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The Lessons Of Solyndra: Green Swans, Opportunity Cost And Fast Neutrinos

The sudden implosion of Solyndra and Big Solar throughout the country may have been an historic inevitability. Years from now Solyndra's demise, (and the terrible loss imposed on its California employees), should be a business-school case study in what governments should *not* have done about global warming. The corollary study will be on the follies of wind power.

Both solar and wind stand in the way of the torrent of history. The global trend towards increasingly dense energy, beginning with the fire in Zog's cave, progressing through managed forestry, coal, gasoline, natural gas and nuclear fission is obvious and logical. As economies develop they consume enormous amounts of energy. Centralizing power production with increasing numbers of high-capacity generation facilities stabilizes the world's grids. Only a modest amount of reserve capacity is needed to keep the system from going down when one or a few power plants crash. Concentration of power production confines its viewscape blot to a small place (although it spreads out emissions, accidental and otherwise). On the other hand, large windmill farms mortally maim the scenery, which is why even greener-than-thous (like Britain's Prince Charles) oppose it.

Contrast dense energy with solar and wind, which have failure built-in. When it's really hot, power demand peaks, driven largely by the need for air conditioning in cities that naturally overheat themselves. The highest summer temperatures often associate with stagnant high-pressure systems in which there is very little wind. The coldest nights are, well, nights, when the sun does not shine.

The Electric Reliability Council of Texas (ERCOT), which manages the state grid, calculates the "capacity factor," or the amount of power actually produced versus what would be produced with all wind plants running full-tilt, to be as low as 2% when it is very hot. In other words, pretty much the total potential wind power must be "backed up" by a more conventional plant or source in order to keep the grid up. The opportunity costs — money forgone today that could have been saved, compounded, and spent tomorrow — of solar and wind are enormous.

My (much smarter) brother Robert showed the House Natural Resources Committee on September 22 that federal subsidies related to fossil-fuel (mainly coal and natural gas)

fired electricity are about 68 cents per million watts. Analogous figures for wind and solar are — hold on to your wallets — 56 *dollars* and \$776 respectively. His figures are from the U.S. Energy Information Administration. No society, especially one \$14 trillion in debt, is going to keep this up for long. If Solyndra wasn't killed by China's (obviously subsidized) solar industry, American taxpayers would have soon axed it anyway.

As domestic solar crashed, the green swan of shale gas took wing.

A lot of my climate pals euchre billions of tax dollars every year by threatening vague climate “surprises” as the planet warms, but the biggest surprise so far is the trove of natural gas that has been found far underground.

No one expected this a decade ago, when “peak oil” rationalized the renewables binge. It seems now that every week a new “100-year” gas deposit is discovered somewhere.

Depending upon its application, gas produces roughly 50-70% of the carbon dioxide emissions from an equivalent coal-fired plant. The figures are especially encouraging when comparing new gas turbines to older coal facilities.

Given that one-third of our annual carbon dioxide emissions are from the generation of power, a very large green swan has descended upon us.

For years, people erroneously labeled as “skeptics” have argued that the opportunity costs of solar, wind and bio-power are too high, and that we should save our money for investments in future technologies rather than bucking history and relying upon the inconstant sun and chaotic wind.

Shale gas is proving them right. There is no demonstrable need to impoverish ourselves in a pell-mell rush to a decarbonized energy economy, and it is to the poor house where we were headed with Solyndra and massive “renewable” subsidies. Instead, they argue, good old human greed will move us in the direction of an increasingly efficient energy future. Enter shale gas.

Then there is the ultimate swan, color undetermined, of a massive revolution in energy physics. Be very skeptical about the hyperfast neutrinos recently measured at CERN, the European central nuclear laboratory. If indeed the speed of light can be exceeded, the implications may be staggering, and all speculation about our energy future is off.

Cold Fusion was an equally shocking “discovery” in 1989 that would also have revolutionized energy production, providing essentially unlimited amounts at exceedingly low cost. CERN largely did the debunking, which certainly gives some credibility to their recent finding. This may be a very big bird, indeed, and perhaps another source of dense energy for the next century, as opposed to the dinosaurs of distributed solar and wind. But be *very* skeptical.