

The False Panacea of Renewable Energy

Renewable energy—wind, solar, hydro, and biomass—is advertised as superior to coal, gas, and other non-renewables. But renewable energy comes at a high environmental and economic cost. Moreover, government subsidies to renewables may actually stifle innovation. Market forces will do a better job of promoting energy innovation.

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Renewable energy sources such as wind, hydro, solar, and biomass are viewed by many as superior to coal, gas, and other non-renewables. Eventually, some or

all of these forms of energy may be viable. However, government subsidies and incentives for renewables can create more problems than they solve.

The Environmental Cost of Renewables

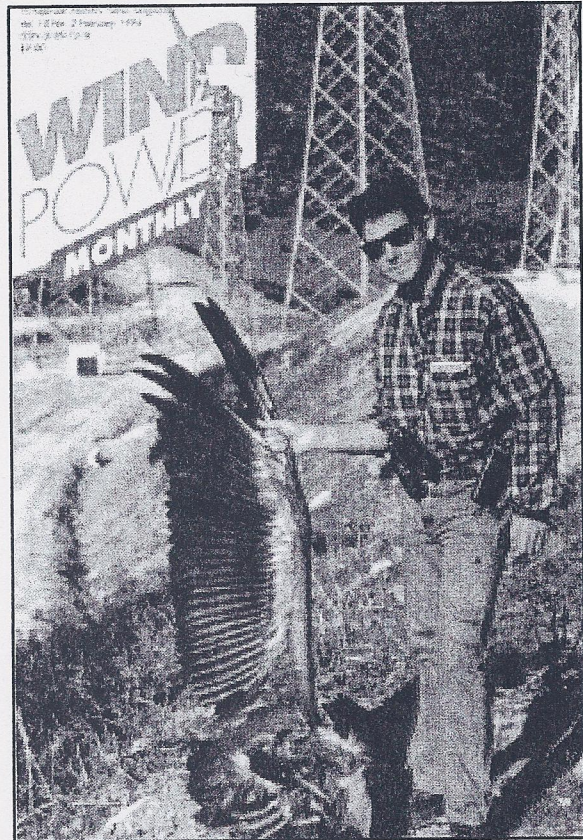
Most renewable sources of energy come at a steep environmental cost. Kilowatt for kilowatt, wind farms consume up to 200 times as much land as gas-fired power plants. Wind turbines also kill thousands of birds each year, especially raptors such as eagles, hawks, and vultures. Based on estimates of the number of birds killed by existing wind farms, energy expert Robert Bradley calculates that, if one-quarter of U.S. energy came from wind, the turbines would kill more than a million birds a year. Efforts by the wind power industry to solve this problem have so far proven unsuccessful.

Where wind turbines kill birds, hydroturbines kill fish. In an effort to recover Pacific Northwest salmon, the Bonneville Power Administration has an expensive program of capturing and trucking fish around its Columbia River dams. The pools created behind hydroelectric dams are also harmful to the habitats of many fish. Because of the cost to fisheries, many environmentalists support “non-hydro renewables.”

Biomass energy produces significant air pollution, including carbon dioxide, nitrogen oxides, and particulates. In some cases, biomass can produce more carbon dioxide, a greenhouse gas, than coal-fired power plants.

Like wind, solar power requires a lot of land—

some 5 to 10 acres per megawatt of power. Solar energy panel manufacture also produces serious toxic wastes, including arsenic, gallium, and cadmium.



This photo of a raptor killed by a wind turbine was used on the cover of Wind Power Monthly in 1994 to alert the industry to the problem. Despite efforts by the industry to stop the bird deaths, the Los Angeles Times reports that California's wind farms still kill thousands of birds each year.¹ This has led environmental groups to sue wind turbine owners.²

The Economic Cost of Renewables

Renewable energy costs two to three times as much as energy from gas- and coal-fired power plants. According to energy researcher Robert Bradley:

- When the cost of subsidies are included, wind power costs twice as much, per kilowatt hour, as building new gas-fired power plants;
- Biomass energy also costs twice as much as gas-fired power;
- Solar power costs three times as much as new gas-fired power plants;
- Building new hydroelectric plants costs three to six times as much as new gas-fired plants.³

One of the reasons why wind power is so expensive is that it is so unreliable. Bradley cites research indicating that wind turbines produce only 15 to 25 percent of their capacity, so other sources of energy must be available to back them up.

The costs of renewable energy have been declining, but so have the costs of more traditional sources of energy. According to the Department of Energy, the cost of generating electricity from gas- and coal-plants fell by more than 50 percent between 1981 and 1997.⁴

The Cost of Government Interference

The market does an excellent job of dealing with shortages and disappearing non-renewable resources. As resources decline, their price increases, which leads people to find and improve alternatives.

A good example of this is the transition in the telecommunications industry from copper to fiber optics: A few decades ago, experts worried that a shortage of copper would threaten the industry. Today, copper mines are shut down for lack of demand.

Government interference in this process can do more harm than good. Incentives to use renewable resources, for example, contributed to the Enron scandal. Federal laws encouraged production of wind power by requiring electric utilities to pay more for wind power that is generated by non-utilities than for other sources of power.

To take advantage of this, Enron purchased a wind farm in California. Soon after, however, Enron bought

an electric utility in Portland, making it ineligible for the price premium. So it pretended to sell the wind farm, while in fact it kept an "illegal and secret interest" in the farm, says the U.S. Justice Department. Enron's chief financial officer, who is accused of thinking up this scheme, also received more than half a million dollars in kickbacks from the wind farm.⁵

Government support for certain technologies can also stifle the innovation those technologies need to become truly competitive. Renewables cost more than non-renewables, but technological improvements should bring costs down. Government support shields producers from competition and thus discourages innovation. Ironically, the very supports that are intended to promote renewable energy may be inhibiting it.

Government subsidies may lead to another problem: a locking-in of inefficient technologies when other technologies may make more sense. Technology lock in takes place when one technology becomes so dominant that a superior technology cannot replace it. The QWERTY keyboard vs. the Dvorak keyboard is the classic example. No one knows today whether wind, solar, tidal, or something entirely unexpected will eventually replace fossil fuels. By favoring some technologies over others, government may unwittingly promote the locking in of an inferior technology. The best solution for renewable energy and energy consumers is to let market forces work.

References

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