

22,871 views May 17, 2018, 12:59pm

## If Renewables Are So Great for the Environment, Why Do They Keep Destroying It?



**Michael Shellenberger**

Contributor

Opinions expressed by Forbes Contributors are their own.

[Energy](#) I write about energy and the environment



Golden EagleMax Pixel

If solar and wind farms are needed to protect the natural environment, why do they so often destroy it?

Consider that:

- New offshore wind turbines in Germany could "lead to the extinction of individual species" including the rare, intelligent, and highly-threatened harbor porpoise, [according to](#) Friends of the Earth-Germany (BUND).
- Migratory bat populations, including the hoary bat, could [could go extinct](#), say scientists, if the expansion of wind energy in North America continues.
- A single California solar farm, Ivanpah, required the killing of [hundreds of desert tortoises](#), the state's threatened reptile, and annually kills [six thousand birds](#) by lighting them on fire.

<https://www.forbes.com/sites/michaelshellenberger/2018/05/17/if-renewables-are-so-great-for-the-environment-why-do-they-keep-destroying-it/#6e83f7783a1c>

- Wind turbines on California's Altamont Pass killed an estimated **4,700 bird kills annually** including Golden Eagles. "Some lose their wings," says the **Audubon Society**, "others are decapitated, and still others are cut in half."

Come on, you might be thinking — aren't these impacts trivial compared to other threats? After all, **house cats kill between one and four billion birds** per year in the U.S.

That number makes the 16,200 to 59,400 birds killed annually by solar farms **in southern California**, and the **140,000 to 328,000 birds killed annually by wind turbines** in the U.S., seem like much ado about nothing.

However, your perspective might change — as mine did — when you learn that the birds that cats kill are overwhelmingly **small and common**, such as pigeons, sparrows, and robins, while the birds that the wind turbines and solar farms kill are large, rare, and threatened, like the Golden Eagle, Red-Tailed Hawk, and American Kestrel, a bird so magnificent that I named my daughter after it. And any birder will remind you that large birds of prey like raptors are slower to reproduce, and so the death of breeding adults has a far more devastating impact **on populations than do the deaths of small birds**.

But aren't such environmental impacts common to all forms of energy production?

They aren't. Because water, sunlight, and wind **are so energy dilute**, renewable technologies **require orders of magnitude** more land and materials to produce the same amount of energy as nonrenewables.

Ivanpah solar farm, for instance, requires an astonishing 450 *times* more land, per unit of energy produced, than Diablo Canyon, California's last nuclear plant, which **has had no impact** on its neighboring fish population, and whose tidal pools are some of the most pristine on the **West Coast**.

### **Just the Beginning?**

Given how large the ecological impact of solar and wind farms has been, it's surprising to remember that solar and wind still constitute just **1.3 and 6.3 percent of electricity** in the U.S., and 1.3 and 3.9 percent of electricity globally.

Renewables advocates would like to see the two technologies grow exponentially — from today's five percent globally to somewhere between 30 and 100 percent of our electricity supply.

What might the wildlife impacts of a six to 20-fold increase in solar and wind be?

Consider that it would take:

- 95 wind farms the size of Alta Wind Energy Center, the largest in the U.S. and second largest in the world, to produce one-quarter of California's power.
- 93 solar farms the size of Ivanpah, which kills 6,000 birds annually and has killed hundreds of desert tortoises to date, to generate another quarter of the state's power.



Would the impacts on birds and other wildlife increase one hundred-fold? Less? More? Nobody knows. Academic ecologists sometimes try to predict such things but the real world is too complex.

Turbines and birds 台灣水鳥研究群 彰化海岸保育行動聯盟

What's clear to everyone is that animal species need to sustain a certain population size to avoid going extinct, and that requires both habitat and the ability to move through space without being killed.

"Ivanpah is a bird sink — and an cautionary tale unfolding on public lands," a representative from Audubon Society [told \*The Los Angeles Times\*](#). "It continues to operate as though there's an endless supply of birds to burn."

Could these problems be avoided with better siting and technology innovation? The answer is "maybe a little sometimes" — but almost always at a very high cost.

For example, we can put solar collectors on roofs instead of spreading them across deserts — but [doing so doubles their cost](#).

We could, theoretically, force wind developers to halt the blades of their wind turbines from spinning (and decapitating birds) but, [according to the Audubon Society](#), "it's highly experimental [and] none of it has been proven to work."

Bird advocates point out that [it takes 45 minutes](#) to halt wind turbine blades from spinning, which may not be enough time to respond to incoming birds, like the condor.

And, even if they succeeded, the wind developers would receive less revenue from both ratepayers and taxpayers in the form of production subsidies, without which wind farms don't get built.

Those economics might explain why wind developers have fiercely resisted efforts to change where they site their turbines — and why birds and bats keep dying.

"The wind industry and its proponents have contributed to this situation themselves," the American Bird Conservancy [says](#), "downplaying its impacts on wildlife while simultaneously overselling the industry's ability to mitigate associated problems,"

**Scientists and Conservationists to the Rescue?**

<https://www.forbes.com/sites/michaelshellenberger/2018/05/17/if-renewables-are-so-great-for-the-environment-why-do-they-keep-destroying-it/#6e83f7783a1c>

It's no surprise that resistance to renewable energy projects is coming from wildlife biologists, conservationists, and birders.

