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# Mandating Renewable Energy: It's Not Easy Being Green

BY MICHAEL HEBERLING

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Environmentalists abhor all fossil fuels (coal, natural gas, and petroleum) and nuclear energy. They collectively refer to this type of energy as “brown” power. Along with a bipartisan collection of Washington politicians, they instead advocate “green,” or “renewable,” power. This earth-friendly alternative energy includes: geothermal, hydroelectric, biomass, solar, and wind. While we all know that brown power has its share of problems, a close look at green power reveals a surprising number of serious environmental and consumer-related problems that advocates would rather not talk about. As it turns out, environmentalists are far more united in their opposition to brown power than they are in their support of green power.

Geothermal energy is derived from heat beneath the earth's surface and is used to drive steam turbines and heat pumps. Unfortunately, sites capable of producing geothermal energy are rare. Operational geothermal facilities are found in just four western states: California, Utah, Nevada, and Hawaii. Geothermal power plants need sufficient magma close to the surface to heat the surrounding rock and water. The best potential new sites are frequently on federal park lands or in protected wilderness. This complicates, and in many cases even precludes, development. Do we really want to use Old Faithful in Yellowstone National Park as a green-power source?

While geothermal energy is “free,” extraction is extremely expensive since developers are frequently required to drill up to a mile or more underground. The remote locations require extensive infrastructure (roads and power lines) and large amounts of cooling water,

which is at a premium in the arid west. Various forms of pollution also complicate geothermal energy production. This includes groundwater contamination (thermal and toxic), gas emissions (hydrogen sulfide—which produces a rotten-egg smell, ammonia, and methane), and the mineral-rich discharge sludge that contains mercury and other heavy metals. Closed-loop systems that re-inject all the fluid and gas waste back into the ground will minimize the environmental impact. However, these environmental precautions make the cost of operation far more expensive than gas-fired power plants.

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some fish species. As a result, a number of leading environmental groups no longer promote hydro as a legiti-

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mate green-power candidate. In fact, they want to dismantle hydroelectric dams in order to return rivers to their natural pristine state.

Biomass energy involves the burning of plant material. For some reason, environmentalists find the burning of *recent* plant material to be acceptable, but the burning of *aged* plant material in the form of coal to not be acceptable. For biomass to be anything more than a cottage industry of “gee whiz” token pilot projects, large tracts of land would have to be dedicated to growing green power. Will these tracts come from areas previously used for food crops or will this require additional habitat destruction?

Solar power is inexhaustible (especially when the sun shines). It doesn’t pollute and best of all—it’s “free.” Most solar-power advocates will gloss over the fact that to produce one megawatt of electricity would require covering up to 17 acres of pristine land with solar panels. This compares with 1/25th of an acre for one megawatt of electricity produced by fossil fuels. In other words, to be an advocate for solar power, you must at the same time be an advocate of . . . “sprawl.” In Michigan solar energy is not practical because of our many cloudy, rainy, and snowy days. How many environmentalists does it take to remove the snow from 17 acres of solar panels in the middle of winter? Bottom Line: Solar energy, even though it is “free,” still costs consumers four times more than electricity derived from fossil fuels.

Wind power, just like solar power, is inexhaustible (so long as the wind blows). It doesn’t pollute and again, it’s “free.” Unfortunately, wind is not available on those hot, humid dog days of summer when energy demands peak. The same is true for those quiet (read: windless) bone-chilling winter nights here in Michigan.

While environmentalists loathe a lone cell-phone tower on a hill, they are surprisingly enamored with acre

upon acre of wind tower “sprawl” on what were unspoiled vistas. To produce the same amount of energy as a conventional gas-fired power plant, wind farms would need 85 times more area. To its credit, however, wind power is far more economical than solar power. It is only twice as costly as electricity generated from fossil fuels.

However, the most troubling aspect of wind power from an environmental perspective is not sprawl, but the devastating impact it has on bird populations. According to the U.S. Fish and Wildlife Service, between four and five million birds are killed annually in collisions with the 45,000 communication towers (cellular, radio, telephone, and television) located across the country. Many environmentalists and politicians support the “Wind Energy Initiative” that calls for obtaining 5 percent of our electricity from wind turbines by the year 2020. However, to achieve this goal we will need to erect over 132,000 wind-power towers. Do environmentalists and politicians view the additional 12–15 million bird deaths per year as an acceptable tradeoff to meet the green-power goal?

An analysis of the bird deaths caused by the existing communication towers suggests that the additional 12–15 million bird deaths from wind turbines is a conservative estimate. When compared to a communication tower, the cross-sectional surface area of a wind turbine is far more deadly to birds because of those rotating “sling blades of death.” A 295-foot-tall wind turbine can be viewed as a “communication tower” with an additional bird-killing surface area of 21,113 square feet. That is an area about half (44 percent) the size of a football field.

It is interesting to note that the primary objection that environmentalists have with petroleum exploration and development in the Arctic National Wildlife Refuge (ANWR) is that it *may* harm wildlife. Environmentalists

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instead propose an alternative form of energy that is *guaranteed* to destroy wildlife by the millions—year after year after year. Defending such hypocrisy serves to reinforce what Kermit the Frog said over 30 years ago: “It’s not easy being green!”

