

# RENEWABLE ARIZONA: RESTORATION DESIGN ENERGY PROJECT

## DRAFT ENVIRONMENTAL IMPACT STATEMENT

Volume I of II



February 2012

Arizona State Office



## **MISSION STATEMENT**

“To sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.”

**BLM/AZ/PL-12/004**

**DES 12-4**

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# United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Arizona State Office

One North Central Avenue, Suite 800

Phoenix, Arizona 85004-4427

[www.blm.gov/az/](http://www.blm.gov/az/)

February 7, 2012



In Reply Refer To:  
1677 (9100)

Dear Reader:

Attached for your review and comment is the Draft Environmental Impact Statement (EIS) for the Restoration Design Energy Project (RDEP). This document was prepared by the Bureau of Land Management (BLM) in consultation and cooperation with cooperating agencies and in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality and the Department of the Interior (DOI) regulations implementing NEPA (40 CFR Parts 1500-1508, 43 CFR Part 46), and the Federal Land Policy and Management Act of 1976, as amended.

The purpose of the RDEP is to amend BLM land use plans to identify lands across Arizona that may be suitable for renewable energy development and to establish a baseline set of environmental protection measures for such projects. The BLM is proposing to identify Renewable Energy Development Areas that may be suitable for the development of utility- or distributed-scale solar and wind facilities, as well as one Solar Energy Zone for utility-scale (greater than 20 megawatts) solar development. Additionally, the RDEP will identify design features, best management practices, and mitigation measures that will serve to guide renewable energy development on public lands in Arizona in an environmentally responsible manner.

The Draft EIS assesses the environmental, social, and economic impacts associated with the RDEP. The BLM encourages the public to provide information and comments pertaining to the analysis presented in the Draft EIS. You may submit comments by any of the following methods:

- E-mail: [az\\_arra\\_rdep@blm.gov](mailto:az_arra_rdep@blm.gov)
- Fax: Attn: Lane Cowger, (602) 417-9454; and
- Mail or other delivery service: BLM-Arizona State Office, Attn: Restoration Design Energy Project, One North Central Avenue, Suite 800, Phoenix, AZ 85004-4427.

Your timely review and comments will be critical to the success of this effort and in preparation of the Final EIS. Comments will be accepted for ninety (90) calendar days following the date the Environmental Protection Agency publishes its Notice of Availability in the *Federal Register*. Comments received after the end of the review period will be considered to the extent practicable. We request that your comments be as specific as possible. Comments are more helpful if they reference a section or page number and include suggested changes, additional information sources, or alternative methods.



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Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

To further provide information on the Draft EIS and to solicit written and verbal comments, the BLM will host five open house public meetings. The meetings will be from 6:30 PM to 8:30 PM and include a presentation at 7:00 PM. Public meetings are planned for the following dates and locations:

- **Phoenix:** Tuesday, March 20, Sheraton Crescent Hotel, 2620 West Dunlap Avenue
- **Flagstaff:** Wednesday, March 21, High Country Conference Center, 201 West Butler Avenue
- **Kingman:** Thursday, March 22, Hampton Inn, 1791 Sycamore Avenue
- **Yuma:** Tuesday, April 10, Yuma Civic and Convention Center, 1440 Desert Hills Drive
- **Tucson:** Wednesday, April 11, Holiday Inn, 4550 South Palo Verde Road

Any changes to these meetings will be announced at least 15 days in advance through local media, newspapers, and the project Web site.

Copies of the Draft EIS have been sent to affected federal, state, and local government agencies and applicable tribal governments. Requests for additional information regarding the Draft EIS should be directed to Kathy Pedrick, RDEP Project Manager, at 602-417-9235. Requests for copies of the document should be directed to the project email address: [az\\_arra\\_rdep@blm.gov](mailto:az_arra_rdep@blm.gov) or to Lane Cowger at 602-417-9612. You may also visit the project website at: [www.blm.gov/az/st/en/prog/energy/arra\\_solar.html](http://www.blm.gov/az/st/en/prog/energy/arra_solar.html).

