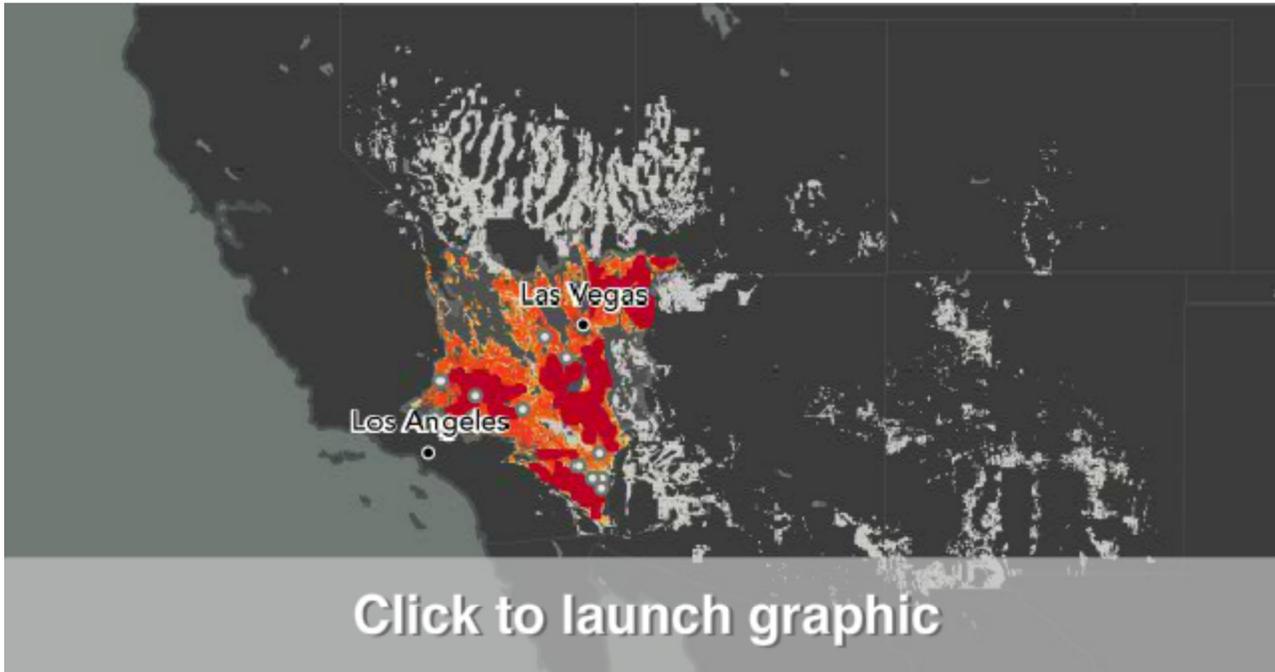


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Tortoises Manhandled for Solar Splits Environmentalists



By Ken Wells - Sep 20, 2012

It's a 106-degree Fahrenheit day in the Mojave Desert. Heat devils dance off chocolate-hued Clark Mountain on the horizon. Air-conditioned cars zip along Interstate 15 toward Las Vegas. And inside a chain-link pen covered to keep out predators are scores of rare, threatened, sand-colored desert tortoises.

Their captivity helps show how complicated it is to combat climate change without collateral damage. The foot-long (30-centimeter) creatures are being removed from their burrows for a project to harvest solar energy in the [California](#) desert. Trucks groan down sunbaked roads, cranes pivot with 750-pound (340-kilogram) mirrors and mechanical post-pounders drive steel pylons into the packed desert floor, destroying their habitat.

- **Graphic:** [Green Initiatives Clash Over Solar Power in Desert Preserves](#)

Construction of such large-scale green-energy projects has splintered environmental groups. When concern over global warming was at a peak, national organizations such as the [Sierra Club](#) and the

Natural Resources Defense Council threw their support behind industrial-scale wind and solar installations on public land. Now some smaller conservationist groups object to what they consider an environmentally destructive gold rush.

