

Mohave County Wind Farm Project

BLM



FREQUENTLY ASKED QUESTIONS

Bureau of Land Management, Kingman Field Office / Arizona

What's New?

Your last newsletter is dated April 2010. What has happened regarding the environmental process since then?

The Bureau of Land Management (BLM) has been gathering information for issues identified in the scoping process and has developed alternatives to address some of those concerns. Issues being addressed in the Environmental Impact Statement (EIS) include natural resources, economics, visual, noise, and cultural issues. Work has continued in each of those areas.

What has changed in the project?

BP Wind Energy has modified its proposed development area based upon scoping comments received by expanding to the west in the southern portion of the project area, increasing the amount of BLM public land that would be developed. The power would tie into the electrical power grid through an interconnection to one of the Western Area Power Administration (Western) transmission lines that pass through the project area. An interconnection to the Moenkopi-El Dorado transmission line to the south of the wind farm site is no longer being considered so no new transmission lines outside of the wind farm site are proposed.

What are the alternatives being considered?

Alternative A is the action proposed by BP Wind Energy. It calls for up to 283 wind turbines. The wind farm site would encompass approximately 38,100 acres of public land managed by the BLM and approximately 9,000 acres of land managed by the Bureau of Reclamation (Reclamation). Only a relatively small proportion of this area would be occupied by project facilities.

Alternative B addresses a reduced turbine footprint to minimize sound and visual impacts to the Lake Mead National Recreation Area and nearby private land. The wind farm site would encompass approximately 30,800 acres of public land managed by the BLM and approximately 3,900 acres of land managed by Reclamation. Alternative B could support development of up to 208 turbines.

Alternative C would permit about the same number of turbines as Alternative B, but in a different configuration to minimize sound and visual impacts. The wind farm site would encompass approximately 30,200 acres of public land managed by the BLM and approximately 5,100 acres of land managed by Reclamation.

Alternative D would be no action, meaning the Federal agencies involved would not allow use of the public land for this project.

Were other alternatives considered and eliminated?

An earlier proposal had a project area that would have required additional land, including public and private lands to the east of the present proposed site. Public scoping meetings on this proposal were held in December 2009. Potential conflicts with existing mining claims were identified as well as concerns about the private property within the project area. Also, the potential for adverse effects on bats and birds were greater in the eastern portion of the proposed project. For those reasons BP Wind Energy decided not to pursue this alternative.

Another alternative considered was to use distributed energy generation, i.e., solar panels on rooftops, or small-capacity wind turbines. This alternative was eliminated because the project location is remote and sparsely developed; it would not be possible to come close to producing the amount of energy proposed by this project, and increasing energy efficiency would be beyond the ability of the applicant or BLM to enforce or monitor.

An alternative to develop a smaller project with less generation capacity was considered, but BP Wind Energy's large-generator interconnection application to tie into Western's 345 kilovolt (kV) Liberty-Mead transmission line commits to a minimum 425 megawatt (MW) project and the application to tie into Western's 500kV Mead-Phoenix line commits to a minimum 500 MW project.

What other project variables are being considered?

Turbine color is being evaluated. The turbines could be either white or shadow gray. White turbines require only night-time marking with red strobes for flight safety. Gray turbines may have less visual contrast with the surrounding terrain, but must be marked in the daytime with synchronized white strobe lights as well as marked with red strobe lights at night. Turbine lighting and color requirements must be approved by the Federal Aviation Administration to ensure flight safety requirements are met.

Turbines are placed within corridors and the corridors are separated from one another so that each turbine captures the maximum power from the wind without interference from wake turbulence. The turbines are linked to one another through underground collector lines and the corridor strings are then linked to a substation. Placing collector lines linking the corridors either completely underground or with a combination of underground and aboveground lines will be evaluated.

Finally, the project may intertie to the power grid through one of two transmission lines: the 345kV Liberty-Mead line or the 500kV Mead-Phoenix line, both located on-site.

How will construction vehicles access the project site?

The proponent is planning to improve and use the access road that leaves Highway 93 and provides access to the existing BLM mineral material sale site on Detrital Wash. This would require construction of new road east of Detrital Wash to the project area.

