

To the Editor

Op-Ed: The Energy Policy Debate between Candidates

Steven Parker

AEE life member and registered voter in the United States

ABSTRACT

In November 2012, registered voters of the United States will vote for President of the United States. The decision on which candidate a voter will support will be made based on many parameters, but this is a journal on Strategic Policy for Energy and the Environment. Therefore, this op-ed will focus on energy policy. My friend, Dr. Jorge Wong, Editor-in-Chief of AEE's Distributed Generation and Alternative Energy Journal, highlighted an excellent article in *The American* written by Kenneth Green and Elizabeth DeMeo (<http://www.american.com/archive/2012/august/presidential-power-obama-vs-romney-on-energy>), which I highly recommend reading before this Op-Ed. Jorge asked, "Which policy, or better, what parts of each policy (Romney's or Obama's) will make U.S. energy more reliable and secure in the long run, for both producers/providers and users?" I decided to write this op-ed touching on the three ways Green and DeMeo contrasted the candidate's energy platforms. This article is unlikely to change the way you feel about either candidate, but I believe it is important to understand energy and how energy policy affects our lives. Please note that the article is my personal and professional opinion and does not necessarily reflect the opinions of my employer or my clients.

PLANNED VS. FREE MARKET ECONOMY

The first contrast made by Green and DeMeo is how Obama's energy platform is built on a planned energy economy, while Romney's energy platform is built on a free market economy. In this case, I believe Obama has it (partially) right, but for all the wrong reasons. We need

a long-term energy policy that guides the country to a sound energy future. (Too bad we do not have one.) The purpose of policy is to set direction, providing guidance to regulators so that regulation will create boundaries in which the economy will work. I consider myself a capitalist. Money drives decisions. Where the regulations allow, I will take the path that offers the greatest return on investment. If you allow the free market economy to act without boundaries, business will make short-sighted decisions that provide quick returns on investment and leave the longer-term costs for someone else. (Remember the super funds for clean up?) A planned economy will have higher costs up front, but it will pay off in the long term. (Remember Fram™ oil filters? “You can pay me now, or pay me later.”) However, I think the federal government should, through national research, discover and create technologies that offer substantial national benefit. Then the government needs to incentivize the free market economy to bring the technology to market. Giving an individual company free money to start a business that requires constant handouts of more federal money is a waste of taxpayer dollars. Business needs to be self-perpetuating, or the business model is destined for failure. The government’s approach to Solyndra was a foreseeable failed business model. I believe the L-Prize is a better business model—build it (with the right specs and the right price) and we will come (and buy it).

ENERGY AFFORDABILITY

The second contrast between the candidate’s energy platforms is that Obama is willing to put the energy cost burden on society to achieve his goals, while Romney wants to keep energy costs low. Based on my statements above, you might draw the conclusion that I favor Obama’s approach regarding energy affordability. However, I still consider myself a capitalist. I am willing to make an investment for a return on that investment. Obama appears to be willing to burn (our) capital, but I do not see the return. I also believe his direction is misguided, as I will discuss in the next section. To be fair, Romney’s platform may also be misdirected.

I realize governing is compromising. There is no one way to accomplish anything; there are always multiple paths to a goal. Our economy is still suffering from the recession, unemployment is still too

high, and businesses are wary to invest because they see an uncertain future. We have to give the flywheel a little energy to get us out of the hole we are in. Romney's plan may allow the country access to cheap energy, which may stimulate the economy enough to get things going again; this plan makes more sense than spending money we don't have. However, I would approach this as a short-term solution, not a long-term plan. Maybe toning down the EPA is necessary in the long term, but castrating the agency would eventually harm the environment, and I like some of the progress we have made.

