Chokecherry and Sierra Madre Wind Energy Project Comprehensive wildlife conservation strategy complements ranching and wind development



Project background

Power Company of Wyoming LLC is developing the Chokecherry and Sierra Madre Wind Energy Project, a 1,000-turbine wind farm to be located south of Rawlins in Carbon County, Wyoming. The proposed project will be situated on about 100,000 acres of the 320,000-acre Overland Trail Cattle Company ranch, although total permanent land disturbance will be less than 2,000 acres due to each turbine's small footprint.

Planned to generate 2,000-3,000 megawatts of clean energy, the project will ensure a reliable, cost-effective supply of renewable electricity that's unmatched in the west. The wind project will generate hundreds of good jobs and hundreds of millions of dollars in tax revenue, providing local, state and national benefits for decades. It also supports the strategy set out in Bureau of Land Management's Final Programmatic Environmental Impact Statement on Wind Energy Development "of extracting the maximum potential wind energy from a given site [which] will minimize the overall environmental impacts."

Because the proposed wind power project spans an approximately 50/50 combination of private land and federal land managed by BLM, the project is being reviewed in an Environmental Impact Statement. In July 2008, the BLM Rawlins Field Office published a Notice of Intent to prepare an EIS to analyze the environmental consequences of the project. The Draft EIS was published by BLM in July 2011.



Responsible renewable energy development

Power Company of Wyoming aims to set the standard for the development of renewable resources in an environmentally responsible manner on federal and private lands. Since 2008, PCW has been collecting wildlife data throughout the wind development areas of the ranch to support the BLM-led Environmental Impact Statement process, which is the highest level of environmental analysis applied under the National Environmental Policy Act.

But in addition, PCW has proactively moved forward with programs to both better understand wildlife habitats and use across the entire 500-square-mile Overland Trail Ranch and to implement advanced conservation measures that will avoid, minimize and mitigate impacts to the ranch's wildlife and ecosystems. The company retained industry-leading environmental consultants and biologists to help it develop and implement this comprehensive wildlife conservation strategy.

Major efforts undertaken by PCW along with the Overland Trail Ranch include a comprehensive wildlife conservation plan and an avian monitoring and protection plan. These science-based plans will protect wildlife on the ranch and are anticipated to provide a conservation uplift for many of the species potentially impacted by wind energy development.

Comprehensive conservation plan

The comprehensive conservation plan is designed to conserve greater sage-grouse populations on the ranch as well as other sagebrush obligates potentially impacted by wind energy development. This is largely possible because ample land and water resources on the Overland Trail Ranch provide the flexibility to enhance and conserve 500 square miles of sage-grouse habitat. More than 70% of this area, including the best sage-grouse habitat, will not

be affected by wind energy development. Further, PCW will not develop wind energy in designated sage-grouse core areas.



At the same time, the conservation plan will continue to accommodate ongoing ranching and agricultural operations. Yet conserving sagegrouse and enhancing the sagebrush ecosystem is a primary objective for how this land will be managed today and in the future. This approach was developed after performing a detailed assessment of threats to sagegrouse and identifying conservation measures to eliminate or minimize these threats. PCW's environmental consultants also have completed extensive vegetation and habitat mapping field work, as well as gathered a wealth of other biological data.



Selected conservation measures under way or completed in the project area include:

- More than 16 miles of fence have been marked, and more than 10 miles of fence have been removed to reduce or eliminate risks for sage-grouse collisions and mortality.
- Bird diverters are installed on all guyed met towers to reduce risks for collisions and mortality.
- Habitat is being improved through enhanced rangeland management and active vegetation treatment including maintaining and enhancing native understory plants, revegetating fallow agricultural fields, and treating sagebrush.
- A 170-acre area burned by a lightning-caused wildfire has been revegetated with a seed mix specifically designed to enhance sage-grouse brood-rearing habitat.
- Unnecessary roads are being identified for removal and reclamation to reduce fragmentation and remove conduits for predators.
- Water tank bird ladders were built by the Saratoga High School FFA Chapter and have been installed in many of the water tanks throughout the ranch to reduce drowning risks for birds and other wildlife species.







Of particular interest, starting in early 2010, a robust sage-grouse monitoring effort has been implemented to evaluate habitat use and population characteristics of these birds. Activities of approximately 150 male and female sage-grouse have been identified through the use of state-of-the-art telemetry including small, lightweight GPS tags attached to the sage-grouse. Biologists are using and will use the data to:

- Identify the factors that determine use of an area by sage-grouse.
- Help determine locations for additional conservation and habitat improvement projects.
- Monitor the success of conservation and habitat improvement projects.
- Demonstrate the relative use of the wind development areas to enable a better understanding of how grouse in the assessment area and populations as a whole respond following wind project development.

Coupled with PCW's conservation measures, this science-based monitoring program will ensure PCW is achieving its goal of a net conservation benefit to sage-grouse.





Avian and bat protection plans

PCW is working to develop wind resources in a manner consistent with the conservation of avian and bat species as well. A comprehensive, science-based avian and bat monitoring approach – which combines avian radar technology and traditional monitoring methods – is being used to better identify usage and patterns. Results from the monitoring program will allow PCW to identify the most appropriate conservation practices to avoid, minimize and mitigate potential risks to avian and bat species.

Here are the six major elements of PCW's monitoring protocols and the conservation plan development approach.

 An avian radar system is being used across the Overland Trail Ranch to monitor avian and bat activity and habitat use patterns. Avian radar systems collect detailed avian and bat use data 24 hours per day and can map activity across 80 square miles. Radar data will identify high use areas and enable PCW to site the wind project in a manner that will reduce impacts to avian and bat species. Five to six locations will be surveyed with the radar each year to provide precise data in the wind development areas.









- Raptor use surveys are being conducted at 15 locations across the ranch to map raptor use in locations that are not being directly surveyed by the radar. Each site is surveyed 8 hours per survey day to determine possible exposure rates for raptors and other avian species.
- Avian point count surveys are being conducted at 15 locations across the ranch to document migratory and resident use.
- Breeding and resident bird grid surveys have been conducted at 16 locations throughout the wind development areas to map the relative abundance and density of bird activities during non-migratory periods.
- Raptor nest surveys have been completed for all areas within 5 miles of wind development areas (an area of nearly 1,000 square miles or 640,000 acres). Helicopter surveys were used to survey suitable eagle nesting habitat and to survey known nests for other large raptor species. Follow-up ground monitoring was used to document nest success, identify nest condition, and to locate additional raptor nests that could not be identified during helicopter surveys.
- Prey base evaluations are being conducted to evaluate areas containing prey densities sufficient for eagle and large raptor foraging activities.







Finally, an Eagle Conservation Plan (ECP) and an Avian and Bat Protection Plan (ABPP) are being developed to identify measures that will be taken to avoid, minimize and mitigate impacts to all avian and bat species. Data collected as part of the above surveys will be used to identify the measures that will be taken to conserve avian and bat species while enabling wind energy development to occur.

In addition to raptors, bats and sage-grouse, PCW's comprehensive conservation plan will promote conservation of many other wildlife and fish species in the project area. PCW is actively working with the U.S. Fish and Wildlife Service, Bureau of Land Management, and Wyoming Game and Fish Department to identify and implement appropriate conservation measures. Since many species are dependent on the same or similar habitats, conservation actions directed towards one species will benefit others as well.



