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Wishful Thinking Meets Hard Realities in Energy Production

Patrick Michaels and Joseph Verruni

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There is a big difference between what government mandates and what citizens can physically accomplish. Policies that bet on yet-to-be commercialized technologies should be viewed with suspicion. While a government might attempt to legislate technology into existence, that is not how inventing works.

This gap between policy and technology was on full display in the first Democratic debate. Former Maryland Governor Martin O'Malley's call to "move America forward to a 100 percent clean energy grid by 2050" using tax credits is like a politician's health care plan that promises to boost life expectancy to 150 years—it might not be impossible, but it certainly isn't realistic in the near term.

The confusion is partly a result of alternative energies purposefully being monolithically marketed together as "renewable energy." Not all non-fossil fuel energy sources are created equal—some are more useful and reliable than others. Some "baseload" sources can produce energy at any time, like hydroelectric dams and geothermal. Other technologies work intermittently, like wind providing power when the wind is blowing or solar when the sun is shining.

This brings up a crucial issue: The electric grid is technologically incapable of storing electricity. Tesla's Powerwall, set to come out this December, can assist households willing to pay more than $4,000 to store energy—and it's implied to be used in tandem with residential photovoltaics.

This isn't going to work in high-latitude winters—where the power is arguably most needed. Nor is it going to work in a dreary Chicago December. If a grid was 100 percent wind-powered and the wind died down, only those who'd ponied up the extra thousands would be able to use stored wind power. The rest of us would have our lights would go off immediately, not knowing when the wind would come back.

The greatest benefit to fossil fuels is that they're fuels. Fuels are a store of power. A gallon of gasoline can be put in a bucket, stored and used to produce power whenever it's needed. The water behind a hydroelectric dam acts similarly, as does the hot fluid of an active geothermal well. This storage isn't very much different than what Tesla's Powerwall does.

Fortunately for us, hope is not lost. While most domestic sites for hydroelectric dams were long ago developed or settled (which precludes development), and geothermal is still only viable in a few places on the West Coast, nuclear energy is carbon-free and available anywhere—or would be if it were politically feasible.

It suffers from the problem that it is expensive, compared to natural gas produced by hydraulic fracturing, which is quickly displacing coal for electricity generation due to its price and abundance. It produces about half the carbon dioxide compared to coal when burned, and far fewer other impurities.

This "clean revolution" didn't happen because a politician dictated so—in fact, it happened in spite of politicians rallying against it.

Relying on alternative energy sources for political expedience can be risky. As has occurred in the third world, an unreliable power grid can shut down a hospital's respirators, spoil massive amounts of refrigerated food, or shut down lights across busy roads. A similarly unreliable grid would be unacceptable to Americans, who prefer cleaner energy but necessitate reliability.

In spite of the ire they receive, alternative energies can have valuable and economically sound applications, especially in remote, sunny places like interior Australia. However, they are not ready to take over all utility power production.

As life-extending technologies are being advanced every day, so are more efficient sources of energy. Generally speaking, a company that produces things more efficiently than its competitors, or produces more efficient things, will be advantaged in the marketplace.

One of the reasons to support removing all energy subsidies is because no matter what hurdles exist, people will continue making our world cleaner and more efficient. Innovation is earned and achieved, not handed down by politicians as thanks for electing them into office.

Our power grid, unlike our political process, will continue getting cleaner and more efficient. Innovation is an integral part of human nature. This doesn't mean we'll find an adequate, affordable grid storage solution just because a politician might command it. Instead, what government needs to do is get out of the way, including dropping all energy subsidies that discourage the freedom to innovate.

Patrick Michaels is the director of Cato's Center for the Study of Science. Joseph Verruni is the project manager for the Cato Institute's Center for the Study of Science and a former alternative energy and efficiency consultant.