Executive Summary

This Executive Summary is intended to provide a brief overview of the proposed project, alternatives, and conclusions from the impact analyses. For the supporting documentation and detailed analyses please see the full Environmental Impact Statement (EIS).

Project Overview

The Power Company of Wyoming, LLC (PCW) proposes to construct and operate a wind energy project south of Rawlins in Carbon County, Wyoming (**Figure 1-1**). PCW filed a Wind Site Testing and Monitoring Application with the Bureau of Land Management (BLM) for the lands encompassing a portion of The Overland Trail Ranch, which is owned and managed by The Overland Trail Cattle Company, LLC (TOTCO). The BLM Rawlins Field Office (RFO) administers the public lands within the proposed Application Area. The Overland Trail Ranch consists of approximately 315,000 acres in a checkerboard configuration of public, private, and state land primarily used by TOTCO for livestock grazing. Both PCW and TOTCO are wholly owned affiliates of The Anschutz Corporation. Most, but not all, of the privately held lands are owned by TOTCO.

The proposed project would consist of two wind farm sites located near each other (approximately 9 miles apart) within the Wind Site Testing and Monitoring Application Area – the Chokecherry site and the Sierra Madre site (CCSM) – totaling 222,689 acres of public, private, and state land; however, not all of this land would be used for, or disturbed by, the project. PCW has obtained a wind easement and entered into an agreement with TOTCO to use the private lands for the proposed wind energy project. Additional agreements with other private landowners would be required if PCW planned to use those lands for the project. PCW has applied for the necessary special use lease from the State of Wyoming, Board of Land Commissioners to construct and operate the wind farm on state lands. The Application Area studied in this document includes the entire Wind Site Testing and Monitoring Application Area and Application Areas for rights-of-way (ROWs) of ancillary facilities, collectively referred to as the "Application Area" (**Figure 1-2**). The requested ROW grant is for a term of 30 years with the option to renew the ROW grant and upgrade the wind facility, as necessary. A general description of the project proposed by PCW can be summarized as follows:

- A 2,000- to 3,000-megawatt (MW) wind farm consisting of approximately 1,000 wind turbine generators (WTGs) with a nameplate capacity ranging from 1.5- to 3-MW;
- Development of step-up transformers, underground and overhead electric collection and communication lines, electric substations, intermodal rail facility, operations and maintenance facility, and staging areas;
- Construct new roads and upgrade existing roads; and
- Power from the wind farms would be transmitted via overhead electric transmission lines that would connect to a new substation in the Application Area.

The BLM's Proposed Action (Proposed Action) is to decide whether the area identified in PCW's proposal would be acceptable for development of a wind farm and identify the appropriate development strategy (e.g., development in relation to Greater sage-grouse core areas). The BLM has determined that an EIS would be required under the National Environmental Policy Act of 1969 (NEPA; Title 42 United States Code [USC] Section 4321, et seq.) to analyze and disclose the potential environmental impacts of the proposed project for BLM decision-making. Due to the large area considered and substantial number of turbines to be sited, the BLM has decided to go through the NEPA process to establish a strategy for future development. Future siting of wind turbine generators (WTGs) and associated Plans of Development (POD) would be submitted consistent with the strategy

adopted in the ROD for this EIS. While this broad-scale EIS evaluates a general area, specific impacts will be evaluated in subsequent NEPA analysis based on site-specific proposals within the selected alternative boundary.

BLM's Purpose and Need for the Proposed Action

The purpose of the Proposed Action is to determine appropriate areas and restrictions for PCW to develop a wind energy facility on public lands administered by the BLM in compliance with Federal Land Policy and Management Act (FLPMA), BLM ROW regulations, and other applicable federal laws. This action will assist the BLM in meeting the management objectives in the Energy Policy Act of 2005 (Title II, Section 211) which establish a goal for the Secretary of the Interior to approve 10,000-MWs of electricity from non-hydropower renewable energy projects located on public lands. This action also furthers the purpose of Secretarial Order 3285 (March 11, 2009) that establishes the development of environmentally responsible renewable energy as a priority for the Department of the Interior.

