

# California solar projects plan undergoing major overhaul

*Troubles at giant projects in California desert prompt U.S. to revise plan*

**Carolyn Lochhead, San Francisco Chronicle, 9-7-14**

With billions of dollars in federal stimulus money in hand, the Obama administration set out five years ago on a grand experiment in the California desert.

The goal: Open public lands to renewable-energy development to wean the nation from fossil fuels.

The results haven't been pretty, a fact the administration has tacitly acknowledged by devising a new plan, expected to be released this month, to find better places to put industrial-scale solar farms in the California desert.

Quoting songwriter Joni Mitchell in a speech describing the new approach, Interior Secretary Sally Jewell said, "You don't know what you've got till it's gone."

The solar plants were rushed through the environmental approval process. Miles of unspoiled desert lands were scraped and bulldozed to make way for sprawling arrays of solar panels. Desert tortoises required mass relocation, and kit fox burrows were destroyed. Surprise troves of American Indian artifacts found in the Mojave Desert were moved to a San Diego warehouse, where they remain.

And once it was built, the largest solar plant of its kind in the world - the Ivanpah installation in the Mojave - began igniting birds and monarch butterflies that fly through intensely concentrated, reflected sunbeams aimed at 40-story "power towers," according to a confidential report by federal wildlife officials.

Owned by BrightSource of Oakland, with investment partners Google of Mountain View and NRG Energy of Houston, the 5.4-square-mile, \$2.2 billion facility was built with a \$1.6 billion federal loan and went online last fall.

## **Making fixes**

BrightSource underestimated how much natural gas it would need to run the Ivanpah plant when the sun doesn't shine. And scientists now say desert soils contain vast stores of carbon that are unleashed by construction of solar facilities.

Research at UC Riverside's Center for Conservation Biology indicates that carbon-dioxide-emissions savings from many solar plants "will be compromised, or even negated, by the loss of stores of inorganic and organic carbon sequestered by desert native ecosystems."

Within the next few weeks, state and federal agencies plan to release the mammoth Desert Renewable Energy Conservation Plan, nearly five years in the making, that many hope will correct mistakes made when stimulus dollars and California's quest to slash carbon emissions set off a solar land rush in the Mojave.

The plan will cover 22.5 million acres of private and public land in California.

"I think of Glen Canyon, and the regret that people feel about allowing that dam to be built," said David

Lamfrom of the National Parks Conservation Association, referring to the Arizona dam that turned nearly 200 miles of the Colorado River into a reservoir.

"People say, 'If only I were there,' " Lamfrom said. "Well, 'there' is now, and the place is the California desert."

Jewell promises that the new plan will provide "landscape-level" protection of open spaces, wildlife corridors and habitat while meeting President Obama's goal of having 20,000 megawatts of renewable energy produced on public land.

"This is a grand experiment," said Shannon Eddy, executive director of the Large Scale Solar Association, which represents utility-scale solar plants. "Nobody has ever tried to do this before."

### **More plants planned**

Much is at stake. Several projects are proposed near the three big national parks of the California desert: a 23-square-mile wind and solar farm in the Silurian Valley near Death Valley; a 3,000-acre solar project at Soda Mountain near the Mojave National Preserve that would straddle a bighorn sheep corridor; and another project by BrightSource at Palen, near Joshua Tree National Park, that would be a bigger version of Ivanpah and be located in a bird migratory path.

The federal Bureau of Land Management says those projects are undergoing their own, separate review.

Many environmental groups hope the new federal plan will discourage large new developments. The plan has been kept under wraps for the past year and a half, and neither industry nor environmental groups know what's in it.

They are guessing that the agencies, led by the Bureau of Land Management and the California Energy Commission, will try to segregate renewable-energy plants on land closer to cities and declare millions of acres of unspoiled public land off-limits.

The timing is critical. If Gov. Jerry Brown wins re-election in November, "there's going to be a big push to up renewable energy development" to meet California's stringent carbon emissions targets, said Kim Delfino, state program director for Defenders of Wildlife, an environmental group.

### **Climate change**

Many big environmental groups supported using the Mojave for solar plants - and still do - because of the climate-change imperative.

"We are seeing climate-change impacts in California now," Delfino said. "We desperately need to try to jump-start carbon reductions. If you can't do it here in California, where else are we going to be able to do it?"

But smaller desert-protection groups think industrial-scale solar does not belong in the Mojave, at least not on unspoiled land, and that the administration blundered by not spending stimulus money on smaller-scale rooftop solar for homes, warehouses, big-box stores and parking lots.

