

BANGOR DAILY NEWS

More information needed before we fall for the latest energy fad

By Mark W. Anderson, Special to the BDN

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Since the end of World War II the government has promoted several new energy technologies to reduce our dependence on oil. All have failed.

In the 1950s, they rushed into nuclear power, betting on a reactor design that was a scaled-up version of that used in nuclear-powered submarines. Had the government not chosen to promote a reactor technology based on so-called active safety systems like those that failed in [Fukushima, Japan](#), the history of fission-powered electricity in the U.S. might have been different.

After the Japanese accident, even fewer people today are [promoting nuclear power](#) as our energy savior, but in the 1950s, it was just that. It was so efficient that the electricity would be “too cheap to meter.” Billions of tax dollars were spent on that energy bet, a bet that was promoted by engineers and economists alike. We are still paying the costs of this failed bet today.

In the wake of the 1970s energy crisis, the government bet was on “synthetic” fuels derived from coal. The synfuels programs of the Ford and Carter administrations were to give us “security” and “independence,” yet resulted in another failed government technology wager. Engineers, politicians and economists assured us that the technology was a sure bet, but once again the technology failed to live up to billing.

In the 1990s, ethanol from corn was the next government technology wager. Not only would this ensure independence and security, but it also was renewable energy.

Renewability, what could be better? Despite research showing that corn ethanol actually took more energy to make than it yielded in the final ethanol (a technical debate that is still unresolved), the policy was pushed forward and we still see our federal tax dollars subsidize this fuel. This [government support continues](#) despite the fact that ethanol has less energy per gallon than gasoline, corrodes small engines, accelerates soil erosion in the Midwest, adds to the dead zone in the Gulf of Mexico, and raises global food prices. Not a good payoff on our tax bet.

I draw from these examples skepticism when I am told by politicians, engineers and economists that there is a new energy technology the government should promote with subsidies and expedited development approval. That is exactly what [we are told about wind power](#). Wind power is the energy technology supposed to be renewable (like ethanol), efficient (like nuclear power), and the path to energy independence (like synfuels). So the government is ready to make another technology bet and you and I are being asked to fund the wager.

Wind power is the latest example of a supply-side fetish in energy policy. We believe that energy problems are best solved by finding a new energy supply; the problems are technical and the solutions are supply technologies. The beauty of supply-side solutions is they ask nothing of us individually or collectively beyond paying more taxes to fund the government's latest bets.

I don't know whether wind power, on land, on shore, or [off shore](#), is the right energy policy for the future. I do know that there will be surprises from its deployment. Before we spend our tax dollars, ease our development review processes, and make wholesale changes to our landscape, we should be more deliberate in assessing the technology and its impacts. Those assessments should not be done by the developers and proponents who have too much at stake to be fully objective.

While I suspect this is not exhaustive, there are at least three areas of concern. First, do we really know enough about

migratory bird patterns and wind turbine effects on birds to fully understand the potential effects of large scale wind power on bird populations? This applies equally to on-shore and off-shore wind.

We were surprised to discover after their construction that cell phone towers kill tens of millions of songbirds every year. Do wind turbines not have such an impact, particularly in the large concentrations of turbines that are being promoted? It is not just "bird lovers" who should be concerned by this issue. Ecosystem services that are provided by birds, such as insect control, would be greatly missed by all.

While wind energy is touted for its positive climate change impacts, there is research suggesting large-scale wind developments also affect climate, even at a continental scale. Generating electricity with wind changes wind patterns, and those changes have impacts. Do we fully understand what these effects will be?

It is hard to imagine that wind power could have a big enough effect to be noticeable, but it was also hard to believe we were able to change the chemistry of the atmosphere enough to cause climate change. We were.

Finally, do we fully understand the impact of wind developments of the scale we are talking about on the landscape or seascape? Wind power has what energy experts call low power density, particularly compared with the energy technologies it would replace. This means that to capture and deliver equivalent amounts of energy, the footprint of the wind energy regime (turbines, collection system, backup power, etc.) will have to be much larger than the energy systems it replaces. Do we really understand what this means, for both humans and natural world?

Our track record of government-sponsored energy technologies is not good. In each of the failed technological bets there were plenty of experts to assure us that all would turn out well. We should slow down and make sure that this bet is better before we put all our chips on the table.

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