The need for the Proposed Action is to respond to a FLPMA right-of way application request submitted by the applicant to construct, operate, maintain, and decommission a wind energy facility and associated infrastructure on public lands administered by the BLM. In accordance with FLPMA (Section 103(c)), public lands are to be managed for multiple uses that take into account the long-term needs of future generations for renewable and non-renewable resources. The Secretary of the Interior with respect to public lands is authorized to grant ROWs for systems of generation, transmission, and distribution of electric energy (Section 501(a)(4)).

Decisions to be Made

Impacts are evaluated on a broad, project-wide level to enable the BLM to determine whether the Application Area is suitable for development of the proposed project and identify the appropriate development strategy. The impact analysis in this EIS is based on resource-specific assumptions, estimated project disturbance, and appropriate project-specific stipulations. All project alternatives conform to the Rawlins RMP (2008) and the Preferred Alternative in the VRM-targeted Plan Amendment in Volume I. The BLM will decide whether the area identified in PCW's proposal would be acceptable for development of a wind farm and the requirements for all future wind development in the area. For example, decisions may include restrictions on development in relation to greater sage-grouse core areas, construction sequencing, and reclamation practices.

The wind farm development EIS broadly evaluates impacts across the Application Area; however, specific impacts associated with the siting/location of individual project components that are not covered in this document would be evaluated in subsequent NEPA analyses based on site-specific proposals within the selected alternative boundary. Upon completion of the current NEPA analysis, PCW may submit up to four separate PODs for distinct aspects of the project, including: the Chokecherry development area, the Sierra Madre development area, the haul road(s), and transmission line(s). The site-specific POD proposals would be tiered to the analysis and decision in this EIS. Right-of-way (ROW) grants for these PODs must comply with NEPA and would include site-specific terms and conditions tiered back to this EIS.

PCW's Objectives for the Proposed Project

PCW's objectives for the project are to help fulfill the projected future need for power from renewable energy sources. There are four components that comprise the applicant's objectives:

- Extracting the maximum potential wind energy for the site;
- A 2,000- to 3,000-MW wind farm project consisting of approximately1,000 WTGs;

- Development of the Sierra Madre site first to obtain an earlier return on investment due to the high wind energy potential of the site; and
- Development of the project over a 4-year period.

Conformance with Existing Plans and Regulations

The BLM evaluated the proposed project in accordance with all major authorizing laws, regulations, and policies, including BLM manuals, handbooks, and instruction memoranda. The proposed wind farm project is in conformance with the following management goals and actions defined in the Rawlins Resource Management Plan (RMP): Lands and Realty Objective 6, Alternative Energy Development–Wind Energy Resources Management Actions Common to All Alternatives, Alternative Energy Development–Wind Energy Resources Management Actions.

The proposed CCSM project is not in conformance with the Visual Resource Management (VRM) direction provided in the Rawlins RMP. The VRM Plan Amendment for the CCSM project is being addressed in Volume I of this document. As part of the Record of Decision (ROD), the BLM will decide whether to amend the Rawlins RMP as a prerequisite to approval of the CCSM project. The Preferred Alternative identified in the VRM Plan Amendment in Volume I has been carried forward to inform the alternatives and the conceptual areas of development as well as the analysis in this Volume.

The BLM Wyoming State Office initiated a planning review to determine whether RMP amendments are required to revise greater sage-grouse and sagebrush management in accordance with BLM Wyoming's Instruction Memorandum (IM) 2010-012 and 2010-013. For this project, policies set forth in BLM IM 2010-12 and 2010-13 were incorporated as BLM's environmental constraints that were used in defining the conceptual areas of development for the alternatives. In addition, the applicant-committed measures (ACMs) provided by PCW (shown in **Table C-2** of **Appendix C**) for this project were used in defining the conceptual areas of development for the alternatives and incorporate the policies set forth in the Wyoming Governor's State Executive Order (EO) 2010-4 on greater sage-grouse.