“Of course we need to do solar, but it should go on rooftops or in appropriate places, not the pristine desert,” says April Sall, director of the Wildlands Conservancy in Oak Glen, California, operator of the state’s largest nonprofit preservation system. “We need to tackle warming -- but not forget that there are other things at stake.”

Priorities Clash

The Mojave solar project embodies the clash of environmental priorities. The \$2.2 billion installation being built by closely held [BrightSource Energy \(BRSE\)](#) Inc. of Oakland, California, is designed to power 140,000 homes without emitting [greenhouse gases](#). But it threatens the tortoises. That’s why the Western Watersheds Project conservationist group of Hailey, [Idaho](#), sued to stop it in a Los Angeles U.S. court. (For an interactive graphic of the project, click [here](#).)

The 120-year-old [Sierra Club](#), which calls itself “America’s largest and most influential” environmental group, also lobbied for changes to the project’s design to protect the tortoises. Yet the 1.4 million-member organization chose not to try to block the plant, says Barbara Boyle, a Sierra green energy specialist.

“Ultimately, we need to jump-start renewables to combat [climate change](#), and large-scale solar has to play a big part in that,” Boyle says. However, as it became clear the project was rooting out many more tortoises than projected and as some California chapters urged action, the organization joined a [coalition that sued](#) the Department of the Interior in March to block another long-planned Mojave solar project that it says threatens wildlife.

Climate Change

Similar disputes are playing out elsewhere and show a growing concern among green groups and willingness to block large-scale solar and wind projects when the cost to wildlife and habitat seem to outweigh the benefits of fighting climate change. A surge in supplies of cheap, clean-burning natural gas has also begun to undercut demand for more costly green energy.

The green backlash against sacrificing habitat and wildlife to curb global warming parallels polls finding that the public rates climate change low on a menu of environmental problems and has doubts whether it can be fixed. In a [March Gallup survey](#), the issue ranked last among seven environmental concerns, with just 30 percent saying they worried about it “a great deal.”

A [Washington](#) Post-Stanford University poll in July found that while most Americans believe the earth is warming, 60 percent said little could be done to stop it, and more than 70 percent opposed energy taxes to address it.

Lethal Blades

Near the northern Florida Everglades, the Audubon Society has fought a 200-megawatt wind farm on 10,000 acres (3,900 hectares) of private sugar land, saying its 475-foot tall turbines and spinning blades will form a death corridor for migratory birds and the endangered snail-eating Florida Kite. The project, proposed by closely held Wind Capital Group LLC of [St. Louis](#), was approved by the Palm Beach County Commission and could produce energy for 60,000 homes, the company says. It still needs state and federal permits.

In the southern Sierra Nevada of California, Defenders of Wildlife sued in federal court to block the proposed North Sky River wind-power project. It would be built by [NextEra Energy \(NEE\)](#) Inc., based in Juno Beach, Florida, next to an existing wind farm where turbine blades killed eight golden eagles this year.

The American Bird Conservancy accused the U.S. government in a lawsuit in Washington of suppressing information about the threat that wind energy projects pose to migratory birds and other wildlife. The government denied the allegation.

26 Projects

Including the Mojave project that is relocating desert tortoises, the Interior Department has accelerated construction approval for 26 large-scale solar plants on public lands since 2009, including nine that it cleared in August. The Obama administration has steered \$9 billion in stimulus funds from the 2009 American Recovery and Reinvestment Act to 23,000 solar and large-scale wind installations, [according to](#) the [Department of Energy](#).

Conservationist and Native American groups sued to halt five other Mojave solar projects. The organizations argue that federal and state authorities conducted inadequate environmental reviews and failed to consult with tribes on sacred sites. The Bureau of Land Management, the solar companies and the state deny the allegations.

