

# Turbines are careful fit in desert

Projects to generate energy collide with delicate landscape and endangered species

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Some of the biggest windmills in the nation could begin popping up on the Mojave Desert landscape late next year.

One plan would put more than 30 turbines -- each with blades that would reach 429 feet in the air -- on a ridge southeast of Barstow. The wind farm would generate enough power for 50,000 homes or more.

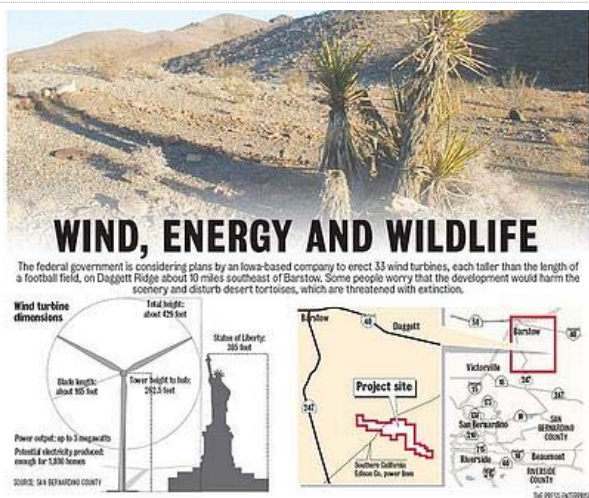
The titanic turbines are the preferred choice among energy companies that have filed 63 applications to develop wind farms on public land in the desert from Ridgecrest to Mexico.

"They are finding taller turbines produce more megawatts because they reach the best wind conditions, and they don't have to put as many in the ground," said Greg Miller, the renewable energy project manager for federal Bureau of Land Management's California Desert District.

And many seek greater heights by locating projects along ridge tops that define desert skylines.

The projects will help the nation and California meet renewable-energy goals, but they also raise new concerns about ruining scenic views and damaging habitat needed by species such as the desert tortoise, which has been creeping toward extinction.

The **Obama** administration has selected three large-scale wind developments for a shortened approval process, part of an effort to advance alternative energy and reduce green-house emissions that experts say contribute to **global warming**.



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The energy companies hope to win **BLM** approval by Dec. 1, 2010, a requirement to qualify for **economic stimulus** dollars that could cover 30 percent of construction costs, Miller said. One is sought for the Granite Mountains, between Lucerne and Apple valleys; another on a ridgeline near Barstow; and a third in eastern San Diego County near Mexico.

In the coming months, the BLM will examine potential environmental consequences of the wind projects. The studies will evaluate loss of wildlife habitat, especially for species facing extinction; collision hazards for eagles, hawks and other high-flying birds; aesthetic changes to scenic views of ridges and valleys; and potential disruption of Native American burial sites and other cultural resources.

## **Tortoises And Eagles**

The 82.6-megawatt wind farm proposed by a subsidiary of AES Corp. would use 1,577 acres of public land and 380 acres of private land on Daggett Ridge, a low mountain range about 10 miles southeast of Barstow.

The location is attractive for harnessing power because the hills face prevailing winds and Southern California Edison power lines already cross the area, said Mike Azeka, AES Wind Generation permitting and planning director, during a public meeting in Barstow earlier this month.

The company wants to erect 33 wind turbines. The towers, each 12 feet in diameter and equipped with an internal hoist for maintenance workers, would stand more than 260 feet -- 263 feet to the hub where the blades attach. Each of the three blades would extend about 165 feet from the hub. Blades can weigh tens of thousands of pounds, and the tips can travel as fast as 170 mph.

## **Miles of roads**

AES would build 10 miles of gravel access roads, an electrical substation and power lines to link the turbines to the Edison transmission lines, which have crossed the desert there since the 1930s, Azeka said.

The biggest cause of environmental damage would be construction of the access roads, said Ileene Anderson, a wildlife biologist with Tucson-based **Center for Biological Diversity**.

The AES project should go elsewhere because the U.S. Fish and Wildlife Service has designated the Daggett Ridge area as critical habitat for the desert tortoise and it is in a special wildlife-management zone, Anderson said. The ridge area is the site of a long-term study by U.S. Geological Survey biologists on tortoise respiratory disease, she said.

## **'Wrong place'**

"It's a very good project, but Daggett Ridge is the wrong place for it," Anderson said.

Larry LaPre, a BLM biologist, said the agency's West Mojave land-use policy allows for such a project but requires the developer to acquire and conserve four acres of tortoise habitat elsewhere for every acre used for roads or wind turbine towers.

Another concern is that golden eagles and other high-flying birds could

collide with turbine blades. Anderson said the blades on the largest turbines turn more slowly and thus are less of a hazard to birds. The risk is greatest to younger birds that are learning to fly, she said.

A golden eagle nest was visible in one of the Edison power line towers earlier this month. The ridge area was dotted with plant life, including creosote shrubs, yuccas and cottontop and cholla cactuses.

### **Desert Vistas**

Neighboring property owners said during the Barstow meeting that the access roads will attract more motorcyclists and other off-roaders and lead to more trespassing and vandalism.

"That will disturb my operation," said Irene Fisher, owner and operator of Ord Mountain L Shield Ranch. "My (cattle) foraging area will be reduced."

She and other property owners also said they are concerned about reduced property values.

With about 120 wind and solar projects sought on public land in the California desert, some people worry about the loss of wild scenery that's important to visitors and movie makers, as well as residents. The vistas in Johnson Valley, Cuddeback Lake and Trona Pinnacles have been backdrops for everything from car commercials to feature-length films, said James Fitzpatrick, deputy director of the California Film Commission and a member of the BLM's advisory council.

"I'm not opposed to alternative-energy projects," Fitzpatrick said. "But care must be taken in where we locate them."

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