ENERGY INDEPENDENCE

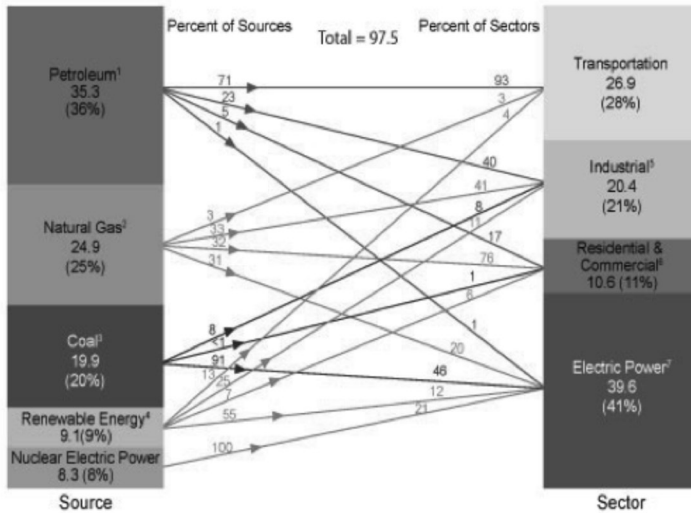
The third contrast between the candidates offered by Green and DeMeo is on how the candidates propose to lead the country toward energy independence. Both of them support the goal of energy independence. (Too bad that neither has a long term plan.) I also believe they are getting poor advice. Of course, I have to believe that, because the other option is that they both think we the people are stupid. Energy independence today is within sight; all we need is a workable energy plan and an administration focused on achieving it. If we define energy independence as not being reliant on foreign oil, then we need to focus on oil. Think about it, you can cover the countryside in photovoltaics (PV) and wind turbines, and it will not reduce oil consumption. As shown in the figure from the Energy Information Administration, electricity comes from coal, nuclear, natural gas, and renewable energy (which includes big hydro). Less than 1% of oil is used to generate electricity.

Petroleum has three main uses: space heating (5% of annual petroleum consumption), industry (23%), and transportation (71%). If you want to reduce reliance on foreign oil consumption, you have few options—increase efficiency and displace petroleum with an alternative source fuel. If you believe in a primary axiom of Wayne Turner (as I do), that “a small percentage of a large number is a large number, and a large percentage of a small number is still a small number,” then transportation has to be the focus of any energy plan to reduce reliance on foreign oil.

Transportation includes planes, trains, and automobiles. (Okay, we should also include trucks and ships.) We have the technology today

Primary Energy Consumption By Source and Sector, 2011

quadrillion Btu



Endnotes:

- 1 Does not include biofuels that have been blended with petroleum—biofuels are included in "Renewable Energy."
- 2 Excludes supplemental gaseous fuels.
- 3 Includes less than 0.1 quadrillion Btu of coal coke net exports.
- 4 Conventional hydroelectric power, geothermal, solar/PV, wind, and biomass.
- 5 Includes industrial combined-heat-and-power (CHP) and industrial electricity-only plants.
- 6 Includes commercial combined-heat-and-power (CHP) and commercial electricity-only plants.
- 7 Electricity-only and combined-heat-and-power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes 0.1 quadrillion Btu of electricity net imports not shown under "Source."

Note: Primary energy in the form that it is first accounted for in a statistical energy balance, before any transformation to secondary or tertiary forms of energy (for example, coal is used to generate electricity).

• Sum of components may not equal total due to independent rounding.

Sources: U.S. Energy Information Administration, Monthly Energy Review (March 2012), Tables 1.3, 2.1-2.5, preliminary 2011 data.

to displace diesel with natural gas for long-distance trucking. It even offers a good return on investment. The barrier is infrastructure. There are currently around 500 natural gas fueling stations in the United States; compare this to 159,000 gas stations in the U.S. What we have is a chicken and egg dilemma. What we need is a "build it and they will come" story. In some cases, the free market economy is heading in this direction. Companies such as Waste Management (NYSE: WM) are converting their fleets to alternative fuels, displacing diesel fuel,

and generating a return on investment. Companies such as Westport Innovations (NASDAQ: WPRT) have built a business supporting the process. In general, we cannot expect the free market economy to build national infrastructure. It took President Roosevelt's support to build the electric distribution infrastructure. It took President Eisenhower's support to build the national highway system. It is going to take the federal government's support to replace a gasoline-based, trucker-supplied, infrastructure with a natural-gas-based, pipeline-supply, vehicle-fuel infrastructure. At the very least, a favorable tax structure could be used to provide some economic incentive to the free market economy.