Dozens more solar plants could arise across the American desert West. A July BLM plan allocates 285,000 public acres to 17 solar zones. An additional 19 million acres -- an area almost the size of West Virginia -- may be approved for solar projects. The goal is to produce 23,700 megawatts, enough to power 7 million homes, [according to the BLM](#). Solar power now provides less than 1

percent of U.S. electricity, amounting to 5,700 megawatts, or enough for about 1 million households.

Abandoned Mines

Conservationists say it is wrongheaded to rip up the public desert and destroy wildlife habitat when millions of already-degraded acres are available. The [Environmental Protection Agency](#) last year identified 80,000 to 250,000 abandoned mine sites that could be used for solar and other renewable energy projects, according to Janine Baeloch, director of the Seattle-based Western Lands Project, a watchdog group.

“This is the ritual privatization of public lands, turning our deserts into permanent industrial zones that will utterly transform the sites upon which these solar plants are placed,” Baeloch says. “Even if they are dismantled in 50 years, the desert will be unable to restore itself.”

While the Interior Department won't comment on pending litigation, it says the allocation of public desert for solar projects balances the needs of developers with conservation.

Ancient Lake

The designated zones “have high solar resources, access to existing or planned transmission, and low resource conflicts,” said Interior Secretary [Ken Salazar](#) in an e-mailed statement. “The blueprint guides development away from important cultural and biological resources and establishes best practices to ensure the most environmentally responsible development.”

BrightSource is building on 3,471 acres leased from the BLM, an ancient patch of dry lake bed in an area of the Mojave known as the Ivanpah Valley. At the October 2010 groundbreaking, former California Republican Governor [Arnold Schwarzenegger](#) called the desert “miles and miles of a gold mine” that would help the state reach its goal generating a third of its power from renewable sources by 2020.

Solar Contracts

The Ivanpah Solar Electricity Generating System is BrightSource's first plant. Others are on the drawing board. The company has 14 long-term contracts to sell solar power to [Pacific Gas & Electric \(PG&E\)](#) Co. and Southern California Edison. BrightSource's largest shareholders are Alstom Power Inc. with 18 percent; VantagePoint Capital Partners, 25 percent; and Morgan Stanley, 10 percent, according to a 2011 filing with the Securities and Exchange Commission.

Investors in Ivanpah include Google Inc. with \$168 million and [NRG Energy Inc. \(NRG\)](#), \$300 million. It received \$1.6 billion in federal loan guarantees, according to the company.

When completed next June, Ivanpah will be the largest solar installation of its kind, with 173,500 heliostats, or arrays of solar mirrors. They are arranged in [concentric circles](#) like worshipers around three 45-story towers. Computer controllers will rotate the heliostats to focus the sun's rays on boilers atop the towers, creating 1,000-degree Fahrenheit (538-degree Celsius) steam to drive electric turbines.

Gila Monsters

This technology, known as concentrating solar power, or CSP, takes up less space and obstructs less ground than arrays of photovoltaic panels, which convert sunlight directly into electricity. CSP also requires less water for cleaning.

However, the pivoting mirrors -- 10.5 by 7.5 feet, mounted 5 feet above the desert floor -- generate levels of heat unfriendly to birds and other animals. Construction -- involving trucks, graders, pile drivers and cranes -- and later cleaning of mirrors and pruning of shrubbery make the area [uninhabitable](#) for desert tortoises.

The reptiles, which can live a century and don't start reproducing until they are 12 years old, have been on state and federal threatened species lists for more than two decades. They eat cacti, grasses and wildflowers and hibernate in burrows in the winter. The [mortality rate](#) is 98 percent for hatchlings in the wild, and the species is preyed upon by ravens, foxes, badgers, Gila monsters and fire ants.

Saving Tortoises

The Bureau of Land Management estimated the project would kill or dislocate about 38 tortoises. Construction had barely begun two years ago, though, when so many tortoises turned up that work was halted for a reassessment. By the end of June, the count was 144, 67 of them juveniles. The BLM found that many more could be uprooted or harmed as the project proceeds.