What other agencies are evaluating this project?

The BLM is the lead agency in preparing the EIS. Other Federal agencies working on the EIS are Reclamation, Western, and the National Park Service (NPS). Other cooperating agencies include the Arizona Game and Fish Department (AGFD), Mohave County, and the Hualapai Tribe.

Who makes the final decision?

The BLM and Reclamation make separate decisions for the portions of land managed by them. Western makes the decision on connecting to existing transmission lines that it operates.

When will we see a decision on this project?

The current schedule calls for a Draft EIS to be available to the public in Winter 2011. After a comment period, work will continue on the Final EIS, which we expect in Spring-Summer 2012. A record of decision is anticipated in Fall 2012.

What experience does the proponent have with wind energy?

BP Wind Energy North America (BP Wind Energy) is a wholly owned subsidiary of BP. BP Wind Energy is working to develop almost 100 projects in 25 states. It has more than 1,600 MW of wind energy in commercial operation and more than 1,400 MW of wind energy in an advanced stage of development.

Project Description

Where would the project be located and why was the location selected?

The proposed project would be located in the White Hills area, approximately 40 miles northwest of Kingman, Arizona. BP Wind Energy has been collecting wind data on the site for about six years and has determined that wind resources are sufficient to develop a wind energy project. The proposed project would meet federal and state directives to increase renewable energy production. There are 20 million acres of BLM-administered lands with "good wind," where wind has an average annual speed of at least 13 miles per hour (mph). The National Energy Policy Act recommends that the Department of the Interior work to increase renewable energy production. The BLM established a wind energy development program to respond to this and other directives.

What is proposed as part of the project?

The project, which may be developed in phases, would consist of up to 283 wind turbine generators and produce either 425 or 500 MW of power depending on which Western transmission line is used to interconnect with the electrical power grid. The project would also include access roads, transformers, meteorological towers that measure wind, operations and maintenance building(s), a switchyard, and a 345 or 500kV transmission line and substations. Temporary facilities would include laydown/staging areas, a batch plant for mixing concrete, a water pipeline from existing wells to the batch plant, additional meteorological

towers, and use of a mineral material pit. A water well comparable to a residential well may be developed and a power distribution line proposed to support batch plant operations may be retained to provide water and power to the operations and maintenance building.

When would the project be complete?

Once the EIS has been completed, and should the BLM decide to permit the project, it is expected that construction could start in 2013. Full construction of the towers and generators would take 12 to 18 months. The project would have an estimated service life of 30 years, after which it would be decommissioned.

How many homes can be powered by this project?

According to the American Wind Energy Association, 1 MW of wind-generated power can supply electricity for 240 to 300 households per year. This project would produce enough power for approximately 110,000 homes per year.

Does Arizona need wind power and, if so, would the power generated be used in Arizona?

The Arizona Corporation Commission established a renewable energy standard in 2007 requiring Arizona utilities to generate 15 percent of their electricity from renewable sources by 2025. Energy generation, particularly renewable energy, is important to Arizona. As Arizona's population grows, more energy will be needed to meet the power needs of these new citizens. Energy is sold like any commodity, and depending on the purchaser, power generated by the Mohave County Wind Farm Project may or may not be used in Arizona.

Project Technology and Construction

How would the project work?

The term "wind energy" describes the process by which the wind is used to generate mechanical power or electricity. The wind turbines are equipped with sensors that continuously monitor wind speed and direction. Once the wind reaches a pre-determined speed, the wind turbine rotor and blades begin to turn and the generator produces electricity. As the wind changes direction, the turbines rotate to face the wind in order to maximize energy production. The turbines are connected by power collection systems linked to an electric substation so that power generated by these turbines can be fed into a utility grid and distributed to customers.

How large are the turbines?

Depending on the turbine model used, the turbine hubs attached to the nacelle located at the top of the turbine tubular steel tower would be between 263 feet (80 meters) and 295 feet (90 meters) above the ground, and the turbine blades would extend between 135 feet (41 meters) and 197 feet (60 meters) above the hub. At the top of their arc, the blades would be between 397 feet (121 meters) and 492 feet (150 meters) above the ground.

How frequently would the turbines generate power?