Residential automobiles are the vehicle (no pun intended) that can guarantee energy independence. President Obama recently announced support to raise the mileage standards for cars and light trucks to 54.5 miles per gallon (by 2025). This will go a long way toward energy independence, but it will take a long time. In my opinion, this should have been tied into the auto industry bailout, with half the timeline. Of course, our portfolio should include a collection of workable options. I applaud General Motors (NYSE: GM), Ford (NYSE:F), Honda Motor Company (TYO:7267; NYSE:HMC [ADR]), and Toyota Motor Corporation (TYO: 7203; NYSE: TM [ADR]) for hybrid vehicles, but I personally favor the potential of electric vehicles by Nissan Motor Company (TYO: 7201; PINK: NSANY [ADR]), Tesla (NASDAQ: TSLA), and Ford Motor Company (NYSE:F). (My apologies for not listing all hybrid and electric vehicle companies, as it is an ever-growing list.) Fear mongers warn that we don't have the infrastructure. While I agree that we need to improve the reliability of the electric grid (another story), I still contend that what we lack are charging stations (another built it and they will come story). Credit cards are already used for parking meters and parking garages; imagine charging stations being added to parking meters and parking garages. I see this as a business opportunity that offers convenience.

Getting transportation (planes, trains, and automobiles) off petroleum is the single most effective way to eliminate this country's dependence on foreign oil. This should be the highest priority in our country's energy plan. I have no preference between natural gas or electric, but I do believe that we have to get away from petroleum—and sooner rather than later.

To reduce heating oil, one of the best options is to switch to natural gas. It's cleaner and has lower cost. To accomplish that, we need infrastructure and a reliable source. Shale gas has given us the opportunity

for a reliable, long-term source of natural gas. But we also need infrastructure. The Northeast is the region of the country that uses heating oil. We need gas pipelines into this region to allow the opportunity for natural gas to displace heating oil. Companies such as Consolidated Edison (NYSE: ED) are increasing the natural gas distribution infrastructure within their service territory, providing value to their customers and generating a new revenue stream. Expansion of the natural gas pipeline network is an interstate issue, thus requiring a federal solution. The federal government, through policy and other means, should be encouraging the expansion of natural gas pipelines, conversion to domestic natural gas, and displacement of imported petroleum.

A final word: If you want to reduce carbon (an environmental platform), then your target is coal (for electricity) and oil (for transportation and heating). After all, that's where the carbon is. There are two primary options—displacing the source fuel with an alternate or displacing the source fuel through efficiency. With regard to how electricity is generated (how power plants operate), PV and wind turbines displace natural gas because natural gas power plants can react to the unstable supply of PV and wind. Natural gas, when the supply is stable, displaces coal. Efficiency, as a technology, is cheaper and more effective as a method of reducing carbon.

Of the three categories discussed, I really believe the third—energy independence—is the most important, not just for national security but for economic security. If we as a country become energy independent, then we will be spending money (for energy) locally and supporting our own economy. Other third world countries have done it, and so can we—with the right leadership and the right policies.

ABOUT THE AUTHOR

Steven Parker, PE, CEM, has been working in the field of energy management for over 30 years. He is a past president of the Association of Energy Engineers (2002) and a member of the Association of Energy Engineers Energy Manager's Hall of Fame. Steven also served as Editor-in-Chief of the Cogeneration and Distributed Generation Journal, a quarterly journal for the AEE, from 2002 through 2010. He has authored over 100 technical reports, articles, and other professional publications in the area of energy efficiency and energy cost reduction.

steven.99.parker@gmail.com