Thus Western Watersheds sued in federal court to halt Ivanpah. Last month, California's Ninth Circuit Court of Appeals [upheld](#) a Los Angeles federal district judge's decision denying a preliminary injunction to stop the work. Other motions on the case are still before the district judge.

"Putting solar [power plants](#) in sensitive areas filled with tortoises and other endangered species doesn't address warming at all," says Michael Connor, the group's California director. Those areas need to be preserved "if we are going to retain any kind of resiliency in the face of climate change."

BrightSource has no desire to harm tortoises, says Joseph Desmond, senior vice president. The company is caring for them as they are found while biologists prepare new homes elsewhere in the desert, he says.

\$56 Million

U.S. and California wildlife experts have been using the discovery of so many tortoises to study how to move a species that hasn't historically been agreeable to relocation. The effort has resulted in successfully placing all but 19 of them in new habitats.

The captives, meanwhile, produced 53 new hatchlings. Desmond says Ivanpah will result in a net increase of tortoises. BrightSource estimates it has spent \$56 million caring for and relocating the tortoises.

At California's [Wildlands Conservancy](#), the director Sall was one of the first to object to U.S. plans for turning over public desert to solar companies. She discovered two years ago that 50,000 acres the Conservancy bought and deeded to the BLM for conservation had been placed on the list of solar sites, she says. While the land has since been removed, other Conservancy- donated lands could be thrown open to solar development as part of the additional 19 million public acres that the BLM said could be granted variances for solar development.

'No Sense'

"The idea now that these lands could be plucked out for industrial solar, even though there are plenty of degraded options, makes no sense whatsoever," Sall says.

Sall expected to find allies in the Sierra Club and the [Natural Resources Defense Council](#), longtime advocates of wild lands and endangered species -- and she says she eventually did.

"But the early message coming from the national staffs of these groups was that 'We need massive solar in the West,'" Sall says. "But it was a message that didn't include 'on appropriately sited lands.'" This signaled that solar companies needn't worry about environmental objections, she says.

That wasn't the intention when the big national groups decided to back large-scale renewable power on public lands, officials of the organizations say. The idea originated in 2006 when the [Bush administration](#) instructed the BLM to prepare a list of suitable federal property for solar and other renewable leases.

Increased Urgency

“Back then, the federal position was that you could put solar pretty much anywhere you wanted to,” says the Sierra Club’s Boyle. The Obama administration “has been able to ameliorate that, but it’s a long way to go from a free-for-all to smart planning.”

At the same time, new data have reinforced evidence of climate change while some strategies to combat it have foundered. According to the [National Oceanic and Atmospheric Administration](#), 2011 followed a three-decade trend of rising temperatures, and this July was the warmest in recorded history.

Yet legislation to create an American carbon trading system and cap on greenhouse-gas emissions died in the Senate in 2010. An effort last year at the global climate talks in Durban, South Africa, to adopt a new, binding global climate agreement was a “failure,” according to the environmental group Greenpeace.

Disputes Continue

The big green groups may have erred initially in not pressing federal officials harder to protect environmentally sensitive areas, says Helen O’Shea, a solar-siting specialist with the NRDC. Still, she says she sees marked improvement in the BLM’s recent revision dropping hundreds of thousands of acres of environmentally sensitive lands that the green groups said were inappropriate for solar development.

The disputes probably won’t end soon. In March, the Sierra Club joined the NRDC and Defenders of Wildlife in suing federal court to stop a 663.5-megawatt photovoltaic project called Calico Solar on 4,600 acres of BLM land in the Mojave. The installation was proposed by closely held, Dublin-based NTR Plc’s Tessera Solar, which later sold its interest to closely held K Road Power Holdings LLC of [New York](#) City.

“Utility-scale solar development on Bureau lands may rapidly accelerate habitat loss, habitat fragmentation, destruction of wildlife corridors, and population isolation for desert tortoise in this region,” the Sierra Club said in its complaint. The suit is pending.

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