"To prevent extinctions in the future," argued [novelist and birder, Jonathan Franzen](#), in *The New Yorker*, "it's not enough to curb our carbon emissions. *We also have to keep a whole lot of wild birds alive right now.*" [Emphasis in the original]

Franzen's essay resonated. One month after it was published in 2015, the [American Bird Conservancy](#) told CBS News, bluntly, "Wind turbines are among the fastest-growing threats to our nation's birds."

[Michael Hutchins](#) of the Conservancy says "industry players have worked behind the scenes to try to minimize state and federal regulations and to attack important environmental legislation, such as the Migratory Bird Treaty Act... Attempts to manage the wind industry with voluntary as opposed to mandatory permitting guidelines are clearly not working."

In 2013, federal wildlife officials took the unprecedented step of telling private companies that they will not be prosecuted," *The Los Angeles Times* reported, "for inadvertently harassing or even killing endangered California condors," a violation of federal law.

The big environmental organizations appear unmoved. After acknowledging that the expansion of off-shore wind turbines in Germany "could be grave and even lead to the extinction of individual species," including the Harbor Porpoise, Friends of the Earth-Germany (BUND) said, cheerily, "But things could also not be that bad after all. We simply do not know yet."



<https://www.forbes.com/sites/michaelshellenberger/2018/05/17/if-renewables-are-so-great-for-the-environment-why-do-they-keep-destroying-it/#6e83f7783a1c>

Harbor Porpoise Wikipedia

Can you think of another instance where Friends of the Earth (FOE) — an organization that has, since 1970, fought to kill hydro-electric dams, nuclear power plants, and fossil fuel plants — has shrugged its shoulders over the extinction of a *whale* at the hands of a big energy project? And it's not just FOE. [Greenpeace](#), [NRDC](#), [EDF](#), and [Sierra Club](#) — which for 40 years have hyped fears that the slightly warm, clean water that exits nuclear plants might harm local aquatic life — today actively justify wind and solar deaths by hyping a) future potential bird deaths from climate change and b) that deceitful house cat comparison.

Contrast the blasé reaction to wind turbine deaths by Big Green, and its enablers in the news media, to their treatment of the 2010 British Petroleum oil spill. That spill killed [800,000 birds](#) and resulted in \$100 million fine against BP. The avian death toll is slightly more than half of [1.4 million](#) bird deaths that the American Bird Conservancy warns wind turbines will create *every year* — during their normal operation — by 2030 in the U.S. alone.

Perhaps it won't be as bad as that, as FOE-Germany notes — or perhaps it will be worse. It's notable that scientists radically *underestimated* how many [bats would be killed by Hawaii's wind farms](#), which are also killing the state bird, the nene, and the petrel seabird, both of which are endangered.

It is hard to understand green groups' double standard except as a manifestation of a religious faith in renewables. Witness their [outrage](#) whenever someone questions whether the carnage is really necessary to prevent global warming.

If the big green groups were more loyal to their mission than to the gods of the sun and wind they would join the American Bird Conservancy and demand *mandatory* regulations of the wind and solar industry to prevent the slaughter of threatened and endangered species from rising further. One of the biologists who worked on Ivanpah solar farm told [High Country News](#), "Everybody knows that translocation [of desert tortoises] doesn't work. When you're walking in front of a bulldozer, crying, and moving animals and cacti out of the way, it's hard to think that the project is a good idea."

Following the Ivanpah debacle, biologists led the fight against another solar farm in the Mojave, [arguing that it](#) "would likely add another nail in the coffin of [bighorn] sheep by precluding the re-establishment of a critical migration corridor across Interstate 15."

For these efforts to work, scientists and conservationists will need to be in favor of good energy projects, not just against bad ones.

Such a shift may already be underway. "[R]enewable energy sources like wind and solar," [a group of 75 conservation biologists led by Australian ecologist Barry Brook wrote in 2014](#), "face real-world problems of scalability, cost, material and land use... Nuclear power — being by far the most compact and energy-dense of sources — could make a major, and perhaps leading, contribution." Few places in the world better dramatize the radically different environmental impacts of nuclear versus renewables than California, home to both Ivanpah and Diablo Canyon nuclear plant. Many of the conservationists who signed the 2014 pro-nuclear statement signed several open letters urging Gov. Jerry Brown not to close Diablo Canyon.

But time is running out. As the wildlife death toll from renewables rises, California is moving forward with plans to close Diablo Canyon and replace it with a mixture of natural gas and electricity from — you guessed it — new solar and wind farms.

[Michael Shellenberger, President, Environmental Progress. Time Magazine "Hero of the Environment."](#)

<https://www.forbes.com/sites/michaelshellenberger/2018/05/17/if-renewables-are-so-great-for-the-environment-why-do-they-keep-destroying-it/#6e83f7783a1c>



**Michael Shellenberger**

**Contributor**

I am a Time Magazine “Hero of the Environment,” Green Book Award Winner, and President of Environmental Progress, a research and policy organization. My writings have ap...

[Read More](#)