### Bad for the Consumer, Taxpayer

If at this point you are starting to have trouble distinguishing between good green power and bad brown power, here is an easy way to keep the two straight. If the power in question requires taxpayer greenbacks to stay afloat, it is definitely green power. Consumers have no idea how expensive green power really is, because the true costs have been hidden by politicians using massive taxpayer subsidies and other preferential treatment. Over the past 30 years federal, state, and local governments have spent between \$30 billion and \$40 billion promoting renewable energy through grants, subsidies, production credits, accelerated depreciation, publicly funded research, and tax credits. And what do we have to show for this massive taxpayer investment? Today, green power makes up roughly 2 percent of total energy usage in this country.

While geothermal, wind, and sunlight are free, capturing this energy and transporting it from remote, sparsely populated areas to where the people actually live is a costly undertaking. For wind power the ideal lower-cost sites will be developed before higher-cost sites. Consequently, the costs and the NIMBY (not in my backyard) factor will dramatically increase as we expand wind-energy generation in the future. Wind may be considered an *infinite* resource; however, the land on which to capture this wind is a *finite* resource. Where are we going to put all those 132,000 wind-turbine towers? We could start with the Hamptons or Martha’s Vineyard and see what happens.

When utility customers are surveyed asking if they would be willing to pay more for green power to help the environment, there is always an overwhelming and

enthusiastic positive response. However, when customers are then asked to actually sign up and pay extra, the euphoria disappears. Among the 85 utilities that offer their customers the option to pay extra for green power, the participation rate rarely exceeds 3 to 6 percent, with the majority being around 1 percent. In 1996 Traverse City (Michigan) Light & Power installed a wind generator near Lake Michigan. Under their voluntary green-pricing program, customers could expect to pay from 17 to 23 percent more for their electricity. The electric bill for Dick Dell’Acqua’s Omelette Shoppe & Bakery in Traverse City went from \$1,600 to \$1,900 a month after signing up.



Wind turbine, Traverse City Light & Power

Since the consumer is not voluntarily buying into green power, it should not be surprising that our elite class wants to take away our freedom of choice. Across the country at the local, state, and federal levels there are efforts to mandate green power. Sixteen states (Arizona, California, Colorado, Connecticut, Hawaii, Iowa, Maine, Maryland, Massachusetts, Nevada, New Jersey, New Mexico, New York, Rhode Island, Texas, and Pennsylvania) have “Renewable Portfolio Standards” (RPS) that require varying percentages of green power in their energy mix. Three other states (Illinois, Minnesota, and Pennsylvania) have RPS-like programs that are not quite as onerous as the other 16.

A common theme in each RPS is to have the mandated percentage of green power increase over time. California is required to produce 20 percent of its electricity through green power by 2017. In Nevada state law requires 15 percent by 2013. The New York RPS requires 25 percent by 2013.


In the majority of the RPS programs, government-owned municipal utilities have aggressively (and successfully) lobbied for exemption from their own state’s costly and unrealistic green-power requirements. This raises a question: If green power is so wonderful, why are government utilities allowed to opt out? At least under the green-pricing programs, consumers had a choice. Under state RPS programs, consumers who have the

misfortune to be served by investor-owned utilities are forced to pay a hidden and unconscionable energy tax. Do the elite ever think about the poor or the elderly on fixed incomes when they impose “good for the environment” taxes?

### A National Tax Coming?

Those of us who are lucky enough to live in the 31 RPS-free states are not out of the woods just yet. Even if our state legislatures are able to resist the siren song that “mandated green power is good for the environment,” our federal legislators are hard at work trying to impose a national RPS energy tax. In October 2003 a national-RPS provision was pulled at the last minute from the energy bill. Had this been included, we would have seen a mandatory 1 percent green-power requirement in 2005. The requirement would then have risen to 10 percent by 2019.

Last year bipartisan legislation was introduced again to establish a federal RPS energy tax. This legislation seeks to mandate a 20 percent green-power requirement by 2025. As in most of the state RPS programs, this national mandate would exempt government-owned utilities from this costly and unreachable goal.

Given that 30 years of central planning and \$40 billion of taxpayer money have done little to facilitate the growth of green power, perhaps we should now consider an alternative consumer-friendly approach. It is time to permanently remove the government-subsidized training wheels from green power. Let the marketplace, not the government, determine what types of energy will be the winners and the losers. Considering the numerous problems associated with green power, a market-based solution will, ironically, be good for both the consumer and the environment. 

The only way that the information needed to make sensible energy decisions can be communicated by those who have it to those in the best position to respond appropriately to it, and communicated in a way that motivates appropriate responses, is through market prices—assuming these prices are not distorted by politically imposed caps.

Market prices allow consumers to inform producers, and one another, how much they value different energy uses, and allow producers to inform consumers how much it costs to provide different types of energy. In response consumers will decrease their energy use in ways that minimize their inconvenience when that inconvenience is less than the value of the energy saved. And producers will expand production of energy sources that provide the most value to consumers for the cost required, and will expand those sources as long as consumers value the additional energy by more than the value sacrificed to produce it. The result is a combination of conservation and production that best harmonizes the interests of us all.

—Dwight R. Lee, “Energy Production versus Conservation”