Thank you for your interest in the RDEP. We appreciate your contributions to the NEPA and planning process.

Sincerely,



Raymond Suazo  
State Director

**DRAFT ENVIRONMENTAL IMPACT STATEMENT  
ARIZONA RESTORATION DESIGN ENERGY PROJECT**

- Lead Agency:** U.S. Department of the Interior (DOI), Bureau of Land Management (BLM)
- Cooperating Agencies:** U.S. Bureau of Reclamation, Western Area Power Administration, Arizona Game and Fish Department, Arizona State Land Department, Arizona Department of Environmental Quality, Arizona Corporation Commission, Central Arizona Water Conservation District, and Arizona Department of Water Resources
- Location:** Arizona
- Contacts:** *Requests for additional information regarding the Draft Environmental Impact Statement:*  
Kathy Pedrick, Restoration Design Energy Project Manager, 602-417-9235  
*Requests for copies of the document:*  
az\_arra\_rdep@blm.gov or Lane Cowger, 602-417-9612  
*Project Web site:* [www.blm.gov/az/st/en/prog/energy/arra\\_solar.htm](http://www.blm.gov/az/st/en/prog/energy/arra_solar.htm)
- Abstract:** The Restoration Design Energy Project (RDEP) is a project of BLM Arizona that supports the Secretary of the Interior's goals to build America's new energy future and to protect and restore treasured landscapes. BLM Arizona proposes to identify Renewable Energy Development Areas (REDA) and to establish management actions, design features, and land tenure and reuse policies applicable to solar and wind energy development on BLM-administered lands in Arizona. The REDAs would identify where solar and wind energy development is likely to be compatible with resource objectives, and the management actions and design features would bring consistency and efficiency to the BLM's authorization process. In addition, the BLM is proposing to identify a Solar Energy Zone for utility-scale solar development. BLM resource management plans in Arizona would be amended to adopt these findings and measures.
- The environmental impact statement (EIS) evaluates the No Action Alternative and six action alternatives. Identifying lands as REDAs was an iterative process that provided a range of alternatives. Public scoping and collaboration with cooperating agencies and stakeholders revealed that renewable energy development would be best suited on lands that are disturbed and/or have low resource sensitivity. Lands with low resource sensitivity are areas that are unlikely to contain resources protected by statute or policy, that currently do not have special designations or uses, that are unlikely to contain other recognized values, or for which impacts from development cannot be mitigated. After defining the maximum REDA as the first action alternative, the BLM developed additional alternatives based on planning issues, including transmission, load centers, water, and land tenure. The final action alternative, which is identified as the BLM's preferred alternative, is a combination of these themes.
- Comments on this Draft EIS will be accepted for ninety (90) calendar days following the date the U.S. Environmental Protection Agency publishes its Notice of Availability in the *Federal Register*.

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## **VOLUME II: APPENDICES**

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- A Reasonably Foreseeable Development Scenario for Renewable Energy in Arizona
- B Design Features and Best Management Practices
- C Solar and Wind Energy Assessment of Nominated Sites
- D Cultural History Background of Arizona
- E Arizona Department of Agriculture List of Prohibited, Regulated, and Restricted Noxious Weeds
- F Southwest Regional GAP Analysis Project Landcover Types and Descriptions for Arizona

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## ACRONYMS AND ABBREVIATIONS