"The government should be concentrating on a policy that develops contaminated, degraded lands and space in the cities, rather than subsidizing these massive industrial plants that are essentially privatizing public lands," said Janine Blaeloch, founder and director of the Western Lands Project, a Seattle group

that monitors public-land policy. "When I think about what could have happened had the Obama administration put \$10 billion of subsidies into urban-distributed generation, we would have probably developed some really good systems."

Kevin Emmerich, a former desert park ranger who runs Basin and Range Watch, a watchdog website, said climate change does not warrant putting industrial-scale projects in the desert.

"We're saying just the opposite," Emmerich said. "Yes, climate change is making habitats more vulnerable, so now is the worst possible time to take a bulldozer and take out 5 square miles of that habitat and expect it to maintain ecological sustainability."

The Environmental Protection Agency has identified 22 million acres nationwide of contaminated brownfields, landfills, mining sites and similar disturbed areas that could be used for renewable energy. But the administration's approach remains firmly anchored in an "all of the above" energy strategy.

The Ivanpah plant, located west of Interstate 15 near the California-Nevada border, covers 3,500 acres using what is called concentrating solar power. About 173,500 mirrors called heliostats track the sun, reflecting light rays to three 450-foot "power towers," or boilers, where temperatures reach as much as 900 degrees Fahrenheit, according to the federal wildlife report.

The light is believed to attract insects, which in turn attract birds, possibly creating what the report called a "mega-trap" for wildlife. The report said insects and birds have been set ablaze as they crossed the path of the beams.

The report said other solar plants using photovoltaic panels or a technology called parabolic troughs also appear to kill birds, mainly from crashes, and emphasized that bird deaths are not restricted to Ivanpah.

### **Response on bird kills**

Joe Desmond, BrightSource's senior vice president of marketing and government affairs, said on the company's website that all infrastructure projects affect the environment and that the bird deaths at the Ivanpah plant were overblown.

Desmond said the company found 321 dead birds from January through June, of which 133 were apparently killed by flying through the concentrated rays. He said that by comparison, domestic cats kill anywhere from 1.4 billion to 3.7 billion birds a year and that nearly a billion die from crashing into buildings.

BrightSource contends the Palen plant will cause less disruption to the landscape than other solar technologies because the solar mirrors will be inserted directly into the ground, avoiding the need for scraping the soil as required for photovoltaic panels.

### **Sierra Club opposition**

Barbara Boyle, a longtime desert activist with the Sierra Club, said environmental groups have been unjustly blamed for encouraging the Obama administration's push to put solar on public land. She said the Sierra Club opposed Ivanpah and continues to fight other solar farms that it believes would be built in the wrong places.

"This renewable-energy program was going to go forward regardless of what our position on it was," Boyle said. "I don't think any of us, even collectively, had the power to make the solar program on public

lands go away even if that had been our goal. And we certainly didn't have the power to tell the federal government that they needed to put all the solar on rooftops."

### **Indians' complaints**

American Indian tribes that have resisted solar-plant construction have had even less success.

Alfredo Acosta Figueroa, the 80-year-old founder of La Cuna de Aztlán Sacred Sites Protection Circle, is fighting several large solar plants along the Interstate 10 corridor. All of them, he said, threaten ancient geoglyphs, trails and landscapes sacred to the Colorado River Indian Tribes, whose reservation straddles the California-Arizona border.

"The government has just ramrodded a lot of these projects to get the fast-track stimulus money and the tax credits," Figueroa said. "They are just playing possum. They say, 'We're giving you the opportunity to present your side,' but yet they overrule it and they'll say, 'Well, it's more pertinent that the people get green energy.' They're sticking to that."

Other conflicts are playing out elsewhere in the desert.

Brian Brown, fourth-generation owner of the China Ranch date farm, is one of the few residents of the Silurian Valley, a remote area at the southern end of Death Valley National Park that is the site of the proposed 15,000-acre wind and solar farm by the Spanish firm Iberdrola Renewables. The area is all but surrounded by federally protected wilderness and home to historic pioneer trails.

The Silurian Valley is "all big, long vistas and gorgeous purple and blue mountains," Brown said, views he believes will be destroyed by creating "a big industrial zone."

"There isn't any one rare or endangered or really special biological species there that this thing would harm," Brown said. "It's just a big, beautiful, undisturbed, classic Mojave Desert with lots of rich historical resources. Why should we destroy that when there are other places that are already disturbed that could serve the solar purpose just as well?"

Iberdrola Renewables spokesman Paul Copleman said in an e-mail that it was the Bureau of Land Management that listed the area as open to potential development.

"Let's remember," Copleman said, "they initiated this process to encourage responsible renewable-energy development on federally owned lands."