

# ***BIOWIN' WIND***

by George Erickson

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Minnesota Power's plan to expand wind power (with the support of an organization called Fresh Energy) brought to mind my 9-27-15 article in the Mesabi Daily News, which was critical of windmills. The following week, I received three messages from engineers in the wind industry, one local, who agreed with every point I made, but all three requested anonymity for fear of losing their jobs.

Intrigued by Fresh Energy's green sounding name, and remembering that B P added a pretty green, yellow and white blossom to their ads right after their deadly Deepwater Horizon disaster, I checked Fresh Energy's website, which reports, "**We act from fact. Sound analysis and open-minded, independent evaluation inform and influence our policy choices.**"

That is encouraging, so perhaps Fresh Energy and MN Power will consider the following when they make their policy choices

I was once a promoter of windmills, but the facts have changed my mind. Many more must make that change, but it won't be easy because, as Mark Twain wrote, "It is much easier to fool a person than it is to convince them that they have been fooled."

Convincing our legislators and most "green" organizations to reverse course will be even more difficult, especially organizations like the Sierra Club and the Nature Conservancy (of which I am a member), because they fear that opposing windmills will cost them members and \$\$\$\$.

When I ask these organizations how they can justify supporting 30% efficient, bird and bat killing windmills that rely on burning carbon for 70% of their ballyhooed output – and email them supporting links and charts - I get no answers, and in one case, I was told to "stop hassling me." (Will Steger) These organizations have become like the three

monkeys who cover their eyes and ears to shut out what they don't want to learn, but their mouths still work, and when they promote windmills, the facts reveal that they are promoting environmental evil. That is not an exaggeration.

John Muir, Aldo Leopold and James Lovelock, a founder of the environmental movement who has begged the "greens" to reverse their opposition to nuclear power, would agree. Please see <http://tinyurl.com/EnergyReality>.

Why does the media hide images of burning windmills and windmill blades that were thrown 1/3 of a mile? Why don't they publish the photo of two men standing on top of a flaming windmill while they wait to die? Why is it almost sacrilegious for environmental organizations to reconsider windmills? Could money be involved?

Wind power is one of the "alternatives" we were sold instead of expanding carbon dioxide-free, 90% efficient, safe nuclear power, which has produced no fatalities except at Chernobyl, a facility that had no containment dome - and was deemed illegal everywhere else in the world.

According to UNSCEAR – the United Nations Scientific Committee on the Effects of Atomic Radiation - fewer than 70 deaths resulted, about 30 of them being fire fighters who were sent to their deaths, with the remainder being on-site workers who died within months due to excessive radiation. (2012) This, despite predictions of millions of deaths and a huge increase in cancer rates (that have not occurred) by anti-nuclear zealots.

My concerns with windmills are:

1. In the US alone, windmills are killing about 1 million birds and 1 million bats every year, even as insect borne diseases like Zica, dengue fever and malaria are increasing. How green is that?

Shouldn't environmentalists care that, according to Save the Eagles International, "windmills kill 30 million birds and 50 million bats per year?" Shouldn't they be concerned that, in 2014, Pacific Corp., which operates 13 wind farms, sued the U S

Interior Department to keep it from revealing how many birds and bats their windmills have killed? Don't they care that, according to the May, 2011, issue of Science magazine, a "single colony of 150 brown bats has been estimated to eat nearly 1.3 million disease-carrying insects each year"?

And it's not just birds and bats. According to Forbes, "... the *Caithness Windfarm Information Forum* reported that just in England, there were 163 wind turbine accidents that killed 14 people in 2011," which "translates to about 1000 deaths per billion kWhrs.

"In contrast, during 2011, nuclear energy in England produced 90 billion kWhrs with NO deaths. In that same year, America produced 800 billion kWhrs via nuclear with NO deaths...." See <http://www.caithnesswindfarms.co.uk/AccidentStatistics.htm>

2. Because windmills, on average, generate only 30% of their capacity, a windmill with a plate rating of 1 MW will average only about 0.3 MW - which means that the missing 70% must be supplied by conventional power plants that, for the most part, burn carbon - usually natural gas, which is largely methane, which produces more CO<sub>2</sub>. How green is that? (When they tell us that these windmills will supply xxxx homes, they are talking the plate rating – the output under ideal conditions- not the 30% they actually produce.)

3. Methane, over its lifetime, is 20 times worse than carbon dioxide as a greenhouse gas, but during its youthful decades, it is approximately 70 times worse than CO<sub>2</sub> - and the next 30 years are years of deep concern.

Methane is especially important because recent ground and aerial surveys show huge amounts of methane leaking from fracking wells, storage facilities and the distribution systems. There is now compelling evidence that this fugitive methane is **more than** offsetting any gains achieved by burning natural gas instead of coal. In other words, our reliance on inefficient, bird and bat and human-killing windmills has been a step backward for wildlife and the environment. How green is that?

4. Windmills have a 20-year lifespan at best, so they must be built three times to match

the 60-year lifespan of 90% efficient nuclear power plants, and even then they cannot come close to matching the output of a nuclear plant. In fact, Britain recently chose to build 12 nuclear plants instead of the 30,000 windmills needed for the same output. Furthermore, the carbon footprint of windmills per megawatt produced is much larger than that of nuclear power: Again, how green is that?

5. For weight reasons, windmills use permanent magnets that require rare earth elements that we primarily get from China, where the mining of rare earths is creating huge lakes of toxic sludge. In contrast, ground-based generators use electromagnets, which, though heavier than permanent magnets, contain no rare earth elements.

6. These 30% efficient windmills are subsidized 18 times more than 90% efficient nuclear power, but nuclear energy is criticized as being too expensive. Even Warren Buffet (and the wind companies) admit that without government subsidies and tax advantages, they'd be out of business.

7. Safety - If we give nuclear power a score of 1 on power generated per fatality – including Chernobyl - wind is at least 4 times worse, solar gets an 11, oil receives a 900, and coal comes in at 4000. Nevertheless, wind promoters oppose replacing coal burners with new, ultra-safe reactors that *cannot melt down* and don't generate the hydrogen that exploded at Chernobyl and Fukushima.

We need to let science – not the hoopla produced by the profiteers in the windmill industry – guide our decisions. That science clearly reveals that those pretty, white windmills should be 1/3 red for the birds, bats and humans they kill, 1/3 black for the carbon that's burned when they're not working and 1/3 gold for the subsidies – the tax \$\$\$\$ - they consume.

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