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Full Phrase

ACC	Arizona Corporation Commission
ACEC	area of critical environmental concern
AZ DOC	Arizona Department of Commerce
ADWR	Arizona Department of Water Resources
AMA	active management area
ANPL	Arizona Native Plant List
ARRTIS	Arizona Renewable Resource and Transmission Identification Subcommittee
ASLD	Arizona State Land Department
AUM	animal unit month
AZDA	Arizona Department of Agriculture
AZ DOR	Arizona Department of Revenue
AZGFD	Arizona Game and Fish Department
AZGS	Arizona Geological Survey
AZSITE	Arizona Archaeological Site and Survey Database
BLM	United States Department of the Interior, Bureau of Land Management
BLM-administered public lands	surface acres administered by the United States Department of the Interior, Bureau of Land Management
BLS	Bureau of Labor Statistics
BMP	best management practice
BOR	Bureau of Reclamation
CAA	Clean Air Act
CEDC	Commerce and Economic Development Commission
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO <sub>2</sub>	carbon dioxide
CO <sub>2e</sub>	carbon dioxide equivalents
CSP	concentrating solar power
CWA	Clean Water Act
dB(A)	A-weighted decibel
DNI	Direct Normal Irradiance
DNL	day-night average noise level
DOD	United States Department of Defense
DOE	United States Department of Energy
DOI	United States Department of the Interior
EA	environmental assessment
EIS	environmental impact statement
EMF	electromagnetic frequency
EO	Executive Order
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FLPMA	Federal Land Policy and Management Act of 1976
Forest Service	United States Department of Agriculture, Forest Service

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**ACRONYMS AND ABBREVIATIONS** *(continued)*

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Full Phrase

FY	fiscal year
GHG	greenhouse gases
GIS	geographic information system
GLO	General Land Office
GW	gigawatt
GWh	gigawatt-hour
HA	herd area
HMA	herd management area
INA	Irrigation Non-expansion Areas
KOP	key observation point
kV	kilovolt
LAUS	Local Area Unemployment Statistics
L <sub>DN</sub>	day-night average sound level
L <sub>EQ</sub>	equivalent sound pressure level
L <sub>10</sub>	noise level exceeded 10 percent of the time
L <sub>50</sub>	noise level exceeded 50 percent of the time
L <sub>90</sub>	noise level exceeded 90 percent of the time
MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
MCL	maximum contaminant level
MOU	Memorandum of Understanding
MTR	Military Training Route
MW	megawatt
NAAQS	national ambient air quality standards
NEPA	National Environmental Policy Act
NFS	National Forest System
NHPA	National Historic Preservation Act
NLCS	National Landscape Conservation System
NPDES	National Pollutant Discharge Elimination System
NPS	United States Department of the Interior, National Park Service
NRA	National Recreation Area
NRCS	United States Department of Agriculture, Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWRS	National Wildlife Refuge System
OES	Occupational Employment Statistics
OHV	off-highway vehicle
O&M	Operations and Maintenance
PEIS	programmatic environmental impact statement
PFYC	Potential Fossil Yield Classification

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**ACRONYMS AND ABBREVIATIONS** *(continued)*

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Full Phrase

planning area	State of Arizona, including all lands, regardless of land ownership
PM <sub>2.5</sub>	particulate matter with an aerodynamic diameter of 2.5 microns or less
PM <sub>10</sub>	particulate matter with an aerodynamic diameter of 10 microns or less
POD	plan of development
ppb	parts per billion
ppm	parts per million
PSD	Prevention of Significant Deterioration
PV	photovoltaic
RDEP	Restoration Design Energy Project
REDA	renewable energy development area
RFDS	Reasonably Foreseeable Development Scenario
RMP	Resource Management Plan
ROD	Record of Decision
ROW	right-of-way
RMZ	recreation management zone
RPS	Renewable Portfolio Standard
SDWA	Safe Drinking Water Act
SEZ	Solar Energy Zone (utility-scale solar)
SGCN	species of greatest conservation need
SHPO	State Historic Preservation Office
SRMA	special recreation management area
SOC	Standard Occupation Classification
SUA	special use area
SWA	State Wildlife Area
SWreGAP	Southwest Regional GAP Analysis Project
TCP	traditional cultural property
µg/m <sup>3</sup>	micrograms per cubic meter
U.S.	United States
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VRI	visual resource inventory
VRM	visual resource management
WHA	Wildlife Habitat Area
WPZ	Water Protection Zone
WREZ	Western Renewable Energy Zones
WSA	wilderness study area
YPG	U.S. Army Yuma Proving Ground

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