

## **Energy: Just say “no” to “Just say no”**

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Energy has been a favorite topic of debate for centuries. In order to live our modern lives, we need to *get* energy from somewhere and transport it to those who use it for domestic or commercial purposes. But which forms of energy to use, and how to transport them from producer to consumer have long been the source of heated discussion.

Most residents of northeastern Pennsylvania know that anthracite coal built our region. It powered the industrial revolution and fueled US victories in two world wars. But the lingering environmental, economic and social scars left by the demise of the anthracite industry have created a debate about its value to the region.

A national debate centers on our use of fossil fuels – oil, coal, and natural gas. By 1960, fully 90% of the U.S.’ 45 quadrillion BTUs of energy consumption were in the form of such fuels. The last 40 years have seen oil shortages, concerns over greenhouse gas emissions, the rise of nuclear power in the 1970s, and demands for non-carbon alternatives like wind, solar, and geothermal. Despite those upheavals, fossil fuels represented 82% of our total energy consumption in 2012.

The future role of fossil fuels is debatable. The US Energy Information Association latest report projects that by 2040, fossil fuels will maintain a robust 80% of our energy mix. Authors like Robert Bryce contend that our high-energy demands can only be met by fossil fuels. Conversely, experts like Stanford’s Mark Jacobson and University of California’s Mark Delucchi assert that we can power the world by wind, water, and solar by 2050. Some countries are aggressively pursuing policies that de-emphasize fossil fuels. For example, Germany plans to generate at least 35% of its electricity from renewables by 2020, growing to 80% by 2050.

Our debates about energy are clouded by the fact that every form of energy has its staunch critics, who emphasize the risks and shortcomings and overlook the advantages. It is easy to find letters to the editor, blogs, or websites that deride coal or oil or nuclear or wind or geothermal or solar or geothermal or hydropower or – especially – natural gas from shale.

Certainly, some the criticism is motivated by a personal financial stake. As reported by Gabe Elsner of the Energy & Policy Institute of Washington D.C., some critics of carbon-free alternatives like wind and solar are supported by the coal, oil, or natural gas industries. But other critics simply have a dislike that is not based on financial interests. They just don’t want to see a windfarm in their backyard. Or they want to

see rivers free of dams that could otherwise create hydropower. Or they are nervous about proliferation of nuclear energy without plans for handling radioactive waste. Or they see solar energy as an unproven pipedream.

Likewise, many oppose individual energy distribution systems like pipelines or high-voltage transmission lines for environmental, health, or aesthetic reasons. Would opponents to the Keystone XL pipeline or new midstream natural gas pipelines prefer that the energy be shipped by truck or rail to the destination?

Despite their diverse concerns, the critics all have one thing in common. They maintain that the form of energy in their crosshairs is unacceptable because of reasons X, Y, and Z. The world would be much better if we simply stopped producing it.

But what form of energy should take its place? Typically, the critics offer no recommendations. Just saying “no” is all that matters.

We have to stop pretending that we can stop one energy source without the need to ramp up something else with its own downsides. Conservation is desirable, but it has practical limits. So if you don't like fracking, do you prefer nuclear? If you don't like wind, do you prefer coal?

To that end, I have a simple request. If you plan to author a future op ed, blog, letter to the editor, or comment on a message board that rails against a particular form of energy – please tell us what you prefer instead. “Just say no” is not a way to intelligently discuss a complex issue such as energy production, distribution, or consumption. As Don Duggan-Haas of the Paleontological Research Institute aptly puts it, we need to complexify the seemingly simple. Otherwise we will continue to have empty debates that lead nowhere. For a topic as important as energy, we must do better.