Agency and Public Participation

The BLM is the lead agency for the EIS process. The lead agency takes primary responsibility for preparing the EIS as well as requesting the participation of each cooperating agency. The following agencies with jurisdiction, special expertise, or interest in the CCSM Wind Energy Project have agreed to participate in the EIS process as cooperating agencies:

- U.S. Forest Service (USFS) (Medicine Bow-Routt National Forest and Thunder Basin National Grasslands);
- State of Wyoming (including 12 departments);
- Carbon County (including 4 departments);
- Little Snake River Conservation District;
- Saratoga Encampment Conservation District;
- Medicine Bow Conservation District; and
- City of Rawlins.

The BLM initiated public involvement with publication of a Notice of Intent (NOI) to prepare an EIS for the proposed project in the Federal Register on July 25, 2008. The NOI included a project description, BLM contact information, and announced the initiation of a 45-day scoping period from the date of publication and associated public meetings scheduled during this period. A total of 80 people attended the four public scoping meetings held in Saratoga on August 16, Rawlins on August 16 and 18, and

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Baggs on August 19. The BLM extended the 45-day scoping period to September 23, 2008, to allow more time for interested parties to participate and provide their input and comments about the proposed project.

In addition to the scoping notification, agencies were invited to an interested agency meeting that was held on September 15, 2008, at the BLM RFO. Twenty-two interested agency personnel participated in the interested agency meeting, including representatives from the Wyoming Game and Fish Department (WGFD), the Wyoming Department of Environmental Quality, the U.S. Fish and Wildlife Service (USFWS), the State Historic Preservation Office, Carbon County, and local conservation districts.

By the conclusion of the official scoping period, the BLM received a total of 47 comment submittals (e.g., letter, comment form, email) containing 411 individual comments. Most of the comments the BLM received were from agencies and nongovernmental organizations. The comments received were categorized and analyzed to determine the significant issues and concerns that were considered in developing the Draft EIS. A majority of the comments were related to impacts associated with project development to biological resources, visual resources, recreation, and processes for siting project components (including WTGs and transmission lines) to minimize impacts to these resources.

Elements Common to All Alternatives

A detailed discussion of elements common to all alternatives is provided in Appendix A.

BLM Environmental Constraints

Use of the public lands for either development or access requires compliance with the stipulations and policy governing the public lands, including the Rawlins RMP and relevant federal laws, regulations, and policy. A summary of the BLM's environmental constraints is provided in **Appendix C**. With the exception of variations for greater sage-grouse noted in Alternative 2, the No Surface Use (NSU) constraints and timing stipulations would apply on public lands to all action alternatives (**Table C-1**, **Appendix C**). Best management practices (BMPs) established through the *Record of Decision for Implementation of a Wind Energy Development Program and Associated Land Use Plan Amendments* (BLM 2005) and established in Appendix 15 of the Rawlins RMP ROD (2008) are considered applicable to this project.

Applicant-Committed Measures and Best Management Practices

PCW has provided ACMs and BMPs that would be applied to all private, state, and public lands (**Table C-2** and **Table C-3**, **Appendix C**). Under all action alternatives, PCW has committed to no development within the greater sage-grouse core breeding areas (Wyoming Governor's EO 2010-04 Greater Sage-grouse Core Area Protection [August 2010]).

Additional Constraints and Mitigation Identified Through the EIS Process

In addition to the BMPs, NSUs, and ACMs described in **Appendix C**, mitigation measures identified through the environmental analysis (**Appendix C**, **Table C-4**) and additional constraints that may come through development of an Avian Protection Plan (APP; **Appendix J**); a Biological Opinion (**Appendix L**); Programmatic Agreement for cultural and Native American resources (**Appendix E**); and reclamation and monitoring would be incorporated into the selected alternative. These constraints would then in turn be considered as stipulations of approval in the ROW grants.