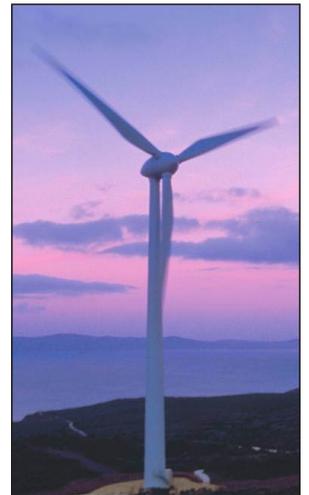
The facility would be available for power generation 365 days a year during which time the turbines would continually be generating power at various stages of production depending on the velocity of the wind. Not all of the turbines would necessarily operate at once because of maintenance schedules and other factors.

At what wind speed do the turbines start to produce power and at what wind speed can the turbines no longer functionally turn faster?

The wind turbines are equipped with sensors that continuously monitor the wind speed and direction. Once the wind reaches a predetermined speed of approximately 8 mph, the wind turbine rotor and blades begin to turn and the generator produces energy. The angle of the blades would adjust once maximum power output is reached at around 30 mph. At a predetermined maximum wind speed (approximately 50 mph), the wind turbines would shut down in order to limit the amount of stress on the turbine.

Where would equipment parts be manufactured?

The turbine model has not been selected. Some turbines being considered include the 1.8 MW Vestas turbine currently being manufactured in Denver, Colorado, and the 2.3 MW Siemens Turbine currently being manufactured in Hutchison, Kansas.



How would equipment be transported and would highway traffic be affected?

The equipment would be transported via trucks and tractor/trailer rigs. Because some of the equipment is large and heavy, the transport vehicles may travel slower than posted speed limits. Highway transport would be coordinated with the state highway department and would adhere to rules and regulations (including obtaining over-weight, -width, -length permits).

Would I still have recreational access to the site during construction and after construction?

Temporary fences would be erected in areas where public safety risks could exist and where site personnel would not be available to control public access during construction. The project substation would be permanently fenced for safety. Otherwise, recreational access would be allowed.

What does it take to decommission a project of this size?

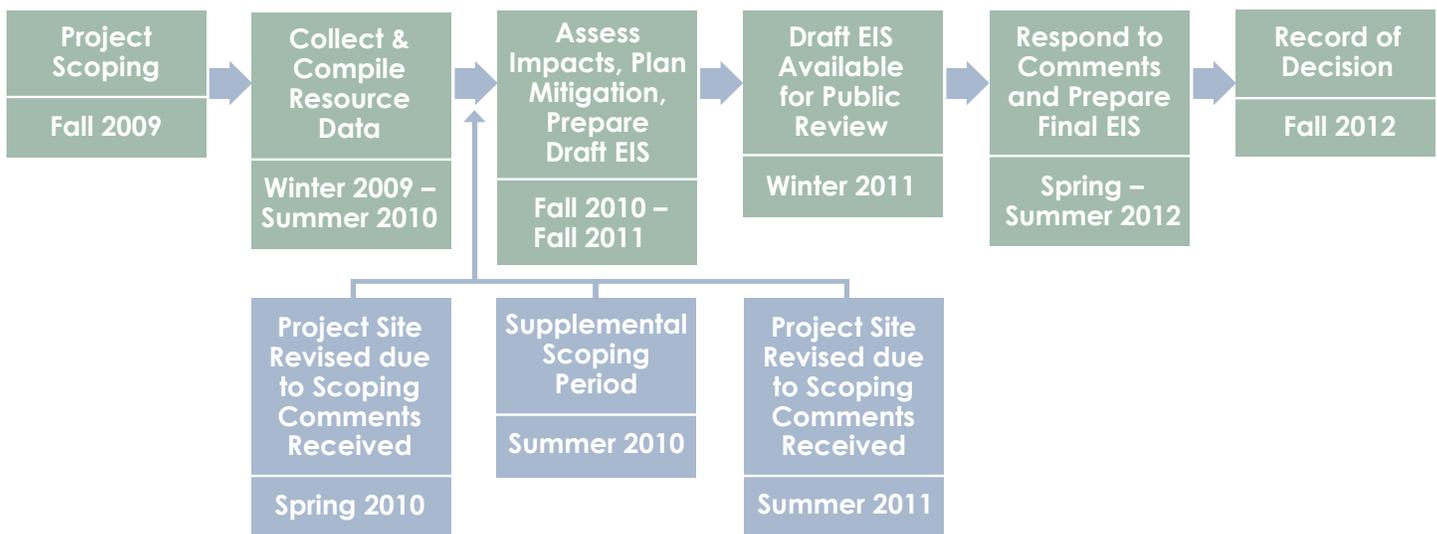
The major activities required for the decommissioning are wind turbine and meteorological tower removal, electrical system removal, structural foundation removal, road removal, re-grading, and re-vegetation.

