

## Solar Energy, Natural Gas, and Peace

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1. A few days ago, John Kerry talked about the potential of the solar energy industry and job growth in that sector. In fact, over the last 10 years, solar energy's contribution in the United States has grown from about 1.03% to about 1.9%. Even though it is an attractive renewable energy source, at this point, it does not have the required power density to be a serious alternative to fossil fuels. These meager percentages echo this realization by consumers.
2. History teaches that civilizations move from one source of energy to another if the new source is more power dense. For example, a cubic foot of coal provides more power than a cubic foot of wood, i.e., is more power dense. Hence, it is more efficient to burn coal than wood; so, if coal is available, that becomes the new energy source of choice.

Today, the most power dense and economical energy sources are fossil fuels especially natural gas. Estimates of known reserves of natural gas vary but 50-100 years is somewhere near the average of the estimates. So, in my opinion, we have 50-100 years to develop a viable alternative and should continue to exhaust these reserves until such an alternative is available. To do otherwise ignores the lessons of history.

3. Policies that stifle natural gas production or distribution such as shutting down the Keystone Pipeline or interfering with the fracking industry hurt the United States for at least two reasons. First, as indicated above, the country is deprived of an economical source of energy that has made our country a net energy exporter and allowed us to shed our dependence on foreign oil. Second, our ability to produce relatively cheap natural gas has substantively crippled Russia's buildup. The latter was funded by Russia's exports over half of which were oil and natural gas. Our ability to produce natural gas at a lower cost due in large part to fracking development along with a decrease in global demand, had a devastating effect on the Russian economy due to falling oil prices.
4. And, what does all of this have to do with peace? Like Russia, China and every other developed nation, our economy depends on energy and anything that interferes with our energy supply weakens our economy and our nation. Reagan understood this. His argument "peace through strength" meant a nation that is strong both militarily and economically is less likely to be attacked than a weak nation. Trump understands this concept as well, perhaps, more from a standpoint of leverage. Both of these presidents oversaw a rebuilding of our military as well as a rebuilding of the economy because they understood a weak nation is a vulnerable nation and a vulnerable nation cannot be a peaceful nation.

\*Items 3 and 4 follow from chapters 10 and 11 in McFarland, KT. [Revolution: Trump, Washington and We the People](#). New York: Post Hill Press, 2020.