Visual Resource Management Considerations

The VRM Plan Amendment for the CCSM project is being addressed in Volume I of this document. The Preferred Alternative identified in the VRM Plan Amendment in Volume I has been carried forward for analysis in this Volume.

Phased Construction Sequence Mitigation

The applicant has proposed to construct the project over 4 years with all internal access roads constructed in the first year (discussed in Section A.3.1.1 of **Appendix A**). However, this approach would result in surface disturbance throughout the Application Area in the first year, but most access roads would not be needed until subsequent construction years. This would ultimately delay reclamation of these areas. As a result, the BLM has developed a mitigation measure (GEN-1 in **Table C-4** of **Appendix C**) that would limit surface disturbance to areas where turbines would be constructed within 12 months with a goal to mitigate impacts from surface disturbance to wildlife, soils, water, and vegetation (e.g., weeds).

Alternatives

The alternatives considered and carried forward for detailed analysis are listed below. **Table ES-1** compares the impacts by alternative.

- No Action Alternative assumes the BLM would reject PCW's request to develop wind energy on public lands and deny any request to provide access to private lands for wind development with the Application Area. The area would continue to be used for livestock grazing and recreation. The BLM may consider ROW requests or similar applications for other projects, such as power transmission or mineral development, which may be proposed for this area in the future. This alternative does not meet the purpose and need of the project, which is to promote the development of wind energy on public lands.
- Alternative 1R considers authorizing wind development in PCW's Application Area within TOTCO ranch boundaries to accommodate a 2,000- to 3,000-MW wind farm consisting of 1,000 WTGs. This alternative was submitted by the applicant after determining the range of issues raised during scoping could not be addressed by the original project concept. This alternative was developed after a comprehensive review of information pertaining to wildlife issues in the RFO had been identified.
- Alternative 2 considers authorizing wind development in PCW's Application Area only above Township 18 North (T18N) to keep development primarily within the checkerboard landownership pattern to accommodate a 2,000- to 3,000-MW wind farm consisting of 1,000 WTGs. This alternative was developed in response to concerns raised in regard to visual impacts in areas with high recreational values. More conservative greater sage-grouse stipulations would apply to public lands.
- Alternative 3 considers authorizing wind development in the Chokecherry portion and only the area from the eastern half of T18N, Range 88 West (R88W) to the east of the Sierra Madre portion of PCW's Application Area to accommodate a 2,000- to 3,000-MW wind farm consisting of 1,000 WTGs. All lands would be excluded below T18N, and the western half of T18N, R88W. This alternative was developed in response to concerns raised with regard to existing VRM Class II areas as well as areas with high wildlife concerns.
- Alternative 4 considers no placement of WTGs on public lands within either the Chokecherry site or Sierra Madre site. This alternative, however, considers that the BLM would provide ROW grants to PCW for the public lands that would allow PCW to develop wind energy facilities on the privately held lands. The BLM would apply required NSU and timing stipulations to public lands for requested access points. This alternative was developed in response to the overall concerns raised with developing a wind farm on public lands and the associated impacts.

Environmental Consequences

Table ES-1 provides a summary of the impacts from the project alternatives, organized by resource. The environmental consequences of each alternative are analyzed in Chapter 4.0.

