solution to energy poverty is expanding and extending the brittle systems of the 20th century to the developing world. Now there's an argument that does seem to call for diagnosis, but I suppose that's for another day.

- Propaganda tends to arouse suspicion.

Pandora's Promise is directed by Robert Stone, who brings all the zealotry of a convert to the proceedings. The results are ... well, take it away, reviewers.

The New York Times:

You need to make an argument. A parade of like-minded nuclear-power advocates who assure us that everything will be all right just doesn't cut it.

Variety:

Where Stone errs, even on behalf of his own argument, is in not including a single voice in opposition to nukes, even just for contrast, and in treating those who opposed nuclear power in the past as a bunch of brain-dead hippies. The juxtapositions created between his current-day subjects and people marching and singing against nukes in 1979, make the latter look like idiots, when all they were doing was acting in good conscience. It's not the best way to make a persuasive argument. Regarding the science of the pro-nuclear debate, no one on screen is less than convincing, and nothing in the end seems more benign than a twin-stacked breeder reactor; the viewer might almost come away thinking that what he or she needs in the morning is a healthy dose of nuclear radiation. But this is a zealotry issue, and Stone is a convert.

Bulletin of the Atomic Scientists:

To be sure, there is nothing wrong with changing your mind. In fact, there is much to admire in those who recognize altered circumstances, integrate fresh information, and come to a new judgment. What is disingenuous about Pandora's Promise is the way the new judgment is conveyed. The film mocks groups that continue to protest nuclear power, treating one-time colleagues as extremists and zealots. An audience discussion

after a preview at the University of Chicago made it clear I was not the only one who sensed the self-righteous tone of the newly converted in the film's narrative. In the end, by dismissing the protestors and failing to engage them in significant debate about the pros and cons of nuclear energy, the film undermined its own message.

Seattle Weekly:

But the doc's bigger flaw is that no one is allowed to make a reasoned anti-nuclear argument. To the well-made film's many statistics, graphics, and common-sense assertions, the lack of a rebuttal is deafening.

Village Voice:

Alas, [the movie's] argument against fear-driven orthodoxy is undercut by the fact that, as with so many of this subgenre's entrants, there are no substantial competing voices included in the mix ...

And so on.

Of course, to those who went in already convinced, the very techniques that felt so ham-handed to so many reviewers were used "instinctively, naturally. They don't feel overtly manipulative, but just the intuitively applied tools of persuasive story telling." Of course! I've always found that those who agree with me have a certain way with words.

- Something something small modular reactors. Confronted by the obvious travails of the actually existing nuclear industry, supporters inevitably wave their hands at the Nukes of the Future: thorium reactors, small modular reactors, integral fast reactors, and the like.

I'll admit, I've never done a deep dive into the merits of these alternatives. To hear supporters tell it, within a few years you'll have a reactor in your backyard that consumes nuclear waste from past reactors and emits nothing but fresh air, clean water, and the scent of jasmine. There are, of course, lots of folks who think the promise of new reactors is overblown. I couldn't begin to adjudicate that dispute.

I certainly hope nukes can be made small and clean. And I'm all for finding out. All possible low-carbon techs should be subject to vigorous research and demonstration, paid for in part with public money. If new reactor designs prove as much safer as promised, if their costs start falling, if they perform, I'm absolutely in support of government deployment assistance, just like I am for all low-carbon technologies. It makes no sense for climate hawks to close off future low-carbon options, or to criticize some bleeding-edge technologies for being expensive but not others. (After all, lots of new solar technologies are expensive too.) All low-carbon techs face the same tilted playing field.

None of that, however, is germane to the argument over current reactors, which remain the dominant technology in the sector. It's the same with biofuels: You can't defend corn ethanol by waving your hands at switchgrass.

- There is no budding environmentalist movement for nukes. Ever since I started paying attention to “nuclear renaissance” stories about a decade ago, there’s always been this credulous, excitable bit about how enviros are starting to come around. The roster of enviros in this purportedly burgeoning movement: Stewart Brand, the Breakthrough Boys, and “Greenpeace cofounder Patrick Moore,” who has been a paid shill for industry for decades (it sounds like the Pandora folks were wise enough to leave him out). More recently George Monbiot and Mark Lynas have been added to the list. This handful of converts is always cited with the implication that it’s the leading edge of a vast shift, and yet ... it’s always the same handful.

Anyway, if environmentalists are as omni-incompetent as Breakthrough has alleged all these years, why the eagerness to recruit them? I get the media appeal of “even hippies know the hippies are wrong,” but to me it smells of flop sweat.

As of now, of the 10 leading enviro groups in the U.S., zero support new nuclear power plants. In the movie, Shellenberger says, “I have a sense that this is a beautiful thing ... the beginning of a movement.” I fear he has once again mistaken the contents of his navel for the zeitgeist.

- I’m not reading the comments on this post.

You couldn’t pay me enough.