Environmental Impact Statement Process

What is an EIS?

An EIS is a document that describes how a proposed project might impact the natural, cultural, and human environment, as well as actions that may be required to minimize impacts. An EIS is required because the project is located on federal land and involves a federal action in the form of BLM issuing a right-of-way grant. Federal actions require compliance with the National Environmental Policy Act of 1969 (NEPA).

It is anticipated the Draft EIS will be available for public review and comment in Winter 2011. The flow chart below shows the EIS process and schedule.



Are there other environmental laws that need to be considered?

Yes, the project needs to comply with all environmental laws including the National Historic Preservation Act, Endangered Species Act, Clean Water Act, and other laws and regulations. Compliance with these laws will be documented in the EIS.

What studies are involved?

The “environment” considered in an EIS typically includes soils, geologic resources, water, air, plants, wildlife, land uses, visual resources, noise, recreational resources, cultural resources, and social and economic conditions.

What is BLM’s role in the process?

BLM manages public land on which the project is proposed, and is lead federal agency during preparation of the EIS. BLM also is lead agency for Section 106 and Section 7 consultation under the National Historic Preservation Act and Endangered Species Act, respectively. BLM is responsible for approving the project on BLM-administered land. If the project is approved, BLM would issue the right-of-way grant to authorize project development.

Who else is involved in the project?

A number of agencies and tribes have been invited to participate as cooperating agencies. At this time, Western, NPS, Reclamation, Mohave County, the Hualapai Tribe, and AGFD have agreed to participate as cooperating agencies during preparation of the EIS. They will support BLM's resource team and contribute information for those portions of the EIS where the agency has specific expertise. Part of the project is on Reclamation land so if the project is authorized, Reclamation would issue a right-of-way grant for development on its land. URS, as a third-party NEPA contractor, is assisting BLM with preparation of the EIS.

Environmental Considerations and Impacts

What impacts do these facilities have on the environment?

Wind energy farms may result in impacts to wildlife habitat or to wildlife species themselves through bird and bat mortality, as well as impacts to the human environment such as noise produced by the rotor blades or visual impacts. However, most of these issues have been resolved or greatly reduced through technological development or by properly siting facilities.

Approximately how many local jobs would be created during project construction, and how many local jobs would be created during the operations and maintenance phase? What are the subcontractor opportunities for local businesses? Who may be contacted for more information about job opportunities?

Typically, a wind farm of this size would employ up to 200–300 people during the construction phase. In addition, around 10–20 people could be employed for operations and maintenance. Depending on the skills required, skills available, and the nature of the construction and equipment contracts, BP Wind Energy and its contractors typically source workers locally whenever possible. A BP Wind Energy contact person will be identified for job opportunities as the project progresses.

Public Involvement

How do I provide comments on the project?

Submit written comments by email (KFO_WindEnergy@blm.gov) or fax them to 928-718-3761 (reference Mohave County Wind Farm Project). You can also mail your comments to:

**Mohave County Wind Farm Project
BLM Kingman Field Office
2755 Mission Boulevard
Kingman, Arizona 84601**

For more information, visit the project website: <http://www.blm.gov/az/st/en/prog/energy/wind/mohave.html>. Questions may be directed to Jerry Crockford at 505-360-0473 or jandjrockford@comcast.net.

Where can I learn more about wind energy?

There are many web sites with information on wind energy. Visit <http://windeis.anl.gov/guide/links/index.cfm> for a list of web sites with wind energy information.