Table ES-1	Impact Comparison b	y Resource for All Alternatives
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Resource	Alternative 1R	Alternative 2	Alternative 3	Alternative 4	Additional Discussion			
Cultural Resources	Cultural Resources and Native American Traditional Values							
Visual impacts to the historic properties	Visual effects to historic properties, specifically the Overland Trail, by introducing visual elements that diminish the integrity of the property's setting.	Increased potential for visual effects to the Overland Trail from Alternative 1R relative to the WTGs; visual effects associated with the proposed transmission line would be less than Alternative 1R.	Decreased potential for visual effects to the Overland Trail from Alternative 1R relative to WTGs; visual effects associated with the proposed transmission line would be the same as Alternative 2.	Increased potential for visual effects to the Overland Trail from Alternative 1R relative to WTGs; visual effects associated with the proposed transmission line would be the same as Alternative 2.	Section 4.2			
Geology and Minera	ls							
Aggregate consumption ¹ (cubic yards)	1,384,200	1,620,041	1,556,097	1,632,640	Section 4.3			
Land slide constraints (acres of landslide deposits potentially affected)	Approximately 6.7	Approximately 5.6	Approximately 0.6	Approximately 4.8	Section 4.3			
Swelling soil constraints (acres of shrink-swell potential bedrock)	Approximately 34	Approximately 123	Approximately 124	Approximately 180	Section 4.3			
Land Use/Recreation								
Public access	Limited temporary access restrictions (for public safety and project security), in particular at WTG sites and other critical project infrastructure.	Same as Alternative 1R	Same as Alternative 1R	No access to WTGs and other facilities on private land. Internal development road on public lands closed to public use. Current public access not affected.	Section 4.4			

Resource	Alternative 1R	Alternative 2	Alternative 3	Alternative 4	Additional Discussion	
Impacts to the Grizzly Special Management Area (SMA)	The area inside the Grizzly SMA and inside the Application Area, but outside the greater sage-grouse core breeding area, could have WTGs and supporting facilities.	Would not build within the Grizzly SMA.	Would not build within the Grizzly SMA.	Would not build within the Grizzly SMA.	Section 4.4	
Lands with wilderness characteristics	Two inventory units affected: Initial disturbance of up to 214 acres in Sage Creek Basin East and 5 acres in Sage Creek Basin West.	One inventory unit affected: Initial disturbance of up to 46 acres in Sage Creek Basin East.	One inventory unit affected: Initial disturbance of up to 49 acres in Sage Creek Basin East.	One inventory unit affected: Initial disturbance of up to 32 acres in Sage Creek Basin East.	Section 4.4	
Paleontology						
Potential Fossil Yield Classification (PFYC) Class 4 or Class 5 areas (acres) direct impact	6,294	7,543	7,874	7,625	Section 4.5	
Range Resources						
Animal unit months (AUMs) lost – direct	928	1,027	988	2,024	Section 4.6	
AUMs lost – dust deposition	1,673	1,956	1,886	2,024	Section 4.6	

Resource	Alternative 1R	Alternative 2	Alternative 3	Alternative 4	Additional Discussion		
Socioeconomics							
Employment (number jobs): Peak – development	1,644	Similar to Alternative 1R. Incrementally higher labor requirements for road construction and project development costs.	Similar to Alternative 1R. Incrementally higher labor requirements for road construction and project development costs.	Similar to Alternative 1R. Incremental higher labor for road construction, combined with reduction in labor due to 15 percent fewer WTGs.	Section 4.8		
Year round range – jobs	205 to 284	Similar to Alternative 1R.	Similar to Alternative 1R.	Similar to Alternative 1R.	Section 4.8		
Temporary housing demand (peak)	1,144 units. Demand for temporary housing exceeds availability.	Higher peak impacts would increase housing shortfall in Year 1.	Higher peak impacts would increase housing shortfall in Year 1.	Higher peak impacts would increase housing shortfall in Year 1.	Section 4.8		
Public sector revenues – (millions of dollars): Federal ROW grant rentals	\$2.1 to \$3.2 per year at full development.	\$2.1 to \$3.2 per year at full development.	\$2.11 to \$3.12 per year at full development.	Unknown, but likely less than \$100,000 per year at full development.	Section 4.8		
Public sector revenues – (millions of dollars): Local ad valorem/property tax (including mandatory state levies)	\$29.7 to \$42.4 (Year 1). \$21.7 to \$31 (Year 10).	\$29.7 to \$42.4 (Year 1). \$21.7 to \$31 (Year 10).	\$29.7 to \$42.4 (Year 1). \$21.7 to \$31 (Year 10).	More than \$25.5 to \$36.1 (Year 1) \$18.6 to \$26.3 (Year 10).	Section 4.8		
Public sector revenues – (millions of dollars): Sales and use tax	\$216 to \$336 (over 4 years). Much lower during operations.	\$216 to \$336 (over 4 years). Much lower during operations.	\$216 to \$336 (over 4 years). Much lower during operations.	More than \$194 to \$284 (over 4 years).	Section 4.8		
Public sector revenues – (millions of dollars): Wind energy production tax	\$6.1 to \$9.2 per year (at full production after 3-year exemption period).	\$6.1 to \$9.2 per year (at full production after 3-year exemption period).	\$6.1 to \$9.2 per year (at full production after 3-year exemption period).	\$5.2 to \$7.8 per year (at full production after 3-year exemption period).	Section 4.8		

Resource	Alternative 1R	Alternative 2	Alternative 3	Alternative 4	Additional Discussion
Soils				1	
Severely water erodible soils (acres)	1,832	1,937	2,009	1,811	Section 4.9
Severely wind erodible soils (acres)	75	48	83	49	Section 4.9
Poor topsoil ratings (acres)	3,199	3,843	3,961	3,921	Section 4.9
Transportation and	Access				
Interstate 80 (I-80) (Exit 221) construction effects on WY 76/County Road (CR) 407 – haul road commuting option	High volumes of construction traffic on WY 76/CR 407 at I-80 Exit 221 during construction activity in each of the 4 years. Peak hour delays and reductions in level of service at intersection on WY 76, I-80 westbound off- ramp and eastbound-on ramp resulting in significant impact. Intermittent delay on Bridge over I-80 at Exit 221 during WTG transport.	Similar to, but slightly higher than Alternative 1R due to additional road construction.	Similar to, but slightly higher than Alternative 1R due to additional road construction.	Somewhat reduced overall volumes of construction traffic as compared to Alternative 1R. High volumes of peak month/peak hour traffic still anticipated.	Section 4.10
WY 71 (crossing) impacts: Number of SM turbines west/east of WY 71/CR 401	294/176	220/189	135/202	154/223	Section 4.10

Resource	Alternative 1R	Alternative 2	Alternative 3	Alternative 4	Additional Discussion
Visual Resources					
Percent of WTGs on BLM – VRM Class IV	45	39	43	0	Section 4.12
Percent of WTGs on State	4	3	2	0	Section 4.12
Percent of WTGs on Private	51	59	54	100	Section 4.12
Water Resources					
Water consumption ² (acre-feet/year)	500	603	584	637	Section 4.13
Waterbody crossings (number)	386	465	457	541	Section 4.13
Wildlife Resources		·			
Mule deer crucial winter (acres) direct habitat loss	225	254	260	244	Section 4.14
Mule deer: permanent roads in seasonal range (miles)	368	477	456	513	Section 4.14
Pronghorn: permanent roads in seasonal range (miles)	368	477	459	513	Section 4.14
Elk: permanent roads in seasonal range (miles)	36	28	0	28	Section 4.14
Annual bat collision mortality	6,300	6,300	6,300	5,380	Section 4.14

Resource	Alternative 1R	Alternative 2	Alternative 3	Alternative 4	Additional Discussion	
Estimated annual raptor collision mortality	120	120	120	102	Section 4.14	
Estimated annual collision mortality or all birds	5,400	5,400	5,400	4,612	Section 4.14	
Number or stream crossings - ephemeral	382	458	450	531	Section 4.13	
Number or stream crossings - perennial	4	7	7	10	Section 4.13	
Special Status Spec	ies					
Number of WTGs in greater sage-grouse core breeding habitat	0	0	0	0	Section 4.15	
Acres of greater sage-grouse core breeding habitat within 4 miles of project facilities	127,096	122,771	97,149	135,432	Section 4.15	
Noise						
Distance to nearest noise sensitive receptor	>0.5 mile from WTG >1 mile from substation.	>1 mile from WTG and substation.	>1 mile from WTG >5 mile from substation.	>1 mile from WTG and substation.	Section 4.16	